

# The User Friendly Guide to INTERNET & COMPUTER TERMS

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**A** an HTML abbreviation used to signify a link to another document or an anchor. see HTML.

**A/B switch** a two-way switch used for parallel or serial port cables. An A/B switch may be used to connect two devices such as printers or modems to the same computer. Care must be taken to use only the devices that are actually connected at any one time.

**abort** to cancel a command.

**Abort, Retry, Fail?** a DOS error message displayed when a disk is unreadable. Each of these words gives the user the option to continue as indicated.

**absolute address** a fixed location or address in a computer's memory.

**absolute URL** a URL that contains the entire address identifying the machine, directory and file. For example, <http://www.keenagers.com/community/friend-finder.htm> is the site address of a service known as "friend finder" on the keenagers.com Website.

**abstract** a summary of a file or document.

**accelerator** a hardware device such as a card, that makes an operation, run faster. Without the device, the computer's microprocessor would be the sole operator of the function.

**acceptable use policy** the terms and conditions of use for Internet providers, interactive Websites, and networks which must be agreed upon before the user is granted access to the service. Among the conditions of use can be found

privacy policies, email policies, courtesy standards, and other parameters the provider deems appropriate for users of the service. Users must agree to the terms or they are denied access to services.

**access provider** (ISP or Internet service provider) A private company that provides customers access to the Internet in exchange for a fee, though some companies are now offering this service for free.

**access time** the time necessary for a memory device to deliver data to the CPU. see CPU, DRAM, SRAM.

**acquire** to transfer a file from an analog source such as a scanner. see import.

**Acrobat** Adobe software for reading and creating PDF files. Acrobat Reader (free software from Adobe) allows the user to print and view PDF files created in many different formats. see Adobe Acrobat, PDF

**activate** to choose a window in which you want to work.

**active** 1. items currently shown on a display monitor or an application in use on a computer. 2. the program currently running on a computer.

**active matrix** a type of flat-panel liquid crystal display (LCD) that delivers better clarity and contrast than the passive-matrix display.

**ad banner** an advertisement, usually displayed in a rectangular box, that contains a hyperlink pointing to the advertiser's Web page or buffer page. Ad banners are the most common method of advertising on the World Wide Web. Costs can run anywhere from free, to upwards of \$100,000 per month depending on the popularity of the host site and the number of page impressions the particular page containing the banner receives.

**ad server** a type of server that manages and maintains ad banners for a Website or a group of Websites. These programs are capable of keeping track of and reporting Website usage statistics. Ad servers also provide the ability to rotate banners so a user won't see the same ad every time she visits the page.

**adaptive equipment** devices of many varieties, some computer controlled or activated, designed to assist people with physical limitations.

**ADC** see analog-to-digital converter.

**address** a number that identifies the location of data, usually on the main disk, but possibly on a server.

**Adobe Acrobat** a reader that decodes, reads and converts documents to the Portable Document Format (PDF). This program allows scalable graphics and type to be displayed and printed from any computer and from any platform (Macintosh, Windows, DOS, or UNIX) regardless of the fonts or software programs used to create the original. Acrobat is freely available for downloading on many Websites. see PDF.

**Adobe Systems Inc.** Adobe Systems Inc. is a provider of graphic design, publishing, and imaging software for Web and print production. The company offers a line of application software products for creating, distributing, and managing information of all types. Many graphic designers feel Adobe programs have set the industry standard for design and publishing software.

**agent** software operating in the background that performs an automatic and silent task such as information gathering.

**airbrush** a creative tool in many paint programs that simulates the action of a real paint gun on the computer screen. see spray can.

**ALGOL** (Algorithmic Language) developed in the 1950s and early 1960s by an international committee, an early programming language that was the basis for Pascal.

**alias** the use of an icon as a method of starting an application, opening a folder, file or disk. With Macintosh products the alias may be placed anywhere that is convenient such as the Apple menu, the desktop, or a special folder. The title of an alias icon is in italics. In Windows, an alias is known as a shortcut. see shortcut.

**align** to arrange characters, words or images so they line up either horizontally or vertically. Most word processing and drawing programs include commands to make images and text align as needed.

**allocation unit** units of space on a disk that can be identified or designated for a file. Also known as a cluster.

**Alpha** a 64-bit microprocessor manufactured by Digital Equipment Corporation.

**alphanumeric characters** the letters and digits on the standard keyboard.

**alpha testing** the first round of the testing of new software.

**Alt** the prefix used for the “Alternative” key. It is used like the shift key. The result of using the Alt key will vary depending upon the software being used.

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**Alta Vista** a popular search engine on the World Wide Web.

**amazon.com** a commercial Website offering more than one million books and music CDs. The company is determined to maintain a dominant position as an online retailer through the expansion of services including auctions, electronic products, toys, and more.

**AMD** (Advanced Micro Devices) a worldwide semiconductor manufacturer who's products include a wide variety of industry-standard integrated circuits used in product applications such as telecommunications equipment, data and network communications equipment, consumer electronics, personal computers, and workstations.

**America Online** (AOL) an online information service company that operates two worldwide Internet services, with more than 22 million members, and CompuServe, with more than 2.2 million members, several leading Internet brands including ICQ, AOL Instant Messenger, and Digital City, Inc.

**AMI** (American Megatrends Inc.) The leading supplier of BIOS software used in PC motherboards.

**Amiga** one of the first mass marketed PCs sold by Commodore Business Machines in the 1980s using Motorola microprocessors.

**analog** data represented in a mode other than binary bits such as the image relayed by a scanner. Analog data is represented by one or more of an infinite number of points on a scale or continuum.

**analog computer** a computer that processes and delivers data. An abacus is an analog computer.

**analog monitor** a video device similar to television that can display an unlimited range of brightness for each primary color. An analog monitor can display any color a computer can generate.

**analog-to-digital converter** (ADC) a hardware device that changes analog data to digital form. see analog computer.

**anchor** a designated point in a Web page represented as an HTML document. The user can easily move to the anchor from anywhere else.

**angle brackets** the characters <>. Used in writing many programs.

**animation** the use of moving images on a computer screen. At present, much of the moving video we see must be called up from data stored on a disk or CD-ROM.

**anime** pronounced *ah knee may*, a style of Japanese animation often sexual in nature.

**annie** (orphan annie) a Website or particular Web page that has not been updated in a long time.

**anon server** (anonymous server) a service provider that forwards email while concealing the identity of the sender. Anonymous servers were initially designed for users with a legitimate need for privacy, but have occasionally been used for criminal or questionable activity such as spamming. see spam.

**anonymous FTP** a means for downloading public FTP (File Transfer Protocol) files. Referred to as anonymous because there is no need for the user to identify himself to access the files. see FTP.

**ANSI** (American National Standards Institute) the major organization responsible for creating standards for American industry, including the computer industry. ANSI standards address accepted standards for programming languages, electronic data transfer, character types, graphics, screen control and a wide range of computer related technical protocols.

**antialiasing** a method of eliminating the stair step properties called jaggies created by the normal display of pixels on a computer monitor. Jaggies sometimes appear when enlarging bitmap images using photo manipulation software.

**antivirus program** software that protects a computer from the introduction of destructive programs (viruses) introduced either by corrupt floppy disks or by electronic data transfer over a network such as the Internet.

**AOL** see America Online.

**API** (Application Program Interface) a set of tools and/or procedures used for building software applications. For example, operating software such as Windows, allows that an API facilitates the smooth creation of new software by designers to run compatibly with Windows.

**APL** a programming language invented in the 1960s using its own characters. APL remains in limited use today.

**app** short for application.

**Apple** a leading designer, manufacturer and marketer of personal computers noted for their-user friendly features. Apple was the first computer company to use graphical user interface technology in their operating systems. The company was started by Steve Jobs and Steve Wozniak in 1976.

**applet** a small program within a program usually written in JAVA designed to perform a specific function. They are often small animated commercial messages. Applets cannot be initiated directly from a computer's operating system.

**application** see application program.

**application program** (also called end-user programs) a program designed for a specific function such as word processing or a game. Software is available in two categories, application and operating. For example, Windows 2000 is operations software while MS Word is application software. see software.

**Archie** a type of search engine used to retrieve FTP files stored on anonymous sites. The user must have the exact file name.

**architecture** refers to the layout or design of a hardware device or software program or the combination of the two. Open architecture refers to a system that works easily with devices and applications made by different manufacturers. A closed architecture is often one containing proprietary features and lacking compatibility with other programs and devices.

**archival storage** a comprehensive back-up system where all files are copied to one of several possible data storage devices such as floppy disks, Zip drives, tape, or Jaz drives.

**archive** a back-up system designed for the storage of files to be kept for long periods of time. Some Websites that offer fresh information daily will allow access to older files by making them available through a link to an archives page. see archival storage.

**ARCnet** (Attached Resource Computer network) a simple and economical type of local-area network (LAN) using token-ring architecture. A token ring system is a group of computers connected in a circular fashion using a special message or password (the token). To communicate with a member of the network, the sender stores the token, attaches a message to it, and allows it to proceed around the ring. see token, token ring network.

**ARPANET** (Advanced Research Projects Agency Network) the predecessor of the present day Internet. ARPANET was developed in the 1960s by the US Defense

Department. ARPANET was designed so that the network would continue to function through peripheral channels even if part of it were destroyed by nuclear attack or sabotage.

**arrange** to systematically place symbols or icons in columns or rows on a computer desktop. In Windows 95, 98 and 2000 this can be achieved by right clicking on any unoccupied space on the desktop and selecting one of several Arrange commands.

**arrow keys** four command keys on the keyboard that move the cursor up down, left or right. The arrow keys may be used as an alternative to the mouse.

**Artificial Intelligence (AI)** the attempt to use computers to think and reason as humans. Among the functions of contemporary IA are, playing games, and robotics.

**ASCII** (American Standard Code for Information Interchange) pronounced *as-key*, a global standard computer code used to represent upper and lower case characters, punctuation, numerals, and all other keyboard symbols as numbers. There are 128 standard ASCII codes, each represented by a 7 digit binary number: 0000000 through 1111111.

**ASCII file** a text file in which each byte is represented by one character of the ASCII code.

**ASCII graphics** sometimes called ASCII art, a technique for drawing, making use of standard keyboard characters. ASCII art often uses the single character X to create images. The character may be repeated line after line, thousands of times, forming silhouettes and outlined forms. It was popular in the 1980s and was sometimes used to create large banners or signs with perforated computer printing paper. Best results are obtained when displayed in a fixed-pitch font. see fixed-pitch type.

**ASIC** (Application Specific Integrated Circuit) a specially designated integrated circuit designed for a particular function such as a sound card or video adapter.

**ASP** (Active Server Page) a Microsoft system for developing Web pages. ASP is an HTML document that contains embedded server-side scripting. Web servers compatible with ASP can execute these server-side scripts. On the user side, an ASP is a standard HTML document viewable using any Web browser. see HTML.

**assembler** a program that translates assembly language into machine language. see assembly language, machine language.

**assembly language** programming language that is one step more complex than machine language which is the lowest level programming language.

**assicons** a funny variation on smileys and emoticons. see page 231.

**associate** to designate that a particular file always be opened with a specific program. Some files may only be opened with specific software while the user may be able to choose one of several applications when opening certain files.

**asterisk** (\*) the star shaped character on the computer or typewriter keyboard used to mark a footnote. In many computer operating systems and applications an asterisk is used as a wildcard symbol. see wildcard.

**attachment** (attached file) an added file attached to an email transmission. Most modern email programs allow users to attach files simply by left clicking on an "Attach File" button and following directions. The file must be opened independently of the email message.

**attributes** refers to the properties of a particular operating system. In Windows the Attrib or Properties command, found under File, in the menu bar displays these.

**audit trail** records maintained by certain programs showing the time and order data was entered, ensuring the reliability of accounting and financial information.

**auditor** an impartial third party company that counts and verifies banner ad deliveries from a Website. An auditor may also verify the number of page impressions and other user related statistics of a Website.

**AUP** see Acceptable Use Policy.

**authoring software** (authorware) software used to create hypertext or multimedia applications such as Web pages. Microsoft FrontPage is an example of authorware used to create Web pages. Authoring software requires less technical skill than programming tools. Commercial authoring software for the layman sometimes uses the WYSIWYG standard. see WYSIWYG.

**AUTOEXEC.BAT** (Automatically Executed Batch Files) DOS files that automatically execute when the computer boots up.

**AUTO-BOT** free software that lets you automatically perform scheduled tasks such as check POP3 email, launch your email program, and download mail. You can also use AUTO-BOT to set your PCs internal clock to an Internet time server.

**avatar** a digital animated character used to represent your virtual position in chat rooms. An avatar may be a cartoon character such as a cat, flower, choo choo train, etc. In cyberspace, the user is represented by such a character.

**AVI** (Audio Visual Interleave) a Windows multimedia file which may be downloaded from the Internet, used for sound and video.

**AWK** a programming language, developed in the 1970s, used for scanning and manipulating text files. AWK is an acronym for the last names of the developers of the language, A.V. Aho, P.J. Weinberger, and B.W. Kerningham.



**b2b** (business to business) a popular phrase that refers to a company either online, brick and mortar (a physical location) or both, that specializes in providing goods and services to other businesses and not consumers.

**b2c** (business to consumer) refers to a company either doing business online, a business with a physical location, or both, that provides goods and services primarily to consumers.

**back** the browser command button that returns you to the previously viewed page.

**backbone** the major connections or high-speed cables servicing a network. For example, the backbone for the Internet in the United States is maintained by the various telecomms that own the high-speed lines comprising the network.

**back door** an alternative way of gaining access to a computer system. A back door entry might be a programmed secret access into the system unknown to routine users of the system.

**back end** the database to which information presented by the front-end application connects. see front end.

**background** the field or setting against which characters or graphics are displayed on a monitor.

**background execution** modern computers are capable of running more than one program at a time. This is called multitasking. The program in use (primary program) is said to be operating in the foreground. Secondary programs are running in the background. For example, you might be writing a letter on a

word processing program in the foreground while periodically monitoring a realtime stock quote application. To access the program in the background, the user would click the program icon on the taskbar.

**backlighting** flat-panel display illumination from behind that causes the foreground to appear more distinct in contrast to the background.

**backslash** the keyboard character, (\).

**backup** also written as back up, to copy or save a program or file for safe keeping in the event the working program fails in some way or is lost. It is wise to back up all files on floppy, zip disks, or tape. Many software applications periodically prompt you to save your work while you are actually working. However, a user should still backup all work on the computer's hard drive in case of malfunction or failure.

**bandwidth** the quantity of data that can effectively be sent through a connection, measured in bits-per-second. The greater the bandwidth, the faster the transmission of information. High bandwidth also provides clearer images on a computer's display monitor while online.

**bang** the key character, (!). The exclamation point.

**banner ad** an advertisement on a Web page with a short compelling message. The message is designed to get the user to click on the ad. The ad contains a hyperlink to the advertiser's Website. see hyperlink.

**bar chart** (bar graph) a type of chart or graph that quantifies or measures relative values represented by rectangular bars.

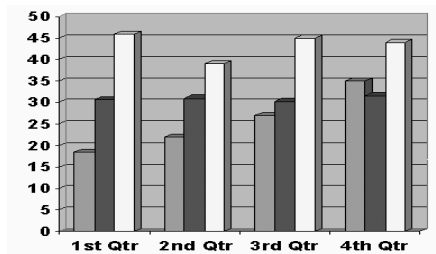


Figure B.01. bar chart

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**BASIC** (Beginners All-purpose Symbolic Instruction Code) an early computer programming language developed in the 1960s that has many contemporary varia-

tions functioning today. BASIC is used for many business applications and includes a great number of proprietary functions.

**batch processing** putting a computer to work to process large amounts of data at one time. Batch processing is best accomplished during periods when the computer would otherwise be idle because continuous running time is required.

**BAT file** (batch file) a DOS or Microsoft file that ends with a .BAT extension.

**baud** a unit of measurement that represents the number of bits that can be sent or received over a telephone line or via a satellite signal per second. Baud is actually the maximum number of times per second that the signal shifts value. For example, a 56,000-baud modem takes 56,000-baud (56,000-bps) and encodes it into an audio signal whose actual signal is 14,000. To keep it simple, remember that the higher the baud rate, the faster the transmission of data. The challenge is that telephone lines are limited in their ability to transmit these signals. The term baud is losing popularity to the more accurate “bps” meaning bits per second.

**bay** (bay drive, drive bay) a site on a computer or portable disk drive where a disk or tape drive may exist or be installed.

**BBS** (Bulletin Board System) a computerized meeting and chat system where subscribers can exchange ideas and information, as well as upload and download files. Since the early 1990s the functions of BBSs have been much replaced by the Internet.

**Bcc** abbreviation for blind carbon copies. When composing email, the writer has the option of sending copies to others so the recipients cannot see each other’s email addresses and are not aware that copies are going to addresses other than their own.

**bells and whistles** advanced features available on both computer hardware and software. In the past, bells and whistles referred to features that made the computer or program more difficult to use. Now, however, bells and whistles often refer to desirable or state-of-the-art features.

**benchmark** a program used to test the performance of software and/or hardware. A benchmark is a standard that is not entirely objective because of the possible bias of the individual who developed the test, or the equipment settings determined by the tester.

**beta** (beta testing) software that is in the preliminary or testing stage where glitches or bugs may still be undetected. Users involved in beta testing are often re-

quired to run the application extensively and record findings such as ease of use, and any problems encountered, and report back to the developer with suggestions as to how the software might be improved.

**bi-directional** the ability to transmit data in two directions. Contemporary parallel ports are bi-directional because of their ability to communicate with printers as well as disk drivers.

**binary** a number system that uses two distinct digits. Computers use the binary number system which is comprised of the numbers 0 and 1. Digital data of every imaginable type is encoded using the binary system.

**BinHex** a method for converting binary data into ASCII. see ASCII.

**BIOS** (Basic Input Output System) built-in software that controls a number of routine functions of a computer such as the display screen, keyboard, disk drives, and the real time clock.

**bit bi(nary) digi(t)** the most basic unit of data in the binary numeral system. Computers are often classified by the number of bits they can process at one time.

**bit bucket** a slang term that refers to the unknown place where lost data goes, never to be recovered.

**bitmap** any graphical representation displayed on a computer monitor that is comprised of pixels or dots. Every pixel is made up of bits of data, each of which helps to define the overall color and shade of the graphic when translated into an image by the computer and display monitor. In monochrome monitors, one bit represents a single pixel. Bitmaps come in a variety of file formats such as GIF, JPEG, and TIFF.

**BITNET** a large area-wide network originating in the early 1980s used to transmit email among university scholars and researchers.

**bits per second** (bps) a unit of measurement that counts the number of bits that can be sent or received over a telephone line or via a satellite signal per second. Modem speeds are measured using bps. see baud.

**bloatware** a slang term used to describe software with elaborate features requiring large amounts of disk space and RAM.

**block move** in word processing, the moving of one section of a file to another location within the file, or to an entirely different file. This is accomplished by

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highlighting the desired text, copying the highlighted material and pasting it to the new location.

**board** 1. short for a printed circuit board. 2. a bulletin board system or chat forum.

**bogus** a slang term used to describe anything defective or faulty.

**bold** (boldface) a font that is darker than the normal. Contemporary word processors allow a user to change a font to boldface with the click of a button. For example, this is normal print. **This is boldface print.**

**bomb** a tremendous failure with regard to a computer project of any type or a software application.

**bookmark** a feature on a Web browser that allows the user to store one or more favorite Websites or URLs, save them in a folder, and have them readily accessible by a couple of simple mouse clicks. Bookmarks are also referred to as Favorites.

**boolean** (boolean logic) a system of locating and retrieving computer data by the use of certain words such as AND, OR, XOR and NOT.

**boot** to start a computer. Derived from the word bootstrap.

**boot disk** software used to start a computer.

**bot** slang expression for robot, a program that runs automatically. Among the uses for bots are to locate information on the World Wide Web and for the automatic collection of email addresses.

**bounce** 1. the return of undeliverable email to the sender. 2. to transfer incoming email without identifying who forwarded it.

**bounding box** (box) an invisible enclosure surrounding a graphic that allows the user to manipulate the image with handles represented by small black squares. It also determines the true size of the image.

**Bps** when written with a capital B, Bytes per second.

**bps** bits per second.

**braces** (curly braces) the keyboard characters { }.

**brackets** (square brackets) the keyboard characters [ ].

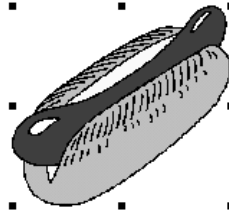


Figure B.02. bounding box

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**brittle** usually refers to software operating reliably yet subject to sudden malfunction quickly, under even the slightest change in conditions.

**broken hyperlink** (broken link) a link on a Web page that, for any number of reasons no longer points (connects) to a another page. see dead link.

**browser** (Web browser) a software application that retrieves Web pages or files on the World Wide Web. Web browsers are the programs that allow users to call for and view information online. Popular Web browsers a include Microsoft Internet Explorer and Netscape Navigator.

**bug** an error or malfunction in a computer program. Recently the term has taken on a broader meaning referring to almost any problem having to do with both software and hardware.

**bullet** a program character as opposed to a keyboard character used to emphasize a point in a document. Bullets come in many sizes and shapes. The following are a few examples:



Figure B.03. bullets

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**bundled software** software sold as part of a package either with a computer or with other software. For example, most PCs come equipped with the most recent version of Windows while Microsoft Office consists of individual programs that compliment each other and are less costly packaged together.

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**burn** slang term referring to the copying or recording of data on a CD-R or floppy disk.

**bus** the configuration of wires and electronic channels through which data is transmitted inside a computer.

**button** a circular, square, or rectangular designation within a dialog box, toolbar, or on a desktop, that a user can click with a mouse to initiate various functions.

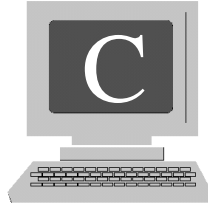
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Figure B.04. buttons

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**byte** the space required in a computer to store a single character. In modern computers a byte is usually equal to 8 bits. The main memory space or hard drive in a computer is now measured in Gigabytes (GB), one GB being the equivalent of approximately one billion bytes.



**C** a programming language developed by Bell Laboratories in the 1970s.

**C++** a graphics oriented programming language developed in the 1980s.

**cable modem** a modem that sends and receives data over television cable lines. Cable modems typically transmit data faster than telephone connections.

**cache** can be used as a noun or a verb. As a noun, a data storage reserve where information may be held and called up quickly. As a verb, cache means to store data temporarily until it is called upon by a user. Web browsers cache pages so they do not need to be downloaded from the Internet each time you access the page. Cached data is stored temporarily in a computer's main memory or a specially designated memory storage space within the microprocessor.

**CAD** (Computer Aided Design) the use of both hardware and software for design work such as architecture as well as a wide variety of engineering functions. CAD applications are used to generate three-dimensional images.

**camera ready** desktop publishing documents that are ready for the printer.

**cancel** to completely halt a command. The cancel button appearing at the bottom of most dialog boxes (Windows) makes it difficult to make an error because you can easily back out of a function by clicking on it.

**cancelbot** a program left running on a Web server that automatically deletes messages on newsgroups and message boards. A cancelbot application is often used to filter out spam. see spam.

**caps** short for capital or uppercase letters such as these: CAPS. Sending email or posting online in a public forum such as a news group or message board in all caps is considered to be shouting and rude. It also makes the message hard to read. see uppercase.

**Caps Lock** a key on the left side of the keyboard that, when pressed allows a user to type in caps without depressing the Shift key. When finished, press it again to deactivate it.

**capture** 1. to save a graphic image as a bitmap. 2. in the Windows environment, to transfer an item to the clipboard. see screen capture.

**carbon copy** a copy of an outgoing email saved by the sender. see Cc.

**card** a printed circuit board that adds additional features to a computer such as video or audio. A card is usually easy to install both internally or externally because of its ability to be plugged in.

**cascade** 1. an arrangement of overlapping windows displayed on a computer monitor. 2. the replies in response to a message in a public forum such as a message board.

**CASE** (Computer Aided Software Engineering) the use of computers to help with the development of software.

**case** short for nutcase. A regional slang expression for the “Randy” factor. In the Northeast, “Randy” (last name unknown) was an early pioneer in hacking.

**case sensitive** to distinguish between capital letters (UPPERCASE) and small letters (lowercase). Many Internet logon keys, codes, and passwords are case sensitive and must be entered properly or the user will be denied access. For example, ABC would be different than abc.

**catalog** a somewhat dated term for the contents of a disk. see directory.

**CAV** (Constant Angular Velocity) a constant disk rotation speed whether data is being accessed from the outer edge of the disk or nearer the center.

**Cc** abbreviation for carbon copy. The double letters refer to copies. When used in an email header, Cc indicates that copies of the message are being sent to more than one address. see Bcc.

**CCD** (Charge-coupled Device) devices used for the electronic recording of images. CCDs are used in digital cameras and scanners.

**CD** (Compact Disc) a plastic disc with a metal finish, developed in the 1980s, capable of storing digitized music. A CD stores data on a continuous groove, much like a phonograph record. One CD can store up to 74 minutes of music. see CD-I, CD-ROM, CD-RW.

**CD-I** (Compact Disc Interactive) a compact disc that stores and makes available audio, video and binary data. Developed as a joint venture of Phillips and Sony, the CD-I standard has not been widely accepted.

**CD-R** (Compact Disc Recordable) a compact disc that can be used for recording. These are readable the in same way as regular CDs.

**CD-ROM** (Compact Disc-Read Only Memory) a disc with identical physical characteristics as a music CD, only containing computer data. Unlike a music CD, a CD-ROM can store both computer data and music. CD-ROM drives are able to read the data on a disc, but not record, thus the “read only” designation. The data storage capacity for a CD-ROM is nearly 700 megabytes, enabling it to hold extremely large amounts of data.

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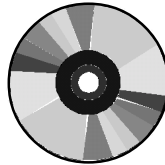


Figure C.01. CD-ROM

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**CD-ROM drive** (CD-ROM player) an internal or external computer hardware device that reads data from a CD-ROM.

**CD-RW** (Compact Disc-ReWritable) a type of CD that may be used for recording. It may be erased and reused. These have been widely available for several years and are slightly more costly than the CD-R.

**CD writer** a device that allows a user to record (burn) data using a CD-RW. A CD-RW drive allows for the backup of music CDs as well as software applications, photos and individual files.

**cell** an individual unit of a table, spreadsheet, Web page layout, or database.

**center** to align text, graphics or images in the middle of a page with equal space on either side.

**central processing unit** see CPU.

**CGI** (Computer Gateway Interface) a means of transmitting information from a Web server by executing programs in response to a Web browser's requests using HTTP. CGI programs process information requests and return the appropriate document to the client computer. see HTTP.

**channel** 1. a communications path. 2. high-speed communications hardware used to interface mainframe computers.

**character** 1. a symbol that can be stored by a computer requiring one byte of storage space. 2. in word processing applications, keyboard symbols such as individual letters that are used to make up words.

**chat** interactive online communication held in real time where users type messages back and forth. There are an increasing number of online forums being made available for chat. ICQ chat and Microsoft Messenger offer free chat software. There are many chat programs available that enable users to chat using voice technology.

**chat room** any of a large number of Websites or newsgroups where users can communicate using a keyboard in real time on a wide variety of topics ranging from oceanography to sex, politics, and much more. If you can come up with a topic, there's probably a chat room for you.

**check box** a box offering particular options that the user may choose or reject.



Figure C.02. check box

**chip** a small integrated circuit usually made from silicon or germanium that may hold millions of electronic components. Among the many chips used in computer hardware are microprocessors and memory chips.

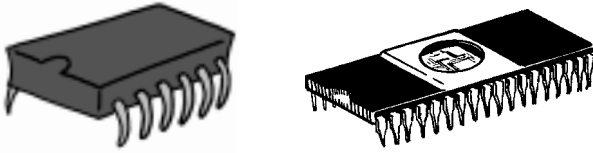


Figure C.03. chips

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**circuit board** see printed circuit board.

**Cisco Systems** a major hardware manufacturer that creates hardware and software solutions that link computer networks so that people have easy access to information without regard to differences in time, place or type of computer system.

**click** to press the left mouse button and immediately release. Some computer functions require that the user double clicks. see double click.

**click and mortar** a business with a physical business location (brick and mortar) that attempts to establish a presence on the Internet to offer its goods and services.

**click rate** the number of impressions counted as a result of users clicking on an ad banner. The click rate is used by marketing firms to determine advertising fees.

**clickable image** an image on a Web page that contains an invisible hyperlink that directs the user to another page.

**clickstream** the path a user takes while navigating through cyberspace, or more specifically, through a Website. Software is available to track this activity. Following a user from Website to Website is valuable information to online advertisers as a measurement of advertising effectiveness.

**client** a computer that receives services from another computer. For example, the computer running the Web browser you use when accessing the World Wide Web is the client of the Web server delivering the Web documents.

**clip art** artwork available on floppy disk and CD-ROM as well as on the World WideWeb in several file formats to use without the need to pay royalty fees. The creator is paid for the work by either producing and distributing it himself, or receives payment at the time a deal is struck with a publisher. The publisher then goes on to charge end users a licensing fee. A wide selection of clip art is available on numerous Websites free of charge. see Figure C.04.

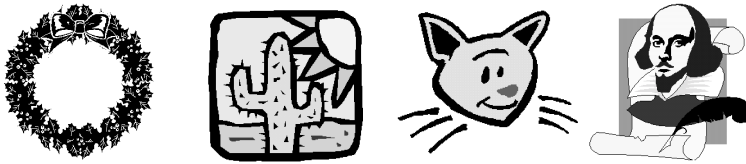


Figure C.04. clip art

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**Clipboard** a useful tool that acts as a temporary storage space holding information (both text and graphics) you've cut or copied until you are ready to paste it to its final destination. In Windows the images or text vanish when the computer is turned off. Macintosh has both a *Clipboard* that operates in the same way, and a *Scrapbook* that holds more than one image at a time, and saves held material from one work session to another.

**clock** the component within a computer that keeps track of the date and time. see BIOS.

**clock rate** (clock speed) the speed that a computer's microprocessor is able to process information, usually measured in MHz. see microprocessor, CPU.

**clone** a computer or software program that functions exactly like another. A clone is often a less expensive imitation of the original. The term became popular after IBM set the standard for personal computers and rival manufacturers imitated the IBM PC.

**close** In Windows, to save your work and exit a program.

**cluster** a grouping of sectors on a disk that function as a single unit.

**CLV** (Constant Linear Velocity) in older disk drivers, the changing of the rotation speed in relation to where the data is stored. Because less information is located close to the center of the disc, it needs to turn faster to access the data. CAV (Constant Angular Velocity) is rapidly replacing this technology. see CAV.

**CMYK** (Cyan, Magenta, Yellow, Black) the four standard ink colors from which all other printed colors are derived. see color printer.

**coaster** a slang term used for give-away CDs such as those one might receive in the mail as promotional offerings.

**coaxial cable** a cable consisting of a single wire in the center surrounded by insulation and grounded with a braided conductive shield. The shield is designed to prevent the cable from receiving or emitting electrical noise. Coaxial cable is used for cable television and the networking of computers.

**COBOL** (Common Business Oriented Language) first developed in the 1950s by the US Department of Defense and several early computer manufactures, COBOL is a somewhat wordy computer language used for business data processing. It remains the most widely used programming language today.

**code** a method of encrypting data using a wide variety of programming languages, making it readable by a computer.

**cold fusion** a tool developed by Allaire Corporation that integrates browser, server, and database technologies for rapid application development and Website design.

**collate** to arrange printed pages in a particular order.

**color printer** a printer connected to a computer that is capable of printing in more than one color. Most printers use the CMYK standard. These colors applied on top of one another blend to simulate most natural colors. see CMYK, laser printer, printer.

**color separation** a camera-ready photograph or graphic in which the individual base colors are isolated usually into four distinct prints. When combined during the printing process, the combination of prints displays the original color image.

**column** a vertical line of characters, words or images, displayed on a monitor or the printed page.

**COM** short for communications, a term generally used to describe the serial port on a PC.

**.com** an Internet domain designation given to URLs that are commercial, or personal in nature. see domain, URL.

**COM port** the location of a socket on the back of a computer for connecting accessories such as printers or modems.

**command** an order or instruction given to a computer so that it performs a specific function. Commands may be executed through the use of a mouse, a light pen,

special keys, menu choices, buttons, and by voice with the use of voice-activated software applications.

**command button** an area designated by a circular, square, rectangular or other shape, that when clicked, initiates a computer function.

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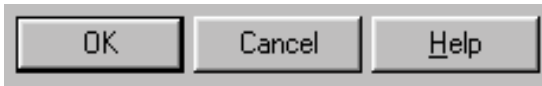


Figure C.05. command buttons

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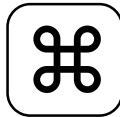


Figure C.06. command key

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**Command Key** a key on the Macintosh designated by a clover-like symbol that acts as a shift key, in that when pressed, it changes the functions of other keys.

**commerce server** a special Web server designed to process credit card transactions.

**compact disc** see CD.

**Compaq** (Compaq Computer Corporation) a leading computer manufacturer that designs, develops and markets computers and computer software.

**compatible** having the ability to function together. In order for software applications and certain hardware devices such as printers and modems to operate, they must be compatible with a computer's operating system and other system hardware.

**compression** the storage of computer data so it requires less disk or file space. Compressed graphics files allow significantly quicker loading time on the World Wide Web. see data compression.

**CompuServe** an online information service accessible by modem offering a wide range of services such as discussion, stock quotes, news and more.

**computer** an electronic machine capable of storing, processing, and retrieving data as well as communicating with other computers linked on a network.

**computer ethics** an unwritten code of conduct for computer users. The point to remember here is, users have the same legal responsibilities using computers that they do at any other time. Computer ethics has a long way to go before solid guidelines or mandates are officially determined. Questions of privacy, intellectual property ownership rights such as copyrights and licenses, and conduct regarding the use of computers to send bulk email are among the many issues requiring resolution.

**computer literacy** the level of skill an individual has with computers and computer applications.

**computer science** the extensive study of computer design including both hardware and software applications.

**computer security** the effort to protect computers from physical danger, malicious tampering and the undesired disclosure of information. Accomplishing these ends encompass a wide array of measures from the actual physical protection of computer hardware, to the guarding of data through the use of firewalls, encrypted information, passwords, and access codes.

**computer system** a complete operational computer including operating software. A computer system might also refer to a small network linked to enhance the functioning of an individual computer.

**conferencing** the use of a computer network where users are able to communicate in real time.

**CONFIG.SYS** a DOS file containing data concerning the configuration of the computer's drivers, keyboard and memory.

**configure** to set up computer hardware and/or software so it functions in a particular way.

**connect** to go online.

**connect time** the amount of time spent online during one or more computer sessions.

**console** the combination of keyboard and computer display monitor.

**content** all of the information contained on a Website.

**content provider** usually a free online service provider offering a wide variety of services such as news, weather, stock quotes, entertainment, games, discussion forums and more. see online service.

**contrast** the intensity and clarity of light and dark values while shown in grayscale either on a display monitor or a printer. The use of distinct black and white values represents high contrast while the use of gray shows lower contrast.

**Control key** the keyboard key labeled *Ctrl*, used like the shift key in that it changes the function of other keys. On the Macintosh the Control key is called the *Command key* or the *Apple key*.

**Control Panel** an application that allows the user to set many individual features on a computer such as keyboard and mouse settings, power management, monitor and many system settings. In Windows, the Control Panel can be accessed by clicking on the Start button and then Settings. From the Desktop the path would be, My Computer and Control Panel. For the Macintosh, access can be found under the Apple menu.

**conversion program** an application that changes a file from one format to another.

**cookie** a piece of data such as logon and user information, user preferences, and shopping information automatically sent by a Website through a Web server and stored by a Web Browser. It is the intent of the Website sending the cookie to recognize a user who has visited them in the past. On subsequent visits, the information contained in the cookie returns to the originating site, allowing the operator to offer specific products and services tailored to the user's preferences as determined by previous visits. Due to certain privacy issues regarding the gathering of personal information, users sometimes have the option of disabling cookies.

**CoolTalk** a real-time desktop audio conferencing and data collaboration tool specifically designed for the Internet. CoolTalk provides real-time audio conferencing at 28.8K and faster modem speeds, and includes a full function whiteboard, text-based chat tool, and answering machine.

**copy** 1. the duplication of information. 2. a DOS, OS/2, or Windows command that makes a copy of a file. 3. to duplicate and temporarily store data in a holding space or buffer such as a clipboard for further use. see copy and paste.

**copy and paste** in a word processing application, to duplicate an item such as an individual character, line of text, image or an entire document, and insert it at another point within the document, or into a different document or file, while retaining the original copied material in its original location. see paste.

**copy protection** various methods used mainly in the 1970s and 1980s to keep users from making unauthorized copies of software programs on disk. The drawback to copy protected software is that making a backup copy becomes difficult if not impossible. Under US Copyright law, users are allowed to backup disks. Consequently, software manufacturers have tried to discourage piracy by requiring that the user enters a registration number when installing the program.

**copyright** the right to copy, a legal restriction of the reproduction of written, recorded, and electronic articles, books, audio and video recordings, and most computer software programs. The copyright is intended to protect the author's rights of ownership of the work. An author need not register a work with the US Copyright Office to be protected under the law. Technically, simply declaring that a work is copyrighted by publishing it with © and the date is enough, however, official registration with the US Copyright office may prove to be prudent. The copyright symbol is common and appears as follows:  
The User Friendly Guide to Internet & Computer Terms Copyright © 2001  
Gold Standard Press Inc. All rights reserved.

**CORBA** (Common Object Request Broker Architecture) a standardized architecture that allows portions of programs, known as objects, to interact without regard to differing programming languages.

**Courier** a typewriter-like font used on typewriters, inkjet, dot matrix, and laser printers. This is an example of courier.

**CPU** (Central Processing Unit) sometimes referred to as the brains of the computer, the CPU is where the majority of the mathematical calculations, decoding of data, and the execution of coded instructions occurs. In personal computers the central processing unit resides in a single chip called a microprocessor. When someone refers to the speed of a computer, the reference is to the CPU and is measured in megahertz (Mhz). see microprocessor, processor.

**cracker** a person who gains unauthorized entry into a computer or computer system through the Internet and copies commercial software, sometimes simply to see if it can be done and sometimes for financial gain. In certain circles, a cracker would be considered less proficient than a hacker, though the terms are often interchangeable. see hacker.

**crapplet** a slang term for a useless applet.

**crash** a sudden and serious computer failure due to either a hardware or software malfunction, usually resulting in a loss of unsaved work. Among the many reasons for a computer to crash are running too many programs at once and

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trying to operate a program requiring large amounts of memory without having the necessary resources available.

**crawler** a program that searches the Internet seeking publicly accessible information and Web documents. The information might be stored in a database and made available through a search engine. Crawlers are also known as spiders, bots and wanderers. see spider.

**crippleware** free software that has one or more features left out. Manufacturers make this available hoping that users will buy a fully functional version.

**cross-platform** a software application, or hardware, that is able to run with more than one kind of computer such as an IBM or clone and Macintosh. Software that could run on both computers is said to be *cross-platformed*.

**cross-post** posting the same message in a number of different public forums simultaneously, sometimes with the use of special software. In some cases (such as with commercial offers) cross-posting is called spamming and considered bad netiquette. see spam.

**CRT** (Cathode Ray Tube) a glass vacuum tube in which an electron beam or ray is projected onto a florescent screen to produce a luminous image or picture. Television and computer screens are CRTs.

**cryptography** encoding data in such a way that it may not be understood by persons or computers without an authorization key or code.

**CSP** (commerce service provider) a company that provides a merchant or individual the means to process the purchase of goods or services online.

**Ctrl-Alt-Del** pressing these keys together quickly halts all computer functions. A dialog box will appear asking the user if she wants to shut down the present application. Contrary to common belief, pressing these keys together does not shut down a computer.

**CU-SeeMe** free videoconferencing software available to both Macintosh and PC users allowing users to conduct a teleconference with other sites anywhere. The software offers white board communications, audio, chat and full color videoconferencing. An enhanced version is available for sale from WhitePine Inc. To use CU-SeeMe, your computer must be equipped with a sound card, speakers, and video camera.

**cursor** a blinking I-beam shaped symbol on a computer screen showing the user where the next character or object will appear. Depending upon the program running, a cursor might also show as an arrow or a hand. The cursor can be manipulated by using either the keyboard or the mouse. see mouse cursor.



Figure C.07. cursors

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**customer support** see technical support.

**cut** to remove either text or graphics from an application and save it in a temporary holding area or buffer sometimes called a clipboard.

**cut and paste** to identify and isolate an element of a document and eliminate it from a particular location, then replace it by moving it to another location within or outside of the document. see copy, copy and paste, paste.

**cyber** (*prefix*) see Cybernetics.

**Cybernetics** the study of processing and assimilating information using electro-mechanical devices. The term has evolved from its earlier meaning to refer almost exclusively to computers.

**cyberpunk** a term loosely describing an antisocial individual conforming to a peculiar lifestyle characterized by an obsession with both computers and the dark side of the Internet.

**cyberspace** the abstract, non-physical world made up of networked computers where people communicate, shop, study, research, play, socialize and otherwise interact.

**Cybertown** a virtual community set in the latter half of the 21st Century that may be accessed through the Netscape Web browser, Netscape Navigator.

**Cybrarian** an online research junkie.

**cycle** the unit of measure which is a single oscillation of a computer's CPU clock. Programs running concurrently are competing for cycles.

**Cyrix** a subsidiary of National Semiconductor that designs, develops, manufactures semiconductor products, including microprocessors for the personal computer industry, and analog, mixed-signal and other integrated circuits for applications in a variety of markets, including the information appliances, personal systems, wireless communications, flat panel and CRT display, power management, local and wide area networks, automotive, consumer and military aerospace markets.



**DAC** see Digital-to-Analog Converter.

**daemon** a Unix program that is continuously running in the background performing specified functions in response to particular prompts.

**daisy-chain** the sequential connection of hardware devices with cables.

**dash** a punctuation mark similar to a hyphen but longer.

Dash ( — ) Hyphen ( - )

**data** information. Though the word data represents the plural, in common usage it may indicate either the singular or plural.

**database** a computerized filing system. Organized information stored so that a computer may have fast access to specific sections. For example, a large database might contain all corporations registered in the state of California. Another database might contain information on the buying habits of married couples between the ages of 25 and 35.

**database management** sometimes called database warehousing, a system for the smooth and efficient entering, storage, and retrieving of data so access to the information is gained by one of several methods. For example, a credit card company is able to access your account by entering your last name, your social security number, your birth date, maiden name, or actual account number. Database management is an industry unto itself under the even larger umbrella of information technology. There are a number of elaborate software systems available for the management of databases of all sizes.

**data communication** the delivery of information from one computer to another.

For this transfer to take place, the components of the communication must conform to certain conditions. For example, the data you receive via the Internet must be converted to a usable form by your Web browser, usually HTML.

**data compression** the storage of data so that it requires less space than it might otherwise. There are many methods of data compression. For example, rather than write a string of 60 of the same characters, a programmer would write, “the following character is repeated 60 times.” Data compression is especially useful when transmitting graphics via a modem because it allows the image to load more quickly.

**data entry** the process of either an individual or a machine entering information into a computer or database.

**data mining** data mining uses complex algorithms to search large amounts of data and find patterns, correlations, and trends in that data. A data-mining application can create a model that can identify buying habits, shopping trends, credit card purchases as well as perform many non-commercial functions.

**data processing** usually a reference to software that enters, sorts, categorizes and stores information for easy recall.

**dead link** a Web page that no longer exists, prompting an error message. A dead link may be the result of a Website that has ended operations or moved.

**deadlock** an occurrence where two computer processes are waiting for the other to finish, keeping each from proceeding.

**debug** to locate and remove errors from a computer program.

**decode** to transfer encoded or encrypted data to its original readable form.

**decryption** see decode.

**dedicated** designated for only one use. For example, a telephone line in an office may be dedicated only for use by a fax machine or a single network computer.

**dedicated host** a Web server that stores and delivers the documents that make up a single Website. A dedicated host is the opposite of a virtual host, which refers to a server that stores and delivers the Web pages of many sites. Dedicated hosting helps to ensure that a Website will always be available to users because its server has the sole purpose of maintaining and delivering one and not many sites.

**default** a setting automatically assumed by computer hardware or a software application with regard to various operating functions. For example, when starting, a word processing program *defaults* to certain margins, spacing, and fonts set by the program's developer. Many default settings in both hardware and software can be changed to suit the user's specifications.

**default drive** the drive the computer automatically uses unless another is selected.

**default browser** the Web browser that will automatically retrieve Web pages when you log onto the World Wide Web. For example, a computer may have both Netscape Navigator and Microsoft Internet Explorer installed, but always opens Navigator because it is set as the default browser.

**degauss** to demagnetize.

**Deja News** a search engine used primarily to search the Newsgroups. see search engine.

**Del** the Delete key on a computer keyboard. The Del key eliminates items selected on the display monitor.

**Dell Computer Corporation** a popular computer hardware company offering a full range of computer systems, including desktop computer systems, notebook computers, workstations and network server and storage products, as well as an extended selection of peripheral hardware and computing software. Dell's business is based on direct sales of custom-built products, thereby eliminating the need for an extensive network of wholesale and retail dealers, and avoiding typical dealer mark-ups and other related costs.

**delete** to remove unwanted programs, files, text, or graphics from a computer.

**denizen** slang term for an inexperienced, unsophisticated individual who surfs the Web.

**desktop** everything appearing on your computer screen at any given time. The desktop in a Windows system with no programs running, usually displays icons that represent shortcuts to opening specific programs. see icon, shortcut.

**desktop publishing** the use of a personal computer to design and produce professional quality printed documents. There are hundreds of software programs available allowing users to typeset and place illustrations and photographs in a wide variety of printed materials from brochures and manuals, to books and posters. Among those highly rated by both home users and individuals in the publishing industry, are Adobe PhotoShop and Adobe PageMaker.

**dialog box** a window appearing on the screen offering the user information or options as to the next step in the present application. For example, when setting up the layout for a document in a word processing program, a dialog box is available offering the user options on the size and style of the font, margins, and possibly the color of the text.

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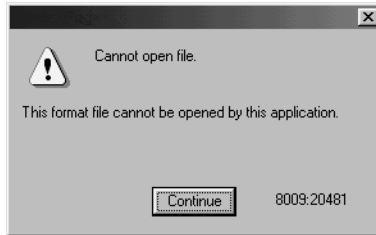


Figure D.01. dialog box

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**dial-up connection** one computer connected to another utilizing a telephone connection and a modem.

**digital** information encoded and expressed with the use of binary numbers representing many values in the real world. Digital information is distinguished by the fact that only pre-determined values may be represented using zeros and ones. For example, a digital thermometer would display the temperature using pre-assigned values. On a digital thermometer, the temperature might read 76.2. The next higher reading available might be 76.3. The true temperature, however, could range anywhere between 76.2 and 76.3, such as 76.21, .22, .23 etc. The possible values existing between 76.2 and 76.3 are infinite, but the thermometer, limited by design, can only display pre-set values. Consequently, pinpointing exact values represented by digital data is virtually impossible. Though limited in this way, digital information has many advantages because extremely close approximations are easily achievable. Digital data is also easy to store and manipulate. Opposite of analog.

**digital audio** sound recorded and transmitted in a binary format.

**digital camera** a camera that encodes images without the use of film and records them directly to a disk or a computer.

**digital cash** a system for the payment of goods or services online or otherwise by transmitting encrypted data from one computer to another usually through arrangements with a bank.

**digital computer** a machine that expresses data using a system of pre-set values.

Digital computer representations can be broken down to simple binary expressions. All modern computers are digital as opposed to analog computers which would express values as individual points on a continuum. A slide-rule would be an analog computer.

**digital-to-analog converter** a device that converts digital data into analog signals.

**digiterati** variation of literati, refers to an elite class of individuals who consider themselves to be among the ultra-informed with regard to the digital revolution.

**digitization** having been digitized. see digitize.

**digitize** to convert information into digital form. For example, optical scanners achieve *digitization* by converting images into bitmaps.

**dingbats** specialized characters that are neither letters or numbers.



Figure D.02. dingbats

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**dir** (directory) in the operating systems DOS and OS/2, the command that calls up all the files in a particular directory.

**directory** also called folder, an inventory of all the files contained in a specific section of a computer disk. A disk may contain more than one directory and directories may contain other directories. see folder.

**discussion group** a group of people exchanging ideas and thoughts online encompassing a wide variety of topics of interest either in a chat room, interactive live chat, message board, or some other public discussion forum.

**disk** a round flat platter used for the storage of computer data. The hard disk (the primary storage device) is usually, though not always, a permanent (internal) part of a computer. Optical disks, such as CD-ROMs, and diskettes are portable disk storage devices.

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**disk drive** a device that allows a computer to read the information on a disk. PCs usually contain a hard disk and one or more disk drives for the reading of CD-ROMs and diskettes. see disk.

**diskette** sometimes referred to as a floppy disk. A round, flat, portable device used to store computer data.

**DNS** (Domain Name Server or System) a computer set to translate IP addresses into domain names. Web addresses are read by the DNS numerically. For example, <http://www.GrandCentralDiscounts.com> might have the IP address, 164.205.775.07 but that would be hard for a user to remember, so GrandCentralDiscounts.com, an alphabetic name, is used. The DNS translates the name into its numeric equivalent.

**dock** to attach or connect, usually one hardware device to another.

**docking station** a fixed location that makes accessories available to a laptop computer. These might include a permanent power supply, a printer, or a scanner.

**document** a file usually created using a word processing application, which contains one or more of the following: text, graphics, tables, or charts.

**domain address** a Website's alphabetic address in readable form as opposed to the IP address which is in numerical form. see DNS, IP.

**domain name hoarding** the registration of many domain names usually in an attempt to keep competitors from using them.

**domain name poaching** the registration of a popular, clever, or a even a trade name with the intent to sell it in the future. For example, one might register the domain [www.pepsi.com](http://www.pepsi.com) in anticipation of selling that domain name to Pepsi. Some feel the days of actually being able to register a good .com domain have gone by the wayside with the ever-increasing popularity of the World Wide Web.

**DOS** (Disk Operating System) refers to any operating system, but has been mainly identified with Microsoft or MS-DOS. MS-DOS was first developed by Microsoft Corporation as the operating system for IBM personal computers.

**dot** the period character ( . ).

**dot com** the American designation for a commercial or personal Website, such as <http://www.kokobono.com>.

**dot matrix printer** a printer that creates forms and characters by means of pins striking an inked ribbon.

**double click** to press a mouse button (usually the left) two times in quick succession to start a program or initiate a command.

**down** unavailable for use. A term with a broad-based meaning, referring to a computer, a network, an ISP, a Website, or almost anything related to computers and their many uses.

**download** to copy or transfer data from one computer to another. Technically speaking, every time you view a Web page you are first downloading material from that Website's server. Among the many advantages of being online are the wide variety of free software available for users to download.

**dpi** (dots per inch) the number of dots or pixels located within a linear inch. The higher the dpi, the better the clarity or resolution.

**drag** to re-locate an object on a desktop by placing the mouse cursor (pointer or arrow) on top of the image, pressing the left button, and holding the button down while moving the image to another location on the desktop.

**drag and drop** a classic feature of the graphical user interface, the ability to click on a file, text, or a graphical image and deposit it to another location. The drag and drop features in both Windows and the Macintosh make many computer functions more manageable. see graphical user interface.

**DRAM** (Dynamic Random-Access Memory) pronounced D-Ram, the most common type of memory operation in modern personal computers. DRAM must be continuously refreshed (thousands of times per second) during a computer session (this occurs automatically) or it is cleared. see RAM, SRAM, ROM.

**drive bay** a port or access space on a computer that can accommodate a disk drive.

**driver** (device driver) a program that works in conjunction with a computer's operating system to control any number of devices such as a printer, monitor, scanner, mouse or keyboard.

**drop-down menu** a list of selections or options that appears when a user clicks on an item such as File or Help.

**DSL** (Digital Subscriber Line) the use of existing copper telephone lines for high speed data transmission such as Internet connections. Like a leased line, a DSL must be configured to connect at two specific locations. see SDSL.

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**DSS** (Digital Satellite System or Digital Signature Standard) 1. Digital Satellite System, a network of satellites that broadcasts and relays digital signals such as satellite TV signals. 2. Digital System Standard, a federal government standard used to identify and verify the sender of electronic data.

**dumb terminal** a computer display monitor without any microprocessing capabilities, usually only able to display numerals and text.

**dump** the transfer of raw data, usually from a computer's main memory, for display on a printer or a monitor.

**DVD** (Digital Video Disc) a high-density CD with more than seven times the capacity of a regular CD (enough capacity for a full length movie). Most DVD drives are also able to read CD ROMs.

**dweeb** an unsophisticated, obnoxious, person, (with very few exceptions, male) often a newbie, who, through ignorant posting, annoys, irritates and otherwise frustrates the regulars in a chat room or other online communication forum. Dweebs are often interested in meeting members of the opposite sex and pursuing women by exaggerating and boasting about themselves along with other annoying and inappropriate behavior.

**dynamic HTML** also called dynamic content, information on a Website or Web page that is constantly being updated, usually daily, but sometimes as often as a user refreshes the page. Some dynamic content is instantaneously created according to a keyword used in a search.

**dynamic RAM** see DRAM, RAM, SDRAM, SRAM.



**e-** short or prefix for electronic.

**e-book** a book available for downloading to a computer via the Internet. Stephen King recently made *Riding The Bullet*, a short horror novel, available free on amazon.com. In some cases, special software such as Adobe Acrobat is required to accommodate the material. The possibilities with e-books are enormous as information requiring periodic updating (such as college textbooks) could be easily published online and downloaded by students as needed.

**e-commerce** short for electronic commerce. A business that offers goods and services, as well as having the ability to accept payment for them, online. Many conventional brick and mortar companies are presently scrambling to establish an online presence and capitalize on the hoopla associated with being an e-business.

**e-mail** see email.

**Easter egg** a hidden surprise buried in a program or within a Website. In some instances, after executing a tricky series of commands, the user might find a funny message or the names of the programming team. On a Website an Easter egg might be an unusual game or a free offer of some sort.

**Ecash** a proprietary online system of payment offered by the Mark Twain Bank where a user first deposits money with the bank and then, using software provided by Mark Twain, may make purchases online, debiting the account accordingly.

**ECP** (Extended Capabilities Port) a kind of parallel port for PCs that allows for rapid bi-directional communications with devices such as a printer.

**e recruiting** the use of Internet resources by corporate headhunters to locate, evaluate, and hire individuals.

**EDI** (Electronic Data Interchange) the exchange of information between two or more companies with mutual interests over a network.

**edit** to make changes in a file using one or more of the edit features available in an application.

**editor** a program similar to a word processing application that allows a user to create or modify text files.

**effector key** a key, such as the Shift key, that when pressed, changes the function of another key.

**Electronic Frontier Foundation** (EFF) a non-profit, non-partisan, San Francisco based organization founded in 1980 working in the public interest to protect privacy and freedom of expression in the area of computers and the Internet.

**electronic mall** a virtual shopping mall where the user may browse and shop online. Many Internet business opportunities offered by various promoters allow entrepreneurs the chance to purchase a storefront, which is the entrepreneur's exclusive entry to an electronic mall. Under this plan, many individual storefront owners have an entry to the same mall. Using this business model, it is the storefront owner's responsibility to promote the site and drive shoppers to the mall. For online shoppers, using a mall may offer the ultimate in shop-at-home convenience, however, as with any other shopping experience, evaluating a wide range of goods, services, and prices is wise.

**electronic publishing** providing a wide range of information in electronic form delivered via Website, email, or one of the many public forums such as bulletin boards and chat rooms.

**elevator bar** an onscreen scroll bar located on either side of a window frame or on the bottom of the frame that allows a user to view the part of the document too large to display otherwise. The bar is activated by placing the mouse cursor on it and clicking. This moves the page either up and down or from side to side. The same function may be accomplished by using the arrow keys on the keyboard. see scroll bar.

**eMachines** a popular home computer retailer that sells high-quality, low-priced personal computers, to develop ongoing Internet-based consumer relationships.

**email** (e-mail) short for electronic mail. The transmission of messages both personal and commercial using a special program over a network. Email is an easy, convenient, and virtually free (at present) way to communicate using a computer within a business environment, across town, or around the world. Messages may be read immediately upon receipt, saved, or printed. The term email can be used either as a noun as in, "I received an *email* from the president today," or as a verb, "I'll *email* her tonight and set up a time for our meeting." There is some discussion as to the proper spelling of the word, but email, without the dash, seems to be emerging as the more common choice. Email, along with other online communication forums has prompted the development of many clever abbreviations and acronyms.

**email address** distinguished from a domain name by the at sign @, a name that identifies an electronic mail recipient such as `travelinguy@hotmail.com` (one of the author's email addresses).

**embedded command** a pre-programmed sequence of characters within a document that causes the document to display and consequently print out in a particular way.

**embedded font** a type style that is included within a file to ensure that the printer has the proper resources available when the time comes to reproduce the document.

**embedded object** an object included in a file that was created using a different software application, yet still has a link to the authoring software.

**embedded system** a microprocessor that functions independently of a computer. Automobiles, telephone equipment, satellites and a number of everyday appliances contain embedded systems that perform important functions for the device. For example, an automobile's imbedded microchip might be responsible for letting the owner know when routine maintenance is due.

**emoticon** (icon representing emotion) sometimes called smileys, a series of keyboard punctuation characters that create smiling faces, sad faces, winking faces, etc. Emoticons are used in email and on bulletin and chat boards to express particular emotions. These are a few: :-) :-( ;-) :-O see Emoticons: Put A Smile in That File! on page 228.

**emulation** the resources of a program or a device to imitate another program or device. Often, lesser-known printers are designed to emulate some of the more common printers so they can share drivers.

**encryption** one of many methods of securing data by encoding information so that it is only able to be read by the individuals or computers it was intended for. Usually a keyword or passcode is necessary to access the data.

**End key** a keyboard key that has different functions depending on the program running. For example, in some word processing programs pressing the Ctrl-End keys provides a shortcut to the end of the document. see Special Key Functions, page 281.

**end user** the individual or company intended as the ultimate user of a computer or software product.

**Energy Star** guidelines proposed by the Environmental Protection Agency in the early 1990s designed to reduce the amount of energy used by Personal Computers.

**ENIAC** (Electronic Numerical Integrator And Calculator) developed at the University of Pennsylvania in the mid-1940s by John Mauchly and Presper Eckert, ENIAC was the first digital, general-purpose, electronic computer. It occupied 1,800 square feet, weighed 30 tons, housed 18,000 vacuum tubes, and performed simple calculations.

**Enter Key** the keyboard key that moves the cursor to the next line. It also initiates a function or command. For example, when a program displays a prompt such as Save, pressing the Enter key confirms the command. Pointing the mouse cursor to the Save button and left clicking would accomplish the same function. see Return key, and Special Key Functions, page 281.

**envelope** see bounding box.

**environment** the condition of a computer or computer system as determined by several factors including the hardware and operating software it is running. For example, Windows compatible applications run in the Windows environment.

**ergonomics** the science of developing equipment and working environments that are safe, comfortable and efficient for humans. Ergonomics evaluates the design of machines and workspaces with the goal of reducing muscle and eye-strain. Ergonomic concerns also address proper posture and seating to reduce neck and back strain, mouse and keyboard position to minimize the occurrence of carpal tunnel syndrome, as well as monitor placement, and lighting.

**Escape key** a keyboard key usually labeled *Esc*. In the Windows environment, pressing the Escape key sometimes ends the present function and returns the user to the previous function. The term *sometimes* is used here because at other times, pressing *Esc* does absolutely nothing. This usually means more dramatic measures must be taken to end the function. see Special Key Functions, page 281.

**etailing** (electronic retailing) using the Internet to sell goods and services. see e-commerce.

**Ethernet** a local area network (LAN) first developed by Dr. Robert M. Metcalfe and D.R. Boggs while working for Xerox in the 1970s. Transmission of data takes place by radio signals broadcast over one of several types of coaxial cable. see LAN, LAWN

**Eudora** one of the leading email software programs distributed by Qualcomm Enterprises. The Eudora email application is available for both Windows and Macintosh.

**Excel** a widely used spreadsheet program developed by Microsoft in the 1980s.

**Excite** a popular Internet search engine that indexes more than 50 million Web pages. Excite also reviews selected Websites and rates them using a 5 star system.

**EXE file** the .EXE suffix tells the computer to open or *execute* a particular file.

**execute** to carry out a command.

**exit** to quit the present application. Most applications programs prompt the user to save work before exiting.

**expansion board** a printed circuit, sometimes called a card, that can be plugged into a computer giving it enhanced capabilities such as audio and video. see SCSI.

**Explore** a component of the Windows 95, 98, and 2000 operating system that allows the user to view the system's directory. Explore is the equivalent of the File Manager in earlier versions of Windows. To activate Explore, right click on the Start button, choose Explore and left click the mouse.

**Explorer** (Microsoft Internet Explorer) an important component of Windows 95, 98, and 2000. Microsoft's Internet Explorer is among the world's leading Web

browsers supporting a wide variety of graphics including Gif, Jpg and Tiff. It also allows the user to bookmark favorite Websites and includes an email program called Outlook Express. Free upgrades for registered users of Internet Explorer are available for downloading on the Microsoft Website.

**export** to save a file in a manner that allows it to be opened in another application. In many Windows programs selecting the “Save as” option under the File drop down menu offers many choices for saving work in other applications. For example, documents created in Microsoft Word can be formatted for use in Word Perfect and Macintosh.

**extension** the suffix or the characters following the period in a filename such as *mountain.jpg*. This file might be a photograph (or other graphical representation) of a mountain in the form of a bitmap. The name “mountain” indicates that the file contains the image, and jpg indicates the type of file, which in this case is a bitmap. The software application a computer is currently running must be configured to execute particular file formats or they will be rejected. see page 285 for a comprehensive list of filename extensions.

**external viewer** a program associated with a Web browser that allows the user to look at an image or graphic presented in a particular format. Adobe Acrobat is an external viewer.

**extranet** the linking of two or more intranets via the Internet primarily for the purpose of sharing mutually beneficial commercial information.

**ezone** (e-zine) often pronounced *zine*, an electronic magazine published on a Web page or distributed through email. Ezines cover many topics from computers and electronics to investing, sex and beyond.



**fair use** under US copyright law, the limited reproduction of copyrighted material. For example, quoting several passages from a book for use in a review or to emphasize a point in an article would probably be considered fair use by most publishers.

**FAQ** (Frequently Asked Questions) a list of common questions on a Website, bulletin board, or other public forum or service, compiled for the convenience of both the information provider and the user. Offering FAQ pages has become one of the standards of quality in providing online customer service.

**fatal error** an occurrence that takes place for any number of reasons while operating a computer that often causes the system to crash, resulting in the loss of any unsaved work.

**fax** (abbreviation for facsimile) the transmission of a copy of a paper document over telephone lines using a fax machine or a computer equipped with a fax modem. The term may be used as either a noun or a verb. As a noun one might say, "I received a fax from the office today." As a verb, "I'll fax this contract to the office in the morning."

**fax modem** a computer device that allows for the transmission and receiving of documents as faxes. As a rule, the quality of a fax received via a computer will be consistent with the quality of the printer ultimately printing the document. A fax modem may be installed inside the computer or present as an external modem. Some fax modems also function as regular modems.

**Fetch** a Macintosh program that transfers files using file transfer protocol (FTP) from a computer to a server or from a server to a computer. This is one of the ways that Web pages are loaded from a Web designer to the server that offers them to users via the World Wide Web.

**fiber optics** the use of glass or plastic fibers for the electronic transmission of data. The technology has several advantages over traditional wire cables in that transmission speed is greatly increased; fiber optics allow for greater bandwidth with no electromagnetic noise; fiber optic cables can carry more data; they transmit the data digitally; and they are lighter and thinner than wire cables.

**file** a compilation of data stored on a computer disk, identified by a name called the file name. Almost all data is stored in some type of file. A file has a first and last name and may contain an entire program or a single document. see page 285 for a comprehensive list of filename extensions.

**file compression** see data compression.

**file extension** see extension.

**file format** a method for encoding or arranging data in a file. Every program uses a particular format for organizing the information in the files they produce. For example, text is arranged differently than images or graphics. That is why most word processing programs cannot display photographs.

**file recovery** when deleting a file from a disk, the space it occupied is not actually overwritten until it is needed for new data. Therefore, in some cases it is possible to retrieve the deleted information. Some files created using Windows applications may be resurrected by going to the Recycle Bin, clicking on the file you wish to bring back so it is selected or shaded, then clicking on "Restore File." Files created by programs other than Microsoft, may be restored with software available from several software companies, such as Norton Utilities.

**filter** 1. software that takes data and transforms it in some way, such as converting files in a particular format to another. 2. in image processing programs, a filter is a tool that modifies an image such as a bitmap.

**find** an operating system command that searches particular directories for files with specific attributes.

**finger** Unix software that weeds out information (particularly email info) about an Internet user and returns the data to the requesting party. This might include the user's full name and whether he is online at the moment. Due to abuse by commercial mass emailers, Unix systems now ignore many finger queries.

**Firetalk** an online realtime chat service that allows users to communicate with other registered users anywhere in the world verbally. The service also offers teleconferencing, voicemail, instant messages, and a realtime chat service for Websites.

**firewall** a security system designed to keep unauthorized individuals from gaining access to a private network. A firewall may be deployed in either software or hardware or both concurrently. One of the functions of a firewall is to effectively screen all incoming and outgoing messages.

**firmware** a combination of software and hardware that is stored in a fixed form such as read-only memory (ROM). Firmware can be found in many common appliances such as fax machines and telephones. see embedded chip.

**fixed-pitch type** a font in which each letter has the same width and requires the same amount of space.

**flame** a particularly intense insult or derogatory comment made via email, in a chat room, bulletin or message board or another online public forum.

**flame war** any type of online discussion that turns to a vigorous exchange (often from many sources) of insults and angry remarks. Some of the more popular stock message boards have been known to play host to heated flame wars.

**floating toolbar** a set of tools appearing on a computer desktop that can be dragged with the mouse cursor to another desktop location at the user's convenience.



Figure F.01. floating toolbar

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**floppy disk** a portable magnetic storage disk, the term is somewhat of a misnomer. The 5 1/4 inch storage disk used in early model PCs was flexible, thus called a floppy disk. Today, the most common portable disk still called a floppy is the 3 1/2 inch variety. Unlike the earlier 5 1/4 inch version, the 3 1/2 inch floppy is rigid, but the name floppy has managed to stick. Floppy disks usually store 1.44 MB of data. see Figure F.02.



Figure F.02. floppy disk

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**Flooz** slang word for money in ancient Persia, a means of monetary exchange online. Flooz is being touted as the online gift currency. For example, you could purchase \$50 in Flooz and give it to a friend as a gift (or keep it for yourself). Your friend would then have \$50 in buying power at online Websites that accept it.

**flush** text or images aligned along a border or margin. For example, the terms in this book are flush left, or lined up in a column against a left border.

**folder** an object within a software application that may contain files and/or other folders. The use of folders can be helpful in the organization of data stored in a computer. see directory.

**font** a particular lettering style that incorporates size, spacing, and pitch. Word processing programs offer many different fonts. The default font in many writing programs is Times New Roman.

**footprint** the space on a physical desktop (as opposed to a computer screen) that a device such as a computer or printer requires. The term is borrowed from the construction trade, where a footprint often refers to the space a house or building will occupy on a piece of land.

**foreground** the program currently running on your computer. Most computers have the ability to operate more than one application at a time, called multitasking. The program that is receiving instructions from your mouse or keyboard is the one running in the foreground.

**form** an online document designed to accept feedback from a user. A form contains fields where the user can enter name, email address, telephone number and other information. After completing a form a simple mouse click sends the information to the requesting party. Online forms minimize the number of paper documents needed for a wide variety of purposes such as product warranty registration, entering contests, and requesting information.

Figure F.03 form

**format** 1. a method of preparing a storage medium such as a computer disk to accept and/or read data. 2. the layout of a document or a file. see file format.

**FORTRAN (Formula Translator)** developed by IBM in the late 1950s, one of the first high-level program languages, used primarily for scientific calculations, which remains in use today.

**forward** a command button on a Web browser that allows a user quick access to a Web page. The forward button works only if the user has first clicked the “back” button. In this case, the forward command allows the user to re-visit a previously viewed page.

**fragmentation** the condition on a disk in which files are scattered around the disk in pieces. The computer is still able to read the files but not with optimum efficiency. Disk fragmentation occurs from the continual deleting of many files over a period of time. Modern operating systems contain applications that *defrag* disks when directed by a user. These programs should be run periodically.

**frame** describes the physical format for viewing a Web page offering the user the ability to scroll up, down, or horizontally as needed. Frames may be divided into two or more sections with each frame allowing the user options for scrolling, as well as other methods for manipulating the frame, such as minimizing or maximizing the view.

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**freeware** free software available for downloading from a wide variety of Websites.

There are several reasons the software is offered free. Freeware, also sometimes erroneously called shareware, is a limited version of a program that the manufacturer, distributor or author would like people to purchase. Giving users a free taste is designed to get them to buy a more comprehensive version. Another reason an individual might offer free software on the World Wide Web, or free *anything* for that matter, is to drive traffic to a particular Website. Online revenues are often generated by site traffic, and giving software away is a popular way of getting visitors. Finally, some people simply want others to experience their creation and are willing to distribute it freely to accomplish that end.

**front end** a user interface which facilitates communication with another computer, or the working aspect of an application.

**FTP** (File Transfer Protocol) a common method for moving files from one computer to another over a network. Utilizing FTP is a common way for Web pages to be uploaded to Web servers by their creators.

**FTP site** a Web server that makes FTP files available for downloading. see anonymous FTP.

**full duplex** the transmission of data in two directions at the same time such as on a telephone. Most modems operate this way.

**function** a specific task performed by a software program.

**function keys** the upper row of keys on the main portion of the keyboard labeled F1 through F12. The function of each one depends on the program running. see Special Key Functions, page 281.

**fuzzy logic** a conclusion reached by a computer recognizing that all values are not absolutes such as yes or no, black or white etc. Fuzzy logic makes calculations considering values in varying degrees between absolutes. For example, a computer might recognize black and white as absolutes, yet make an evaluation based on a shade of gray, which is somewhere between.



**G** short for gigabyte.

**garbage collection** unwanted, unused, or otherwise useless or dated information cluttering up disk space.

**garbage in garbage out (GIGO)** a somewhat dated phrase meaning the conclusion reached by a computer can only be as good as the quality of the data that was used to reach the conclusion.

**gateway** a link between two different types of otherwise incompatible networks allowing users the benefits of both.

**Gateway Inc.** a direct marketer of personal computers and related products and services. Gateway develops, manufactures, markets, and supports a broad line of desktop and portable PCs, servers and workstations used by individuals, families, businesses, government agencies and educational institutions.

**GB** short for gigabyte.

**geek** short for computer geek. A term used to describe an individual, usually male, with an inordinate enthusiasm for computers and software, who sometimes neglects other routine activities of daily living such as eating and bathing.

**GHz** short for gigahertz.

**GIF** (Graphics Interchange Format) a type of graphic file developed by CompuServe utilizing Unisys technology, designed to compress graphics used on the Internet, allowing them to load quickly.

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**giga (G)** derived from the Greek meaning giant, a metric prefix meaning X 1,000,000,000.

**gigabyte** approximately one billion bytes. Actually 1024 megabytes. Modern computer manufacturers usually measure hard drive storage capacity in gigabytes.

**GIGO** see garbage in garbage out.

**glitch** a small problem or malfunction associated with a computer hardware or software, though the term has evolved to include problems in many circles. see bug.

**gonk** slang term used in online chat rooms, bulletin boards, and other public forums, meaning to embellish or tell an outright lie.

**Gopher** a program maintained by the University of Minnesota using a menu-driven interface which compiles information gathered from the Internet and distills it into usable form.

**GOTO** a programming statement used in early computer programs such as Fortran and Basic. The use of this command has been limited since the 1970s when it was discovered to produce a great deal of erroneous data.

**.gov** a domain name suffix that indicates the Website is operated by one of the many arms of the federal or state governments.

**grammar check** a feature included in some word processing applications that alerts a user when improper grammar or spelling has been used and offers options for correcting the error. The grammar check feature can be disabled allowing the user to incorporate a particular style to the writing including grammar not considered proper.

**graphical user interface (GUI)** pronounced *gooey*. a method of interacting with a computer program by making use of graphics, icons, pop-up menus, windows, a mouse and mouse pointer. To point to an object with a mouse cursor, click on the object, and experience a result such as having a menu appear or to arrive at a Web page is an example of graphical user interface. The basic technology was developed by Xerox in the 1970s but the company could find few practical applications for it. Macintosh adapted GUI as the foundation of the Apple Macintosh in the 1980s, but it wasn't until the early 1990s with the emergence of Windows 3.0 that the technology really took off.

**graphics** computer screen images represented as pictures or photographs. Graphics are formatted differently than text and require software that is able to read

and display them. The quality of a graphical image viewed on a computer or produced by a printer will depend on the resolution of the screen or printer.

**graphics card** a plug-in video circuit board containing memory that allows a computer to display graphic images as well as text.

**grayscale** the use of various shades of gray along with pure black and white to produce an image.

**green PC** a computer designed to minimize the use of electricity it uses. It usually shuts down after a pre-determined amount of idle time. see Energy Star.

**GUI** see Graphical User Interface.



**hack** to alter a computer program or gain unauthorized entry into a program, computer, or computer system.

**hacker** though the term has been associated primarily with people who endeavor to violate computer or software security in some manner, the primary definition refers to an individual who is exceptionally skilled as a computer programmer. The other common meaning for the word is someone who gains unauthorized entry into a computer system or software program for the sake of mischief or financial gain. In light of many of the malicious deeds and pranks being played of late, such as the malicious introduction of viruses via email, and the intentional crippling of large Websites such as Yahoo, the accepted use of the term is unfortunately becoming negative. see cracker.

**half duplex** the transmission of data in only one direction at a time. see full duplex.

**hand-held computer** a battery operated computer small enough to hold in a user's hand. Hand-held computers offer features such as an address book, organizer, calculator, Internet access, and games. One limitation of the device is a keyboard that is difficult to use, though this has proved to be a minor drawback as the electronic pen has become the method of choice for keyboard or screen keying functions.

**hand icon** the image the mouse cursor takes on when it is pointed to a hyperlink.

**handle** a name used in a chat room, bulletin board or other online discussion forum. For example, Marjie's online handle is Fidgetywitch.

**handles** in a graphic design program, an object appears superimposed over an outlined box. Each of the corners and midpoints of the box are the grips or *handles* used by the artist to manipulate the image. see bounding box.

**handshake** the communication between two modems that indicates a connection is being made.

**hang** a kind of computer crash that makes communication between the keyboard and computer impossible with the exception of utilizing the *Ctrl-Alt-Del* function. Doing so will offer the user the option to close the active application or reboot the computer. see *Ctrl-Alt-Del*, crash.

**hard copy** an actual printed paper copy of a computer document. A soft copy exists only on a computer monitor.

**hard disk** a magnetic data storage platter made from aluminum and coated with iron oxide used for saving computer data. The hard disk or hard drive usually refers to the main or permanent storage device of a computer. In the early days of personal computers, a typical hard disk stored 10 megabytes. It seems that modern computers have an almost unlimited capacity for data storage with hard disks now able to store up to 50 gigabytes of data and more in some cases.



Figure H.01. hard disk with drive

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**hard drive** see disk drive.

**hardware** virtually any computer component or related device that isn't regarded as data or software. The display monitor, keyboard, connecting cables, optical scanner, printer, modem, sound card, the actual box containing the computer circuitry, and any other tangible computer component is considered hardware.

**hardwired** 1. built in computer components that cannot easily be altered. 2. online copy that remains the same whenever a particular Web page is viewed.

**Hayes compatible** an industry standard among modems and products using command language developed by Hayes Microcomputer Products Inc. known as AT command set. Virtually all modems manufactured today are Hayes compatible.

**head** the component of a disk drive that reads and writes data to a magnetic disk or tape. Double-sided disks drives have two heads.

**head crash** a serious disk drive failure where, in most cases, the head comes in contact with the disk. In normal operation the head floats an almost immeasurable distance above the disk. If dust or dirt becomes lodged in this space it can cause a loss of data and permanent damage to the disk. Disk replacement is the only cure for such a disaster. Particles as small as cigarette smoke molecules have been known to cause a head crash.

**header** 1. the first lines of a page in a word processing document. 2. the top portion of an email message containing the address of the sender, recipient and the subject of the message. 3. the top portion of a Web page containing the title.

**heap** a block of data storage space allocated to a programmer for writing a program or a specific program function.

**help** in addition to the manual provided with most software, there also exists an on-screen help button designed to assist the user with questions or problems encountered while operating the program. Activating the help button presents the user with several help options such as an index of help topics, an explanation of what the user can expect from the program, and a menu containing detailed instructions for many of the program's functions.

**Hewlett-Packard** a worldwide provider of computing and imaging solutions and services for business and the home. HP's major businesses include Imaging and Printing Systems, Computing Systems and Information Technology Services (IT Services).

**hidden files** files not listed in the directory or easily accessible to users in operating systems. Files vital to the operation of a system are hidden so a user will not accidentally alter or delete them.

**hierarchical** a system of organization similar to the chain of command in the military where the root of the hierarchy is the primary element in the system. Using the military example, the President is the leader of all of the armed forces, followed by the head of the joint chiefs of staff, then the top generals and admirals in the various branches of the military, etc. A similar system is used in categorizing the data contained on a computer, beginning with a computer's root directories, then subdirectories, folders, and files.

**high density disk** a floppy disk of high quality that is able to hold 1.44MB (mega-bytes) of data and can only be used in high density diskette drives.

**history** a folder included as part of a Web browser that shows a user the Websites that have been visited. For example, on Microsoft's Internet Explorer, the history file may be accessed by first clicking View on the menu bar, then select

Explore Bar, and finally, History. This will display the recently viewed Web pages. The user can set the number of days a Website's URL will stay in the history file.

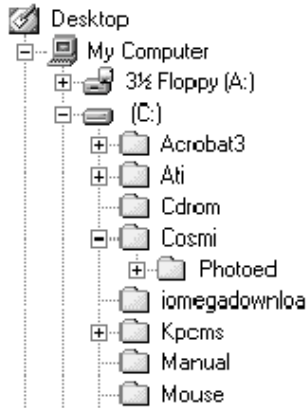


Figure H.02. hierarchical chart

**hit** the request from a browser for a Web page and the delivery of that page by a Web server. Strictly speaking, individual components of a page such as an isolated graphic, and a block of text are each considered a hit. Therefore, a page containing three pictures would be counted as at least three hits. Hits are used to determine the volume of traffic a Website receives. see impressions.

**Home key** a special keyboard key that returns the cursor to the upper left portion of the screen, but could have a different function depending on the program running.

**home page** 1. the primary page in a Website. The home page usually contains a summary of the contents of the site along with the site's features and provides hyperlinks to them. 2. sometimes simply called Home, the Web page set in a browser as the page that first appears when the user logs on to the Internet.

**host** any computer on a network that provides services to other computers with access to the network. A Web host for example, provides the means for a server to store and deliver it's clients Web pages to users of the Internet. Host services of many types are provided for a fee.

**HotBot** a popular search engine on the World Wide Web.

**Hotmail** a free browser-based email service hosted by Microsoft that allows a user to send and receive email from any location in the world.

**hourglass icon** in Windows, the cursor changes to an hourglass while the program is processing, indicating that the user must wait for the function to complete. The hourglass is the equivalent of the watch icon in the Macintosh operating system.



Figure H.03. hourglass

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**HTML (Hypertext Markup Language)** the coding language developed by Tim Berners-Lee, which is readable by a Web browser, used to create Web pages on the Internet.

**HTTP (Hypertext Transfer Protocol)** the protocol that allows the transfer of many documents on the World Wide Web. This is the familiar **http://** seen at the beginning of many URLs.

**hub** a center or origin point for devices containing many ports comprising a network.

**Human Click** a free, realtime, interactive chat program available to Website managers and webmasters allowing visitors to ask questions about products, services etc. without having to first register. A visitor simply clicks an icon on the site and an audio/visual alert lets the business know a user is making contact.

**hyperlink** sometimes simply referred to as link, a component of a Web page that when clicked with the mouse, takes the user to another Web page. A hyperlink may be displayed as a common URL such as [www.kokobono.com](http://www.kokobono.com), it may appear as a name such as WebBizCentral, or it may be contained in a graphic image or photograph. When appearing as text, it is usually displayed in a color different than that of the main body of text. When the mouse cursor is directed over the link, the arrow usually changes to the hand icon.

**hypermedia** hyperlinks on a Website that connect a user to video, sound and enhanced graphics.

**hypertext** any onscreen text containing links to other pages or files not necessarily of the same or even similar formats. For example, a computerized tutorial for learning how to use a typewriter might contain hypertext. After introducing a particular concept, the tutorial might prompt the user to “see lesson 7 for more information” and provide a link to that lesson. Web pages are classic examples of documents that use hypertext. see hyperlink.



**IBM** (International Business Machines) in 1981 introduced the IBM Personal Computer which provided the spark for the home-computer revolution. Additionally, IBM provides customer solutions through the use of advanced information technology. These solutions include technologies, systems, products, services, software and financing.

**icon** a small picture or image representing a program or file. An icon might also be the logo for a software manufacturer or one of its products. Many computer users set up their desktops with icons that represent shortcuts to opening programs or functions. see graphical user interface, shortcut.

**ICQ** (I Seek You) a popular free Internet chat program that alerts members as to the online presence of other ICQ subscribers and allows them to chat, send messages, files, URL's and play games. A user must download ICQ software and register before using the program.

**illegal operation** in Windows, a message box that appears telling the user that the program running has attempted to perform a function it is unable to execute for any number of reasons. Usually it refers to a function related to an error in programming.

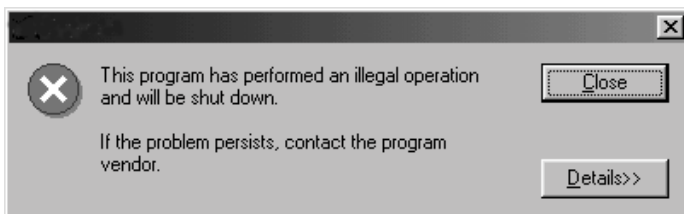


Figure I.01. illegal operation

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**iMac** a colorful and stylish computer by Apple that offers users features such as easy Internet access with a choice of browsers, the ability to play MP3 files, QuickTime4 for digital video and streaming media, and in some models, a DVD player. Apple's comparable notebook computer is the iBook.

**image map** an image on a Web page that contains a number of hyperlinks. For example, a Website devoted to the study of human anatomy might display a picture of the human body. Directing the mouse cursor over the head and clicking could bring the user to a page that showed the brain, along with text describing the brain's functions. Clicking on the heart might bring him to a page describing heart functions, and so on.

**image processing** the manipulation and alteration of images using computer software such as Adobe PhotoShop.

**import** the use of a file in a particular application that was created using a format other than that of the destination application. For example, some programs allow graphics to be imported using several different formats such as jpeg and tiff.

**impression** the number of times an entire Web page is viewed. Impressions are counted to determine the number of visits to the site. Some Webmasters are interested in more information than simply the number of viewings. Because they are measuring the effectiveness of certain types of advertising, the path a user takes to arrive at a Web page is important, such as arriving as a result of clicking a banner ad, or finding his way from a particular search engine.

**index** 1. a list, usually alphabetical, that refers to records in a database. 2. the list of features offered on a Website.

**infopreneur** an individual who endeavors to build a business selling information. The medium for achieving this end includes, but is not limited to the Internet. For example, it is widely believed that the Internet offers many profit opportunities, however, because it is a relatively new media, companies are uncertain as to how to tap this vast market. An infopreneur with specific knowledge of Internet marketing might offer any of a number of services such as consulting, classes, manuals, etc. to help companies with a desire to enter this market.

**information superhighway** a popular term used to describe the Internet and virtually all associated computer networks. The term is almost self-explanatory in that information is the main stock in trade of the Internet. The highway or network over which the information travels makes it available to many people. Some feel that the Internet needs closer monitoring by the government while others believe that cyberspace is the last frontier of freedom. It should be inter-

esting to see how these differing opinions influence further development of the medium in the years to come. Enforcing mandates related to the World Wide Web will certainly present challenges because questions of legal jurisdiction, penalties for violations, and enforcement in an ever-expanding global enterprise are almost certain to arise.

**Infoseek** a popular Internet search engine that utilizes keywords or phrases to seek and locate information on the World Wide Web.

**initialize** 1. to start a system or application 2. to assign a value to a variable for the first time.

**inkjet printer** a printer that creates characters and images by spraying fine streams of ink onto paper at high speeds. Inkjet printers are relatively inexpensive and produce high quality text and graphics in both black and white and color.

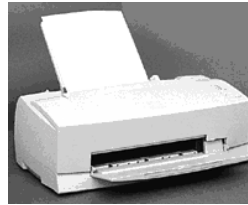
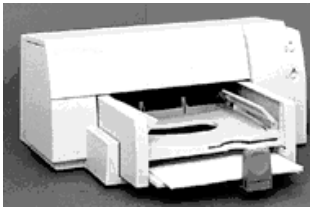


Figure I.02. inkjet printers

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**input** data entered into a computer from a keyboard, voice recognition software, a mouse, another computer, or data storage device such as a disk or tape.

**insertion point** the place on a computer monitor where text or an image will next appear, usually indicated by a flashing cursor.

**integrated circuit** also referred to as IC, another name for a chip. An electronic device first developed in the 1950s, made from semiconductor material such as silicon, containing tiny transistors, resistors, diodes, as well as a number of ever improving and shrinking components. In computer lexicon, it is likely one is speaking of the microprocessor or the brain of the computer when making reference to the IC or main integrated circuit. see chip.

**Intel** a leading semiconductor chip maker, that supplies the computing and communications industries with chips, boards, systems and software that are integral in computers, servers and networking and communications products.

**intelligent terminal** a terminal consisting of a computer monitor and keyboard that has the ability to process data using a microprocessor and memory, resulting in the ability to perform special display functions.

**interactive** a computer that accepts input from a user via a mouse and/or keyboard and returns results immediately. Most modern computers are interactive. A non-interactive application would be one that, once started, would require no human intervention.

**interface** an intermediary between two systems, applications or devices. For example, the interface for a particular computer game might be a joystick. The joystick allows the user to *interface* with the game program, initiate commands, react to prompts, etc.

**Internet (Net)** the worldwide network of computers originally set up by the US Department of Defense in the late 1960s. Called ARPANET (Advanced Research Projects Agency Network), it was designed to function as a continuing method of communication should any part of the system be destroyed by nuclear attack or sabotage. In time, it was used as a means of communication among university scholars throughout the United States. It eventually evolved into the popular electronic forum for international communication by way of interactive discussion, email, commercial Websites, entertainment and much more. The term internet written with a lower case "i" indicates a local computer network.

**Internet Explorer (IE, MIE)** Microsoft's popular Web browser, available for both PC and Macintosh. In addition to offering an email program, Internet Explorer allows users to view Web pages. see Explorer.

**Internet Service Provider (ISP)** a company that provides Internet service to a customer. Usually, in exchange for a fee, the company provides access to the Internet and one or more email accounts. Many providers offer unlimited monthly usage for a flat fee of around \$20. It's important to use an ISP that provides a local dial-up number, otherwise the user is charged long distance rates while connected to the Internet. It has become increasingly popular for some ISPs to offer free access to the Internet. Under this arrangement, the provider displays some type of advertising on the user's screen (which can't be removed) for the duration of the online session.

**Internet Society** the Internet **SOC**iety (ISOC) is a professional membership society with more than 150 organizational and 6,000 individual members in over 100 countries. It provides leadership in addressing issues that confront the future of the Internet, and is the organization home for the groups responsible for

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Internet infrastructure standards, including the Internet Engineering Task Force (IETF) and the Internet Architecture Board (IAB).

**intranet** a group of computers, often belonging to a company or some other private enterprise, linked together for the purpose of communications. The intranet may function using the Internet as a means of transmitting data or as a completely isolated network. As part of the Internet, a particular intranet might use security measures such as passwords, key codes, and firewalls to keep communications exclusive to that organization.

**Iomega** a leading designer, manufacturer and marketer of personal and professional storage solutions such as Zip and Jaz disks and drives for users of personal computers and consumer electronics devices.

**IP** (Internet Protocol) a set of protocols that allow computers to communicate with each other.

**IP address** (Internet Protocol address) a computer's numeric identity on the Internet. All computers of Web surfers are identified by a number. As a user, the number assigned may either be static (always remains the same) or may be offered on an "as available" basis each time the individual logs on. A user's number is assigned by her ISP.

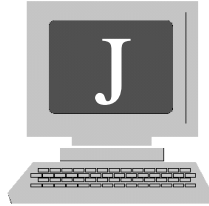
**IRC** (Internet Relay Chat) an online chat system that allows users to communicate in realtime anywhere in the world. What makes ICR unique is it's ability to accommodate more than two users at one time.

**ISDN** (Integrated Services Digital Network) a standard used for the transmission of digital data including voice and video signals over telephone wires without a modem at a significantly faster speed.

**ISP** a company that provides customers with a connection to the Internet. see Internet Service Provider.

**IT** (Information Technology) the study and implementation of computers for communications purposes. This is a rapidly growing field with a wide range of opportunities. There is hardly a modern medium, to large-size business in existence without an IT officer and department to oversee the processing and management of electronic information of all types.

**iteration** a computer processor's single cycle through a group of programming instructions. see loop.



**jack** a female electronic fitting.

**jaggies** the stair step-like distortion of text or an image, usually caused by enlarging or inadequate resolution of a display monitor or printer. A variety of graphics and paint programs may be used to “repair” jaggies.

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jaggies

Figure J.01. jaggies

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**Java** an image-oriented programming language developed by Sun Microsystems in the mid 1990s. Java applets are small programs that a user may download from the Internet without fear of introducing viruses and run on a Web browser. Java applets often display active animation and other clever action-oriented functions.

**JavaBean** a Java application component developed by Sun Microsystems written to serve the development of Java programs and determine how Java objects interact.

**JavaScript** programming language developed by Netscape that allows Web designers to create interactive Websites. This might include the transmission of information from a site visitor to a host server.

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**Jaz drive** an external disk drive manufactured and marketed by Iomega corporation. Presently, the capacity of a Jaz disk is up to 2 gigabytes. In the fast moving field of computer technology, however, the capacity of a Jaz disk is almost certain to increase in the not-so-distant future.

**joystick** a computer input device vaguely similar to a mouse, but with a far greater level of functioning, designed primarily for playing games. A joystick is a lever allowing a user the ability to point at images on a monitor, and in many applications, press a button on the top of the lever, firing a computer generated missile of some kind, thus destroying an on-screen target. Outside of the realm of gaming, the joystick can be a useful tool of function for people with disabilities.

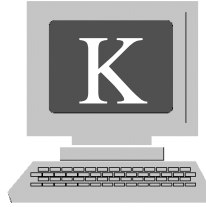


Figure J.02. joystick

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**JPEG** (Joint Photographic Experts Group) pronounced *Jay-peg*, sometimes written JPG, a popular file format for storing bitmap images. JPEG images are widely used on the World Wide Web because the format allows for easy file compression with minimal image distortion.

**justify** to arrange text on a page so it conforms to a standard such as a consistent margin on one or both sides of the page.



**K** short for kilobyte.

**kbps** (kilobytes per second) the standard measurement for the transfer of data via a modem.

**Kermit** a file transfer protocol developed and freely distributed by Columbia University. Kermit is noted for accuracy but not speed.

**kernel** (sometimes spelled kernal) the central component of an operating system, responsible for disk, memory, task and process management.

**kerning** adjusting the space between characters in a word, a line of text, or an entire document to allow the text to align or fit properly. This is accomplished by placing characters closer together or farther apart.

**key** 1. a keyboard button containing a character, numeral or special command. 2. a password for access to encrypted data or one used to gain entry to a subscriber Website or a private network.

**keyboard** the input device resembling typewriter keys used to enter data into a computer. The keyboard contains the individual letters of the alphabet, numerals and a host of special command or function keys. see Figure K.01. see Special Key Functions, page 281.

**key pal** a term describing an online correspondence buddy contacted either by email, or through a chat forum.



Figure K.01. keyboard

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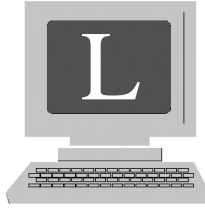
**keyword** 1. a word that has a special meaning, or identifies a specific file or document within a program. For example, in the Windows environment, if a user forgot where a particular document was created, he could initiate a search for the document by left clicking on Start then Find, then, Files or Folders. Typing a “keyword” such as a single word from the document’s title will prompt a search of all files. 2. When searching for a Web page or information from any of the many search engines, the user will type in a word related to the page or topic. In this case the keyword could be a single word or a phrase.

**kilo** the metric prefix representing X 1000.

**kilobyte** 1000 bytes, however, the technical or true value is 1024.

**kiosk** a free standing computer in a mall, airport, or a commonly traveled public location that offers a user the ability to obtain information, often with touch-screen access. For example, a kiosk at a bus station might offer a menu of bus schedules.

**kluge** slang term for a temporary fix to a problem.



**LAN** see Local Area Network.

**lag** sometimes called hang time. A delay or waiting period encountered while a computer processes data or a Web page loads onto a browser.

**landscape** a document with horizontal orientation. In other words, the page is wider than it is tall. Landscape orientation is opposite of *Portrait*.

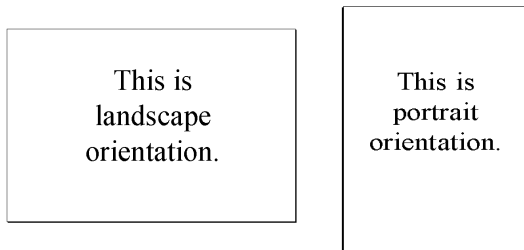


Figure L.01. landscape orientation v. portrait orientation

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**laptop** a portable computer small enough to sit on the user's lap. It has a pop-up screen and is powered by batteries. Laptop computers are popular for travelers as evidenced by the many fee-for-service docking stations appearing in airports. These service centers provide plug-in power, printers, and dial-up connections for getting online. see Figure L.02.

**laser printer** a printer known for its output of high quality documents. The device uses a laser beam that produces an image on a drum while changing the drum's electrical charge. The drum rolls through a supply of toner and adheres to the

cylinder's charged portion. Toner is then transferred to paper to produce the document. Most laser printers come with a wide variety of internal fonts and are known for their high resolution.

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Figure L.02. laptop computers

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Figure L.03. laser printers

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**latency** similar to lag, latency refers to elapsed time while waiting for a computer function. In network functions, latency is the time it takes for data to travel from the source to the destination.

**lasso** a tool in many graphics programs that isolates an area allowing the user to make changes. It is used by dragging the mouse cursor freehand around the border of the designated area.

**launch** 1. to start up a software program. 2. the premiere of a new Website. High profile Websites with generous start-up budgets can turn a launch into a major media event to attract attention to the company.

**LCD** (Liquid Crystal Display) a power and space-efficient type of display used on many clocks, calculators, and laptop computers.

**leased line** a telephone line devoted entirely to a network or single computer connection.

**LED** (light emitting diode) a device that emits light (usually red) when an electrical current is passed through it. LEDs last for a long time, however, require more power than LCDs.

**left click** to press the left mouse button. This often initiates a command and can be the equivalent of pressing the Enter key on the keyboard.

**left justify** to orient text so it conforms to a horizontal margin on the left side of a document.

**legacy** applications and data, usually running on mainframe computers, that have been in existence for a long time. Often it is difficult to phase out legacy system data because subsequent applications have been written using the legacy material.

**license** an agreement whereby a user, usually for a fee, is granted permission to use copyrighted or proprietary materials such as software. Users of most retail software applications agree to a limited-use licensing arrangement when installing the program.

**light pen** a computer input device that acts somewhat like a mouse. A user points a wand or pen at the monitor and the computer responds to commands sensed from the emission of light from the device. Light pens are rare in modern computing due to the popularity of the mouse. Light pens are sometimes used in casinos to mark numbers in computerized Keno games.

**line** 1. a connection device such as a cable, used to link two or more hardware components. 2. an isolated statement within a program. 3. a horizontal or vertical arrangement of words, characters, or images in a document.

**link** 1. to attach. 2. on the World Wide Web, a link refers to a line of text or an image on a Web page, that when clicked with a mouse, provides a connection to another page within the site or a connection to an entirely different Website. see hyperlink, hypertext.

**Linux** pronounced *lee - nux*, a free, UNIX-compatible operating system, developed by Linus Torvalds that runs easily on Personal Computers and Macintosh.

**ListBot** a free Microsoft program conveniently placed on a Web page that allows a Website manager to create a client database and communicate directly with customers by sending them email messages with product announcements, newsletters and special offers. ListBot can be used for the initial gathering of customers and direct email marketing. For example, customers requesting an ezine

from a Website will sign up with ListBot. The database is automatically maintained by the service, allowing the Webmaster to mail the publication to all subscribers with ease.

**Live3D** a virtual reality program that expands the capabilities of Netscape Navigator 3.0 allowing users to experience enhanced sounds, sights, music, and animation.

**load** to transfer data from one source to another. On the World Wide Web, a Web page is said to be loading during the time it takes to get from the server to your browser. Often, large image files prolong loading time.

**local-area network (LAN)** a group of computers linked together in close proximity such as a building, a suite of offices, or even a single room. Due to the limited size of the network, data is usually transferred rapidly. This arrangement is useful in business for the sharing of information.

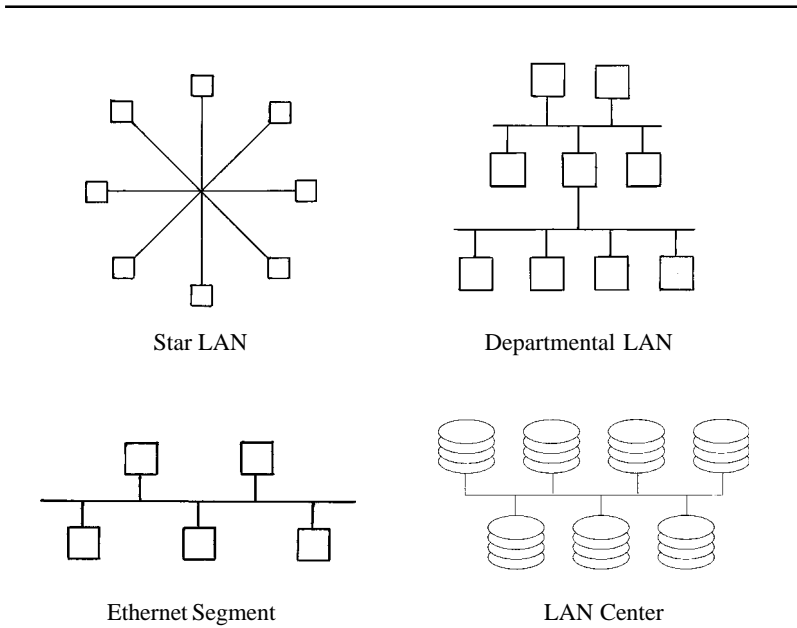


Figure L.04. local area networks

**local-area wireless network (LAWN)** a type of local-area network that transfers data using high frequency radio transmission instead of telephone wires.

**lock** to guard a file, program, program component, or some other piece of data from modification by users who have access to the data at the same time.

**log** as a verb, to record information in some logical fashion. Used as a noun, a record of recorded information.

**log on** (log in) to connect to a computer; to begin a session, or to connect to a network. Usually, there are a series of required functions, often including the entering of a password that must be completed to log on to the Internet. Fortunately, these functions may be set one time (a password may be retained and called up automatically at the start of each session), and kept as a file by your Web browser, so the process is easy each time.

**log out** (log off) to end a computer or Internet session by closing the appropriate files and programs.

**look and feel** the general impression a user comes to associate with using a particular software product. This is based on the program's features, style, ease of use, and a number of other considerations. We are beginning to see software developers make claims to particular look and feel attributes as exclusive, and therefore, subject to protection under certain laws such as copyright and trademark statutes.

**Look@Me** a free interactive program that allows a user the ability to view another user's screen in realtime anywhere in the world.

**loop** a series of basic programming instructions that causes a function to repeat until a specific goal or condition has been reached. Each cycle is called an iteration.

**Lotus** (Lotus Development Corporation) a subsidiary of IBM since 1995, and leading spreadsheet developer since the early 1980s, with products such as Lotus 1-2-3.

**lowercase** keyboard characters (letters) that are "small," such as x, y, z, as opposed to the uppercase or CAPITAL letters, X, Y, Z. The term dates back to the early days of printing when the small letter characters were stored in drawers (cases) underneath the capital letters.

**lurk** to watch what is taking place in an online public forum. see lurker.

**lurker** a slang term for an individual who watches the interaction of others in public forums such as chat rooms, bulletin boards and message centers without ever contributing himself.

**Lycos** a popular full-text search engine on the World Wide Web that allows users to customize a search.

**Lynx** a Web browser that supports text and not graphics. The benefit here is, because Lynx does not have to load graphics it is much faster than the more popular graphical-access browsers.



**Mac** short for Macintosh.

**Macintosh computer** a popular home computer introduced in 1984 by Apple. The Mac was the first computer to utilize a graphical user interface (GUI). This operating system uses icons, graphics, pop-up windows and a mouse for easy navigation through its applications. The introduction of the Mac marked the birth of the point and click generation of home computers.

**macro** a key, name, or symbol that represents and initiates a command sequence. For example, for the sake of streamlining repetitive functions, some programs allow you to set your computer to enter your name, address, or any other frequently used phrase or character string, by pressing a particular series of keys. The selected item is then inserted to the chosen location.

**macro virus** a computer virus that is found programmed as a macro, and embedded into a file document. The virus is designed to execute when the document is opened. Today, most viruses are macro viruses. A user can protect his computer by installing and periodically updating antivirus software.

**mail bomb** an email containing a large file or files designed to jam an ISP's server and/or the recipient's mail program. Once a bomb is opened, depending on the size of the file it contains, it can take hours to load. With many ISPs, a user's penalty for mail bombing is discontinuation of service.

**mailbox** a directory maintained in an ISP's server that stores email until a user downloads it. Email may be saved in both the ISP's server or in the user's computer.

**maillist** in most modern email programs, the addresses of the people a user sends messages to are stored and called a maillist making it an electronic address

book. With this feature a user can also send the same message to everyone on the list with a simple mouse click.

**mail filter** a program allowing the user to sort email according to its subject or heading.

**mainframe computer** a large, stationary computer that requires space in an air conditioned room. Such machines are able to store massive amounts of data, support many users simultaneously, and run a wide variety of applications all at one time. Before home computers became available in the early 1980s, mainframes were the only computers. They were used by governments worldwide and large corporations. IBM and Unisys are the leading manufacturers of mainframe computers.

**Majordomo** a free UNIX mailing list program that allows a user to deliver mass email (called opt-in mail) to users who have requested particular information.

**MAPI** (Messaging Application Programming Interface) a Microsoft email management system that allows different email applications to work in harmony and distribute mail.

**margin** the space surrounding a body of text in a word processing document. A user can easily set the margins for documents before each use or use the default settings of the application.

**marquee** usually a line of scrolling text created with Dynamic HTML and Java applets displayed on a Web page. Some Web browsers will not support scrolling text.

**mask** in graphics, drawing, and paint programs the term takes on different meanings. In a draw program it means to partially obscure the view of an image by hiding it behind a hole or opening. In a paint program it is the isolation of an area so it cannot accept other images.

**maximize** in Macintosh and Windows operating systems, as well as many software programs, a button found in the upper right hand corner of the screen (in most cases, but not always) that, when the user places the mouse cursor on it and clicks, it enlarges the current window to fit the entire screen.

**MB** abbreviation for megabyte.

**MBps** when written with an uppercase B, short for **megabytes per second**.

**mbps** when written with a lowercase b, short for **megabits per second**.

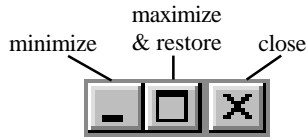


Figure M.01. maximize button

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**MBONE** a virtual network that is layered on top of portions of the physical Internet to support routing of IP multicast packets because that function has not yet been integrated into many production routers. The network is composed of islands that can directly support IP multicast, such as multicast LANs like Ethernet, linked by virtual point-to-point links called “tunnels.” The tunnel endpoints are typically workstation-class machines having operating system support for IP multicast and running the “mroued” multicast routing daemon.

**McAfee VirusScan** a popular software program designed to provide complete desk top protection with an array of scanning features that keep a computer system clean, and virus-free. Using the latest technology, VirusScan detects 100 percent of viruses including those found on floppy disks, Internet downloads, email attachments, Intranets, shared files, CD-ROM and online services (even inside the most popular compressed file types).

**MDI** (Multiple Document Interface) a Windows interface program allowing programmers to write applications with many windows, with each application having a main window and a varying number of child windows. The child windows are shown inside of the main window. MDI is rapidly being replaced by a newer application program interface (API) called Single Interface Document (SDI).

**MDRAM** (Multibank Dynamic Random-Access Memory) memory technology developed by MoSys Inc. that uses 32 KB banks of DRAM, each having its own input/output port feeding a common internal bus. The technology allows for faster reading and writing of data.

**media** 1. elements of data storage such as magnetic tape, floppy, zip and jaz disks, and CD-ROMs. 2. a manner of making computer information available to the user such as, sound and video. 3. a method of mass communication such as radio, television and the World Wide Web.

**MediaCast** a division of Who and How Entertainment Network, MediaCast is a company that uses broadcast technology to deliver live and archival musical events over the World Wide Web.

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**mega** the metric prefix meaning X 1,000,000.

**megabit** 1000 kilobits. (Actually 1024 kilobits).

**megabyte (MB)** a thousand kilobytes or a million bytes. (Actually 1,048,576 bytes).

**megahertz (MHz)** a million cycles or hertz per second. A computer's microprocessor, the clock speed, or the chip speed, until recently has been measured in megahertz. However, personal computers are now available with microprocessors that run at speeds measured in *gigahertz*.

**meltdown** the overloading of a computer network that, in some instances causes a noticeable slowing of the transmission of information, and in the worst case, causes the network to crash.

**memory** data storage space inside a computer. Memory usually refers to data stored using a chip or chips, while the term storage refers to data maintained on disks or tape. All computers are equipped with what is known as physical memory, called the main memory or Random Access Memory (RAM). RAM is the same as physical memory. In the recent past, the standard memory capacity for an off-the-shelf Personal Computer was anywhere from 16 to 32 megabytes of RAM. Today, many stock computers come equipped with 64 to 128 megabytes of RAM and often more.

**memory leak** a glitch that causes a program to use more and more memory until it finally causes a crash of the system.

**menu** a list of choices or commands a computer has available on a screen. The menu options may be accessed by pointing the mouse cursor over the desired command and left clicking. Usually this will prompt a list of choices to appear. From here, the user clicks of one of the items to execute the particular command.

**menu bar** similar to a toolbar except the options or commands appear as a horizontal line of words including File, Edit, View, etc. at the top of a computer screen rather than icons or symbols.

**merge** to combine information from one file with information of another file in a manner that maintains the inherent order (often alphabetical or numerical) of each.

**message box** the same as an alert box, a small dialog box appearing on a computer screen that notifies the user of a changing condition with the application. For

example, a message box might appear telling the user that the program is running low on memory and suggest closing down other applications to free up resources. The message box will disappear only after the user acknowledges the message by clicking on one of the options offered.



Figure M.02. message box

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**meta** a prefix used in computer science meaning “relating to” or “based on.” For example, a metadirectory would be a directory relating to, or about directories. More simply put, a directory of directories.

**meta tag** HTML information describing a Web page or document. In addition to information about the enterprise that created the page, important keywords are written as meta tags, which are designed to be found when a search engine seeks these words entered by a user. The clever use of meta tags used to associate keywords to a Website can significantly increase traffic to the site. To take a look at HTML code and meta tags while online, click on “View” in the menu bar in Microsoft Explorer, then select “Source” and click again. Or simply take a look at the example below:

```
<title>GSP - Gold Standard Press</title>
<meta name="keywords" content="web marketing strategies, web marketing tools">
<meta name="description" content="Internet InfoScavenger is a monthly newsletter publication devoted to helping busy professionals market their products and services on the Web.">
</head>
```

**MHz** see Megahertz.

**micro** a common term in computing meaning: 1. a microprocessor. 2. a computer. 3. something extremely small.

**microcomputer** a computer in which the central processing unit (CPU) is the microprocessor. Home computers are microcomputers and are generally used by one person at a time.

**microprocessor** a silicon chip, or integrated circuit that contains a computer's central processing unit (CPU). The microprocessor, (or simply processor), is considered the computer's brain. Microprocessors are responsible for the way computers calculate, analyze and organize data. When evaluating a personal computer for home use, the speed which the microprocessor operates is among the most, if not the most important of considerations. The speed of the processor is measured in megahertz. see CPU.

**Microsoft Corporation** the world's leading software company, started in 1975 by Paul Allen and Bill Gates when they developed operating software for the Altair, a home computer used mainly by hobbyists. The software pioneers were approached in 1981 to design an operating system for the IBM Personal Computer, and history was made with the introduction of Microsoft DOS. Today Microsoft develops, manufactures, licenses and supports a wide range of software products for a multitude of computing devices. In a widely publicized antitrust lawsuit, the US Justice Department has ruled that the corporation is a monopoly and has ordered a breakup of the company. Microsoft has vowed to fight the ruling stating that to divide would hurt the company, the consumers that rely on their products, and the US economy. Many await the final disposition of the case.

**MIDI** (Musical Instrument Digital Interface) pronounced *middy*, a standard for the way electronic musical instruments interact. When a computer is equipped to play MIDI files it simply means there is a MIDI-capable sound card inside the machine. Most cards are able to play two types of sound: digital audio and MIDI. Though digital audio is a more pure method of sound reproduction, it requires a great deal of memory. MIDI files are more easily compressed and require significantly less memory. MIDI files are easily downloaded from the Internet. Often, when you hear music playing on a Website, it's a MIDI.

**MIME** (Multipurpose Internet Mail Extensions) a standard for attaching files other than text to email. Such files include graphics, audio, spreadsheets, charts, graphs, and faxes. Modern email programs allow for both the sending and receiving of MIME.

**minimize** in Macintosh and Windows operating systems, as well as many software programs, a button found in the upper right hand corner of the screen (in most cases, but not always) that, when the user places the mouse cursor on it and clicks, it decreases the size of the current window so the window is no longer visible on the computer screen.

**MIPS** (Million Instructions Per Second) a somewhat dated way of measuring the speed of a computer determined by how many instructions the machine can process per second.

**mirror** technically speaking, an exact copy of something. However, there are two relevant definitions important with regard to computers. 1. to invert an image so its “mirror” reflection is present along with the original. 2. the duplication of Web pages on more than one Web server. This is done to relieve the high demand on the server of a popular Website.

**User Friendly Guide**  
**USER FRIENDLY GUIDE**

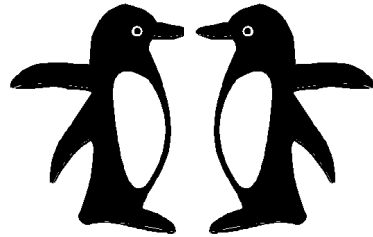


Figure M.03. mirror effect, definition 1

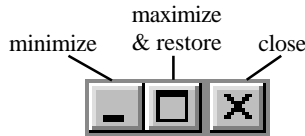


Figure M.04. minimize button

**MMX (multimedia extensions)** an Intel microchip technology, which is a step beyond the Pentium Processor, designed to accommodate multimedia and communications functions such as animation, video and audio.

**mode** the operational state of a piece of computer hardware or software. For example, if a Windows user thought she was about to experience a hard disk malfunction, (in many cases the computer would actually tell the user that hard disk failure was eminent) she would open Windows in the *safety mode* and be sure to backup all important files before having a technician examine the machine.

**modem** a device that allows for communications between computers via a telephone line, coaxial cable, or fiber optics by transferring digital data. The transfer rate of the information is measured in bits per second (bps). Modems may be connected to computers internally, or externally. Wireless modems are available for portable computers and work much like cellular telephones.

**moderated mailing list** a collection of email recipients who receive messages before they are sent to subscribers.

**module** an individual component of either computer hardware or a software program. In either case, modules are linked together in order to function.

**moiré** an undesirable graphical pattern resulting from poor monitor or printer resolution.

**monitor** (display monitor) a television like device that converts computer information into graphical images and text.

**monochrome monitor** a monitor that displays a single color against a background resulting in the monitor actually displaying two colors.

**Moore's Law** a prediction made in 1965 by Gordon Moore, co-founder of Intel, stating the number of transistors occupying a square inch of integrated circuit material had doubled each year since the invention of the integrated circuit and that the multiplication of circuitry would continue. For the most part, the observation held true until the late 1970s when the time span of a year increased to about 18 months. Over time, Moore's Law has erroneously been associated with the notion that microprocessor speeds would double each year.

**morph** short for metamorphosis, meaning the gradual, yet complete changing of an image to one that is totally different.

**Mosaic** a multimedia Web browser distributed freely (there are versions available for sale as well) by the National Center for Supercomputing Applications (NCSA) used for the viewing of HTML and other documents on the World Wide Web. Mosaic was widely responsible for the initial popularity of the Internet in the early 1990s.

**motherboard** the main circuit board of a computer which provides connections for all other peripherals such as the BIOS, serial ports and expansion slots. The motherboard houses the microprocessor and memory.

**Motorola Inc.** a leading manufacturer of microchips, providing integrated communications solutions, embedded electronic solutions including Software-enhanced wireless telephone, two-way radio, messaging and satellite communications products and systems, as well as networking and Internet-access products for consumers, network operators, and commercial, government and industrial customers. Until the early 1990s, Motorola provided all of the microprocessors used in Apple Macintosh computers.

**mouse** a popular computer input device, vaguely shaped like a real mouse, that allows the user to select commands displayed on a monitor and easily initiate those commands by clicking the device. A mouse is used by moving it around a small field on a physical desktop (often a mousepad). Moving the mouse positions a pointer, or mouse cursor on the monitor. When the cursor is in position, (placed over a command button, or hyperlink) the mouse is clicked to initiate the command. The mouse was developed by Douglas Engelbart and Xerox Corporation in the 1970s, adopted by Apple soon after, and utilized with huge success by Microsoft with the introduction of Windows in the early 1990s. The mouse is a vital component of the graphical user interface. The plural of mouse is mice and they are available in cordless models.

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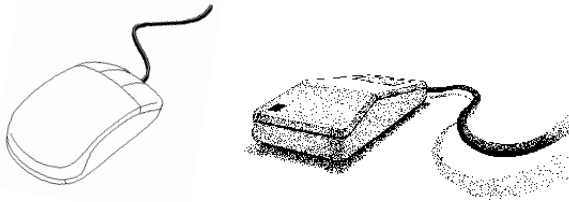


Figure M.05. mice

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**mouse potato** a slang term adapted from couch potato to describe an enthusiastic, perhaps obsessed, computer user.

**Mozilla** the original name for the Web browser, Netscape Navigator.

**MP3** (MPEG Third Layer) a standard for the compression of audio files allowing for high compression ratios without a loss in sound quality. The compression of the audio signal can be likened to an encrypting of sorts. A special player is required to listen to MP3.

**MPEG** (Motion Picture Experts Group) a standard for playing digital video and sound on a computer. MPEG is a file format using high compression. MPEG files are found on DVDs, CD-ROMs and Websites.

**MS-DOS** (Microsoft Disk Operating System) the operating system first developed for the IBM Personal Computer and compatibles in 1981 by Microsoft. Windows 95, 98 and 2000 each include a version of DOS.

**MSNBC** a co-venture of Microsoft and NBC focusing on the Internet, cable, and broadcast media.

**MUD** (Multi User Domain *or* Multi User Dimension *or* Multi User Dungeon) a realtime, interactive virtual community where the inhabitants assume identities using avatars. Initially, MUDs were almost exclusively devoted to role playing activities, today, however, the term is also synonymous with chat rooms.

**MultiCast** to broadcast an audio or video message over a network using special software such as Real Audio.

**multimedia** the use of a computer to display integrated text, graphics, animation and sound. As computers become more sophisticated and less expensive, the potential for use in multimedia presentations such as movies and interactive education increases.

**multitasking** the ability for a computer to run more than one application or *task* at one time. Technically speaking, a computer's microprocessor executes only one task at a time. However, the CPU quickly alternates operational functions among open programs to give the appearance of simultaneous operation. For example, a user might finish work on a document and print it. While it is printing, she can begin work on another document using a word processing program, play a game, or navigate the World Wide Web.

**My Computer** in Windows, a folder, often represented by a computer icon on the desktop, that contains the system's disk drivers, control panel, printers, and dial-up-networking connections.



**nagware** software distributed on the Internet that the user agrees to pay a small fee to use. The name nagware comes from the periodic appearance (usually before or after each session) of a pop-up message reminding the user he has not yet registered. see shareware.

**name** the identification of a folder or program, given by the manufacturer or the creator of the file, which is made up of keyboard characters. For example, you might collect recipes, in a word processing file named “yummy.”

**name server** also referred to as a domain name server, a computer that translates domain names into IP addresses.

**Napster** a free software application developed by Napster Inc., founded by John Fanning and his nephew Shawn Fanning (Shawn wrote the program code), that allows a user to download music over the Internet using the MP3 format. Additionally, the program allows users access to a worldwide library of music maintained by subscribers, as well as the ability to chat online. The company claims more than 20 million users. The name Napster was Shawn Fanning’s childhood nickname. Napster has stirred a great deal of controversy over intellectual property rights. Many artists have spoken out against Napster as they feel their work is being taken without payment. At present, several lawsuits have been filed to stop the upstart company from facilitating the distribution of copyrighted music. Proponents maintain that subscribers simply allow other subscribers to borrow music they own, thus contend, no copyright violation. In the summer of 2000, the US Senate listened to testimony of artists claiming financial harm from the company as well as a representative of the firm contending no laws have been broken. Shortly thereafter, a federal judge ordered the site to shut down. It is almost certain that this issue will end up being resolved in court.

**native** the original operating environment of a particular software program. Although an application may adapt to more than one format, the native format is the one that is exclusive to the software.

**nav bar** (navigation bar) various on-screen controls found on a Web page allowing the user to scroll from left to right, or up and down. Utilizing these helpful tools offer a user a wide range of menus, instructions, FAQs, and allow for easier access to the World Wide Web. Nav bars might also be hyperlinks pointing to other pages or Websites.

**Navigator** see Netscape Navigator.

**near letter quality** (NLQ) a printing standard where the documents produced resemble the higher standard, “letter quality” produced on a quality typewriter. Laser printers produce letter quality documents. Although some inkjet printers advertise “near letter quality” performance, it is difficult for the untrained eye to distinguish NLQ from letter quality documents.

**Net** when written with upper case N, short for Internet. When written with lower case n, **.net** is the suffix for a domain name or an email address such as cutiepie@cybertown.net.

**net guru** sometimes referred to as net god, or net personality, an individual who has been on the Internet for a long time, is recognized in many public and private chat or message forums, and who’s opinion is highly regarded.

**Net Nanny** software designed to keep children from accessing undesirable Websites such as pornography or violence-oriented destinations.

**Net PC** a computer designed by Intel and Microsoft with the intention of providing users with a low cost machine whose sole purpose is navigating the World Wide Web. As the cost of PCs continues to decline, the idea seems to have lost momentum.

**net police** sometimes called a den mother, an individual who takes it upon himself to enforce the unwritten rules of a chat or message forum, often using his own standards, while continuously reminding others of those standards.

**netiquette** the combination of the words net and etiquette, the term refers to the unofficial standards of good behavior on the Internet. Acceptable online behavior was established, for the most part, in newsgroups and online communication forums, and has become the adopted protocol. For example, it is bad netiquette to post a message using all uppercase letters (caps) because that is

considered shouting and it's hard to read. Other violations of netiquette include, blatant posting of commercial messages, using foul and abusive language, and posting messages that are not related to the topic of the forum. Enforcement and consequences for violators of netiquette is handled by other users and might include some form of admonishment such as flaming or simply ignoring the culprit.

**netizen** slang expression for an inhabitant of cyberspace or the Internet.

**Netscape Communications Corporation** founded by James H. Clark and Marc Andreessen in 1994 and located in Mountainview, California, the company is a leading provider of open software that links people and information over the Internet and intranets. Netscape offers a full line of client and server software, development tools, and commercial applications to create a complete platform for next-generation, live online applications.

**Netscape Navigator** a popular Web browser formerly called Mozilla and developed by Netscape Communications Corporation. It is widely felt that the introduction of Netscape Navigator helped to bring the Internet to the masses.

**network** two or more computers linked together for the purpose of communicating with each other.

**network computer** a computer that utilizes the resources of a network. Such a machine doesn't have the need for a great deal of computing power such as memory and disk space. see Net PC.

**Network Solutions** the world's leading Registrar of Web domain names, helping businesses and individuals to establish an online identity, communicate with their customers and conduct commerce, all online.

**neural network** computer programs loosely modeled after the functioning of the human nervous system. A type of artificial intelligence pioneered by Bernard Widrow of Stanford University that recognizes and records sequences and patterns and makes subsequent evaluations based on previous conclusions. Such conclusions are approximations, and not definitive.

**newbie** a newcomer or novice in almost any field, in this context, to computers and the Internet.

**newsfeed** similar to a syndicate. The network sources from which Internet Service Providers (ISPs) receive news groups and make them available over the Internet.

**newsgroup** an online discussion forum existing on any network, however, the term most often refers to forums that use the Internet. There are literally thousands of topics for newsgroups. Before joining in a discussion, it is usually wise to read a number of postings and get a feel for the topic and flow. Many newsgroups consider their topics and forums seriously and tolerate little or no nonsense.

**newsreader** a software program (there are many freely available for downloading) that facilitates the reading and posting of messages on a newsgroup. Microsoft Internet Explorer and Netscape Navigator both include newsreaders.

**nibble** four bits or half a byte.

**NiCad battery (Nickel Cadmium)** a common type of battery used in laptop computers.

**NNTP (Network News Transfer Protocol)** the protocol used by both Web browsers and servers to send and receive USENET postings and news articles.

**node** an individual computer or hardware device functioning as part of a network.

**noise** any type of interference such as static that hinders communications. Telephone, cable, and radio transmissions are all subject to noise.

**Norton Anti-Virus** popular software designed to keep computers safe from viruses that might come in from e-mail attachments, Internet downloads, floppy diskettes, software CDs, or a network. It can be scheduled to automatically retrieve new anti-viral definitions as often as once a week.

**Not Found 404** an error message sometimes encountered while navigating the Internet that reads as follows: The Web server cannot find the file or script you asked for. Please check the URL to ensure that the path is correct. There are various reasons for getting this message. Several possibilities include: one of several servers needed to deliver the page to a user might not be functional at the time the page was requested; the Website may no longer be operational; a hyperlink may be broken; the page might be hosted by a new carrier, or the URL was typed incorrectly.

**notebook computer** a lightweight computer slightly smaller than a laptop with similar features such as a pop-up display monitor, battery pack, and disk drives.

**Novell Inc.** a leading provider of Net services software that delivers services to secure and power all types of networks; the Internet, intranets, and extranets; wired to wireless; corporate and public, and across leading operating systems.

**numeric keypad** a set of keys isolated from the main character keys on a computer keyboard. These include the numbers 0 through 9 as well as the Home key, Num Lock key, Pg. UP and Down Keys, Arrows up, down, left and right keys, a Del key, Ins key, and End key. The functions of the keys on the numeric keypad depend on whether the pad is in numeric mode or cursor control mode. Numeric mode is activated by pressing the Num Lock key. Numeric mode allows the user to work with numbers, while cursor mode allows for the use of the arrow keys to move the cursor around the screen.

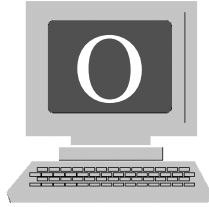
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Figure N.01. numeric keypad

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**Num Lock** a key found on the numeric keypad of a computer keyboard that switches functions between numeric mode and cursor mode. see numeric keypad.



**object** a graphical image such as a photograph visible on a display monitor, that may be manipulated using one or more components of a software application.

**object oriented** in programming, a combination of code, which is a sequence of instructions referred to as functions, along with data units, referred to as structures. In the past, operating systems dealt with these entities separately. The combination of function and structure, called an object, allows for significant advantages to programmers as well as the end users of software.

**OCR** (Optical Character Recognition) a type of system comprised of hardware and software that is capable of scanning text or images into a file with a user having the ability to edit the material. There is a great advantage to using OCR because when text is scanned using an ordinary optical scanner, the image is stored as a bitmap (in simple terms, one large picture). The OCR, on the other hand, allows the user the ability to edit the scanned text as though it were entered using a word processing program.

**OEM** (Original Equipment Manufacturer) a company that assembles computers and other hardware devices. The term has taken on several meanings. In some cases an OEM buys hardware components in bulk and uses them to add special features to other hardware devices without producing anything new. OEMs are sometimes referred to as value-added resellers (VAR).

**offline** not connected, either to one of a computer's supportive hardware devices such as a printer or scanner, or to the Internet.

**off-line reader** software that allows a user to log onto the Internet, download Web pages and email, and view them offline at the user's leisure.

**Office** short for Microsoft Office, a grouping of software (bundle) products that includes word processing, publishing, spreadsheets, visual presentation and Web page creation programs. Users are offered a significant price reduction when purchasing the software in this package.

**OLE** (Object Linking and Embedding) software that allows a user to create a file in one application and incorporate it into another, while retaining the original file format and association to the program that created it. Windows and Macintosh operating systems allow for OLE.

**on the fly** a Web page with dynamic content, or one where the content is frequently changed. On the fly is the opposite of a static or hardwired page whose content seldom changes.

**online** 1. operational or connected, either to one of a computer's supportive hardware devices such as a printer or scanner, or to the Internet. 2. to be actively connected to a network, such as the Internet.

**online service** the term has come to have a somewhat broad meaning. 1. a company that, for a fee, provides Internet users with a wide variety of services such as news, weather, stock quotes, search engines, chat and message forums, email services, as well as various subscriber benefits possibly including special rates on mortgages or credit cards, and various other commercial offers. America Online (AOL) and CompuServe are online service providers. 2. a company that provides one of several services to Internet subscribers such as Web hosting or providing the connection for users to access the Internet. For example, an Internet Service Provider (ISP) would supply its customers with access to the Internet, email, and in some cases, the space to publish a Web page or two. Often, but not always, a company outlined in the first definition will provide many of the services mentioned in the second.

**open** to access an item such as a file or program.

**operating environment** the configuration and type of equipment under which computer programs run. see environment.

**operating system** (OS) the underlying software that interfaces with a computer's hardware and virtually all other software applications allowing a user to perform a wide variety of tasks. In the early years of personal computers DOS was the dominant operating system. Then Microsoft Windows came along. In general terms, Windows was the logical user-friendly evolution of DOS, utilizing the graphical user interface concept modeled after the Apple Macintosh. Simply stated, any operating system provides an environment for a user to run other programs.

**optical button** see radio button.

**optical character recognition** see OCR.

**optical disk** a data storage medium that utilizes laser technology to read information. CD-ROMs and WORM (Write Once Read Many) are examples of optical disks.

**optical scanner** often simply called a scanner, a device that reads images and text, allowing a user to input and utilize the data in various applications. A scanner digitizes the image. This means it divides the entire image into tiny boxes and assigns a value to each isolated unit using 0s and 1s. Essentially, this is what a bitmap is. The scanned image, whether text or a graphic, therefore, becomes a bitmap. Consequently, the scanned data cannot be directly altered unless optical character recognition technology is used. see OCR.

**optimize** the term has several common uses. 1. to structure and arrange hardware devices for maximum efficiency. 2. to tune up a computer system, as in running defragmentation software and eliminating unwanted data to free up disk space. 3. to make adjustments to an operating system or software application so it runs more efficiently.

**opt-in mail** email that usually contains a commercial offer of some kind. The difference between opt-in mail and spam, is with opt-in mail, the user has requested information or updates on a particular type of product or service. Once an individual has submitted his name and email address for virtually any online offer, the data is freely traded among both brick and mortar businesses and online merchants, unless such use of the name was forbidden when the subscriber submitted the information.

**option key** a key on the Macintosh keyboard that changes the functions of other keys. The Mac's option key is similar to the Shift or Alt key.

**Oracle Corporation** based in Redwood California, a leading supplier of software for information management that develops, manufactures, markets and distributes computer software that helps corporations manage and grow their businesses. The company's software products can be categorized into two broad categories, systems software and business applications software.

**.org** a domain name (URL) or email suffix indicating a non-profit organization, although this does not always hold true as it is not hard to find profit-based Websites with the .org suffix.

**orphan** in word processing and publishing, the last line of a paragraph appearing on the first line of a page. Some applications adjust for this. Orphan is synonymous with widow.

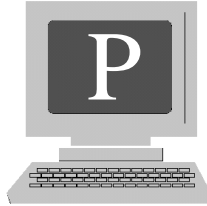
**OS** see operating system.

**OS2** a Microsoft operating system developed in the 1980s that is compatible with DOS and Windows programs. OS2 applications however, will not run on Windows or DOS. Originally, the development of OS2 was a joint venture between IBM and Microsoft. It is now a sole product of IBM.

**output** data resulting from the operation of a computer. Output may be displayed on a monitor, printed, stored on a disk, or played on loudspeakers.

**output device** any computer hardware that facilitates the interpretation of computer data. Display monitors, speakers and printers are output devices.

**overwrite** to enter new data onto a disk, replacing the information previously stored there.



**pack** to compress computer data.

**packed file** a computer file in a compressed form. see compression.

**packet** sometimes called datagram, a packaged unit of characters or other form of computer output sent from one computer to another over a network. Packets are digitally encoded with the address of the sender and recipient so they reach their intended destinations as well as letting the receiver of the data know that it came from an authorized or recognized source.

**packet switching** the method used to send information over a network. Each packet has the address of the sender as well as the destination address. This allows information to intermingle with other packets of data, without being lost or misdirected, while making it's journey over the network.

**page** 1. in a word processing program, a specified amount of information such as text or images, regardless of the size of the characters or other variables. 2. short for Web page, a frame of information stored on a Web server, available on the Internet. Unlike a page in a word processing application, a Web page has an unlimited amount of space available. However, Website developers consider it wise to keep page sizes within reasonable limits.

**Page Down key** a key on the numeric keypad that, when set in the cursor mode, moves the cursor down by a pre-specified number of spaces on the display monitor.

**page impressions** (compare to hit) also referred to as page views, the number of times a particular Web page is visited by a user. This is a more accurate method of tracking site activity than counting hits because page impressions account for a server delivering an entire page to a viewer. A hit refers to individual

components of a page such as a single image or block of text. Consequently, a page containing five images would be counted as five hits. Determining the accurate number of page impressions is important for companies both buying and selling advertising. see hit.

**Page Up key** A key on the numeric keypad that, when set in cursor mode, moves the cursor up by a pre-specified number of spaces on the display monitor.

**pagination** the assignment of numbers to the pages in a document. Logically, one would think that one number simply followed another, but in word processing jobs, allowances can be made for objects such as charts and blank pages, which the author might want excluded from the logical numbering sequence. Word processing programs also automatically divide text into single pages. Without this function a document would appear to be one continuous page.

**paint program** an application that allows a user to draw pictures and create images using straight lines, boxes, ovals, as well as apply color and shading. The program also includes tools for manipulating images such as a pen or brush for drawing, scissors for cropping, a spray can used for painting, and an eraser. An image created by a paint program is formatted as a bitmap. Many operating systems include simple paint programs, however, such applications are available commercially and offer a wide range of creative options for artists and graphic designers.

**palette** one of a set of tools included in graphics and paint applications. The palette is a selection of colors, usually displayed in small boxes. The user can select the desired color, and click OK to apply it.

**palmtop** a computer small enough to fit in the user's hand. Primarily used as personal organizers, they provide users with the ability to store names and addresses, play games, access the Internet, and use a calculator. 3Com's Palm Pilot is a popular palmtop. see hand-held computer.

**parallel port** a computer connection that allows data to flow using more than one wire. Most printers are connected to a computer using a parallel port allowing faster transmission than a serial port connection. see serial port.

**parallel processing** the simultaneous use of more than one microprocessor to run a program, allowing for faster execution.

**parameter** an identifying feature, value, or characteristic. In programming, a parameter represents a boundary or value, which might trigger a function or action.

**parent** an element that passes its characteristics to an adjunct of that element (child). Modifying the properties of the parent will change the properties of the child but changing the properties of the child will not alter the parent.

**parent directory** the senior directory to a particular file or directory in a computer's hierarchy. In the Windows operating system, the C drive is the computer's main storage space or root directory. All of the other directories are kept here. For example, to trace the lineage of a file labeled "My Recipes", we would first look in the C directory, then to Program files (stored in the C Directory), then to MS Word, (the application that created the My Recipe document) kept in the Program Files Directory, then the individual file, My Recipes. Since MS Word is kept in the folder called Program files, Program files is the parent of the MS Word folder, just as the C directory is the parent to Program Files. C:\Program Files\MS Word\My Recipes. see chart under hierarchy.

**parity** the state of equality or being equal. In computer programming, as well as the transmission of data, evenly (or oddly) matched groupings of data allow for a simple method of checking errors.

**park** to safely secure the read/write head of a hard disk so that it isn't damaged when a computer is moved. Modern hard disks automatically do this when the computer's power is shut off.

**parse** to divide, analyze, and categorize individual components of language into small units so they can be utilized usefully in computer programming.

**partition** to alienate sections of a hard drive for individual uses. Each section acts as a separate disk and improves the overall storage efficiency of the disk. Software applications are available allowing a user to partition a hard disk.

**Pascal** a high level programming language based on Algorithmic Language (ALGOL) developed in the early 1970's by Niklaus Wirth. The language was named after the seventeenth century mathematician Blaise Pascal who built one of the first mechanical adding machines. Pascal is noted for its highly systematic and methodical structure, making it a popular teaching language.

**passive matrix** a low resolution liquid crystal flat-panel display used for computer monitors. Although the display quality is not quite up to par with the active-matrix display screens, the significant difference in the cost of the passive matrix has caused it to remain popular.

**password** a secret series of characters (that might incorporate numerals or other symbols) which allows a user access to a program, subscriber Website or ser-

vice, a network, or a computer system. Many people, in an effort to remember a password, use a birthday, anniversary or another easy to remember phrase. This is often what allows unauthorized individuals to easily break into a computer or otherwise gain access to a guarded system. An effective and hard to crack password might be: 8&!m>\$t, because such a character string isn't likely to be easily guessed. It is wise to change a password periodically.

**paste** an efficient way to insert a single letter, word, an entire block of text, or an image from one location within a document or file, to the same or another document or file. To paste, means to place the material, into a document. It's easy to do. For example, in Windows, say you decide you want to move the first paragraph of a document to the middle of the page. Place the mouse cursor just to the left of the first word in the paragraph. Now, left click the mouse and keep the button down while dragging the mouse over the entire paragraph, until all of the text is highlighted. Release the button. Now, in the menu bar, click Edit, select Copy, and click. The block of text is now temporarily saved on the Windows clipboard. Next, place your mouse cursor at the point in the document where you want the paragraph to appear and click. The screen cursor should be blinking. With your mouse, go back to the Edit command and click on Paste. If you've done everything correctly, the paragraph will appear at the point of the blinking cursor, making room for itself by pushing any other text forward. You can also copy and paste in exactly the same way from one application to another. see copy and paste.

**path** in DOS and Windows, the series of directories where an operating system searches for executable files called up by a user.

**PC** (Personal Computer) originally the IBM personal computer, but today the term refers to any IBM clone or compatible computer, or any personal computer that isn't a Macintosh. Additionally, PCs are considered to have Intel or Intel-compatible microprocessors.



Figure P.01. PC personal computers

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**PC Card** any of a number of printed circuit devices conforming to the PCMCIA standard that are easily attached to a computer enhancing its performance by adding or improving features such as memory, video or sound. see PCMCIA.

**PCMCIA** (Personal Computer Memory Card International Association) an international standards body and trade association with over 500 member companies founded in 1989 to establish standards for Integrated Circuit cards and to promote interchangeability among mobile computers where durability, low power, and small size were critical. Among the standards a card needs for PCMCIA compliance are uniform thickness and size.

**PDA** (Personal Digital Assistant) a generic term for any number of electronic computing or communications devices that are able to act as cellular phones, fax senders or personal organizers. Although somewhat expensive, PDAs are becoming more sophisticated and easier to use.

**PDF** (Portable Document File) a standard for electronic document distribution developed by Adobe Systems. PDF is a universal file format that preserves all of the fonts, formatting, colors, and graphics of any source document, regardless of the application and platform used to create it. PDF files are compact and can be shared, viewed, navigated, and printed exactly as intended by anyone with Adobe Acrobat Reader. Acrobat Reader is freely available for downloading from many sources on the World Wide Web.

**pen** a drawing tool used in a paint program.

**pen computer** a computer (usually hand held) that uses an electronic stylus for input.

**Pentium** refers to a number of microprocessors manufactured by Intel corporation, including the first in the line introduced in 1993, the Pentium microprocessor, the Pentium Pro, the Pentium II, and most recently, the Pentium III. With the introduction of each successive Pentium product, processing efficiency, speed and power has dramatically increased.

**peripheral** short for peripheral device, a hardware device such as a keyboard, printer, scanner, or display monitor connected to a computer.

**Perl** a popular programming language developed by Larry Wall primarily for processing CGI scripts.

**personal computer** see PC.

**PgDn key** see Page Down key.

**PGP** (Pretty Good Privacy) a free security application developed by Phillip Zimmerman that allows users to email files anywhere in the world. The program includes a feature that lets the sender know the files were received and that they actually came from the sender. Additionally, PGP Security offers a complete line of network security software, available from Network Associates of Santa Clara California.

**PgUp key** see Page Up key.

**Photo CD** a proprietary format for the digital storage of photographs developed by Kodak. A special Photo CD Player along with special software is needed to read the discs.

**photo scanner** an optical scanner that specializes in scanning photos. Photo scanners usually offer better resolution than conventional scanners.

**PhotoShop** a popular image editing program produced by Adobe that allows a user to create original artwork, retouch or dramatically modify photographs, and create special effects for a wide variety of projects such as magazines, books, posters, or Web pages. Many artists feel PhotoShop is the standard by which other image editing software is judged.

**phreaking** similar to hacking, only the phreaker's goal is to access a phone system for the purpose of making free long distance calls. see cracker, hack, hacker.

**physical** 1. relating to computer hardware. 2. in contrast to virtual, or a computer generated world, physical refers to the tangible world. For example, some netizens have expressed the desire to leave the physical world for a full time existence in cyberspace.

**PIF** (Program Information File) in DOS and Windows, a file that contains instructions on how to run a program other than DOS or Windows.

**pin** 1. a small wire shaft in a dot-matrix printer that strikes an inked ribbon producing the dots that make up characters and images. The resolution of a dot-matrix printer depends on the number of pins present on the printer head - the more pins, the better the resolution. 2. an individual wire component found in a cable connector such as a 29 pin connector. see Figure P.02.

**PING** (**P**acked **I**nternet **G**roper) a timed interval echo-like message sent by a computer over a network to another computer to determine if the receiver is available for communication.

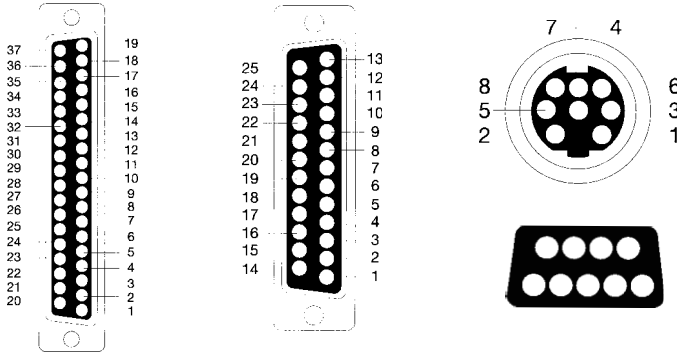


Figure P.02. common pin connectors

**pipe** a connection between two software programs that acts as a shortcut in accessing data.

**pipelining** an advanced function of a microprocessor that enables a computer to call up and read data before it has finished executing previous commands, thus allowing for faster operation.

**piracy** the unauthorized duplication and/or use and distribution of a software program. Buying a program usually allows the user a limited license for its use on a single computer. In the past, software manufacturers tried to discourage piracy by copy-protecting their products. However, because US copyright laws allow a legitimate holder of a program to make a backup disk, measures such as owner registration have been used to discourage unauthorized use. Aside from being illegal, there are several other reasons for not using pirated software. Among them, the user gets no operating manual, no technical support, and runs the risk of introducing viruses into a computer by installing a bootlegged program.

**pitch** 1. the number of characters of a particular font that will fit into a measured space. 2. the amount of space dividing pixels on a display monitor.

**pixel** one of many tiny points that make up an image or character on a display screen or printed page. A pixel is the smallest component of an image on a screen or in printed material. For example, the quality of a display screen image depends on how many pixels the monitor can accommodate. There are a wide variety of monitors available with varying resolution qualities ranging from 300,000 to more than 16 million pixels per screen.

**PKZIP** a popular free file compression program developed in the 1980s by Phillip Katz. Once a file is compressed it is said to be zipped. When decompressed, unzipped.

**plasma display** a flat display monitor that uses ionized gas compressed between panels to produce images.

**platform** the type of operating system or hardware that make up a computer or computer system. These factors provide a particular environment for operation. The platform determines the parameters under which a system runs associated hardware and software. For example, software designed to run on a Macintosh, will not run on a PC and visa-versa. For Mac software, or hardware, to work in a PC environment, it would need to be *cross-platformed*.

**plotter** a computer output device that draws images on paper using a pen. A plotter draws real lines rather than simulating them as a conventional printer would by producing a series of very close dots.

**Plug and Play** a computer hardware device such as a monitor or printer that is ready to use with other hardware without requiring special configuration. In simple terms, plug-and-play hardware introduces itself to the computer, and automatically sets itself up for functioning.

**plug-in** a software or hardware accessory required to enhance or provide a particular computer function. For example, to download and play audio files from the Internet, a user would require a special program such as RealJukeBox. Many plug-ins are freely available for downloading on the World Wide Web.

**PNG** (Portable Network Graphics) a graphics file format similar to GIF that encodes images as bitmaps.

**point** 1. a designated spot on a display screen or a document. 2. the positioning of a cursor to select an item or option as in point and click. 3. hyperlinks (clickable links leading a user to another page) on a Web page are said to point to the destination page. 4. the fractional designation used to describe the size of a character in relation to a particular font.

**PointCast** a free online subscriber-based news and information service that utilizes a wide variety of sources from CNN and Reuters, to Newsweek and the New York Times and many more. A subscriber may customize news and information to her needs.

**pointer** a symbol displayed on a computer screen whose movement corresponds to that of the mouse. The pointer usually presents as an arrow, but may have other forms such as a hand or flashing I beam.

**point-of-sale system** a computer system that acts as a cash register as well as one that keeps track of invoicing, inventory, and sales in a retail environment.

**POP** 1. (Post Office Protocol) the standardized protocol an ISP uses that tells its server software how to accept email. 2. (Point of Presence) a physical location where an ISP or Internet hosting service maintains a telephone or cable connection, modems, computers, and other equipment necessary for its business. 3. (Point of Purchase) see point-of-sale system.

**pop-up-menu** a group of options or selections offered to a user that appears as the result of pressing a special function key, clicking a button with the mouse, or any number of menu or toolbars either in an application or on a Web page.

**port** a slot on a computer that allows it to be connected to another computer or hardware device for the purpose of the input or output of information. Ports may exist both internally and externally. For example, many modems are present internally and are connected via internal ports. Printers, optical scanners, monitors and mice are usually connected via external ports.

**port replicator** similar to a docking station, a device that incorporates a number of ports allowing notebook computers to access stationary devices such as printers and monitors.

**portable** when speaking of hardware, lightweight and easily transported such as a laptop or a hand-held computer. When speaking of software, the ability to operate on more than one type of computer.

**Portable Document File** see PDF.

**portal** an entry point to the World Wide Web usually providing services such as email, search engines, news, weather, stock quotes, chat and message forums, and a number of additional benefits designed to attract users to the site. Such Websites encourage users to set the site as their Homepage. Many of the top search engines, in an effort to increase site traffic, have endeavored to become all-purpose cyber-utilities, providing a user with many of the services the World Wide Web has to offer. Yahoo and MSN are common portals.

**portrait** a document with vertical orientation. In other words, the page is taller than it is wide. Portrait orientation is opposite of *Landscape*.

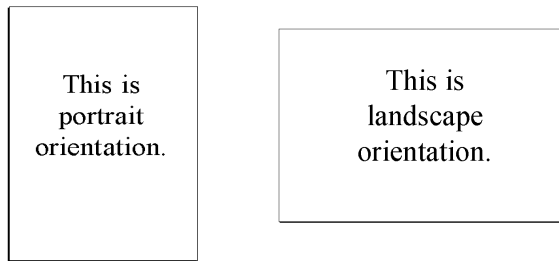


Figure P.03. portrait orientation v. landscape orientation

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**post** as a verb, to write and upload (send) a message to any number of public or private online forums such as a chat room or bulletin board. As a noun, the actual message that ends up on display in the forum.

**Postscript** a programming language developed by Adobe Systems for importing files in all environments and printing documents on high resolution laser printers. Utilizing the standard requires a printer to support specific fonts as well as have the ability to automatically change the font size and create circles and lines in particular positions.

**PowerPC** a computer containing a high-powered microprocessor. They were developed as part of a joint venture among IBM, Apple and Motorola in an effort to compete with Intel and Microsoft. The first of the PowerPCs was the Power Mac introduced in 1994.

**PowerPoint** a popular Microsoft software product allowing a user to create visual demonstrations incorporating photos, clipart, charts, graphs and text (displayed on a computer monitor or through a projector) to accompany speeches or instructional presentations.

**power supply** an internal computer component that supplies and regulates the power a computer receives. The power supply is designed to keep a steady stream of power flowing to the computer as well as preventing unexpected power spikes or surges.

**ppm** (pages per minute) the number of pages per minute a printer can produce. The standard applies to text only as printing graphics slows a printer significantly.

**PPP** (Point to Point Protocol) a communications protocol used in connecting computers over a network using a modem and telephone lines.

**PRAM** (Parameter Random-Access Memory) in the Macintosh, a small measure of RAM powered by battery and used to store data about the system's configuration such as mouse and system volume settings.

**Pretty Good Privacy** see PGP.

**preview** in word processing applications, a feature that allows a user the ability to look at a document on the screen and have it appear exactly as it would when printed. This is a useful tool because many programs permit the user to view only a portion of a document while actually working on it.

**printed circuit board** (PCB) sometimes called a card, a sheet of nonconductive material containing electronic components such as transistors, resistors and chips used in virtually all modern electronic devices. Computers often contain several PCBs including a motherboard and expansion boards used for adding features to a machine or enhancing existing features.

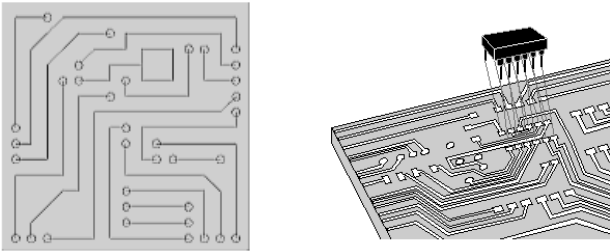


Figure P.04. printed circuit boards

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**printer** a hardware output device used to produce a hard copy of a text or image oriented document. Printers are available in color or black and white. Printer resolution has improved greatly over the years as costs have continued to fall. Among the printer types available are the daisy wheel, where the actual printing mechanism is similar to the IBM Selectric typewriter with its ball and wheel paper striking device; the dot matrix; the ink jet; the laser printer, designed for high resolution, the high-speed line printer that produces low quality output; the LCD and LED, both high resolution devices and the thermal printer such as might be found with older copy or fax machines. Some printers, such as the line and daisy wheel, are capable of producing text-only documents. Hewlett Packard, Cannon, and Epson are among the many companies manufacturing low-cost, high-speed quality printers capable of many functions.

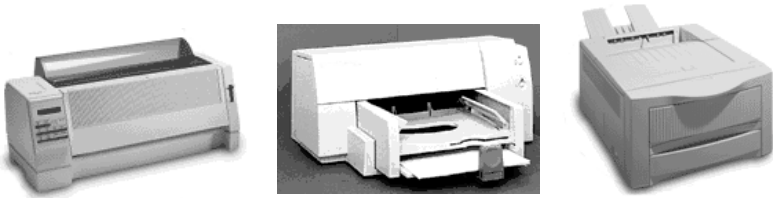


Figure P.05. dot matrix, inkjet, and laser printers

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**printer driver** the software program that tells a printer what to do. Modern operating systems include printer drivers that the user must select when installing a printer. However, printers come equipped with their own drivers that also must be installed when setting up the device. Installing a driver is simple, as the user simply needs to insert the program disk and follow a few simple prompts displayed on the screen at the time of installation. The printer is then configured to work with that particular computer. It is best to use the driver that comes with a printer when it is available.

**printer engine** the fundamental component of the printer that does the actual printing. The engine determines the resolution quality of the printed product as well as the speed of the printer.

**printout** also referred to as hard copy, printed computer output.

**Print Screen key** a command key on most computer keyboards that, depending on the application running, sends the image displayed on the monitor to the clipboard.

**procedure** an individual component of a software program that performs a particular function.

**process** the execution of a computer function or functions.

**processor** short for microprocessor. see CPU, microprocessor.

**Prodigy** a popular online Internet service provider offering users Internet access, news, travel, email, business, sports, online chat and many other services.

**program** a software application designed to perform a specific task. A program is a compilation of commands and instructions written in programming language,

designed to allow an operator to use a computer in a particular way. Microsoft Internet Explorer, Adobe PhotoShop, and Corel WordPerfect are among the thousands of programs available to allow people to get the most from their computers.

**programmer** a person who creates programs.

**programming language** the instructions used in creating computer programs. There are a great number of programming languages in existence and no one language is suitable for writing all types of programs. The language a programmer uses to create an application will depend on the desired properties of the program. Some programming languages lend themselves to mathematical and analytical functions while others are better suited for creating business or data processing applications. The programming language field is wide and complex, encompassing a large number of disciplines.

**PROM** (Programmable Read-only Memory) a type of memory chip that differs from RAM in that once a program has been written to the chip, it cannot be changed.

**prompt** a request by a computer asking the user to do something such as enter information. In most cases, the computer will cease functioning until the request is met. For example, when logging on to the Internet, the computer will ask for a password before connecting.

**proprietary** features exclusive to a particular company's product that add distinctive qualities to the product and often give it an edge in the marketplace. A proprietary component of a software program may be protected by a trademark or copyright and is not available to other manufacturers for use. For example, Worden Brothers, the creators of TC2000 stock tracking software, have included in their software a proprietary feature called Moneystream. This tool measures institutional and individual investor dollars flowing into and out of a stock, but only Worden Brothers know the exact parameters used for measuring Moneystream. Proprietary features are present in many hardware devices as well as in software.

**protected mode** a computer standard that guarantees particular programs receive a portion of memory for individual operation.

**protocol** a pre-set parameter used by a computer to communicate with another computer over a network. Protocols include how data is compressed, and the method for recognizing and acknowledging the sender of data over a modem.

**proxy server** existing between a client Web browser and a real server, a computer that caches common and often requested Web pages and holds them for easier access by users. Proxy servers allow for faster access to Web pages for groups of users in a particular area. For example, quick access to popular online services such as America Online is provided by AOL's many proxy servers, which are positioned regionally.

**public domain** software, clipart, photographs, music and other intellectual property that is available for use by the general public for free. Public domain items may be un-copyrighted or intellectual property where the copyright has run out and now available for anyone to use.

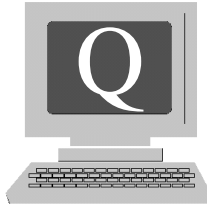
**pull** to call for information from a Web server. The majority of Internet activity is currently based on pull technology. That is, a user requests information from a server. The opposing concept, called push, is oriented toward a user having information broadcast or transmitted to them as a subscriber.

**pull-down menu** a list of options or selections a user calls for by selecting a choice offered from a menu bar or other on-screen prompt.

**purge** to permanently remove or delete unneeded data from a computer.

**push** receiving information over a network without necessarily having asked for it. Most Internet users actively call for Web pages from servers. In doing this they are utilizing pull technology. The opposite is push technology whereby a user receives information randomly. An example of push technology is email.

**pyramid scheme** (Ponzi scheme) a method of making money that requires new participants to invest in order for previous investors to be paid. The problem with this plan is that it continuously requires new investors. The Ponzi scheme can be thought of as an expensive game of Old Maid. Unfortunately, pyramid schemes eventually collapse because it becomes increasingly difficult to attract new players. Chain letters, asking people to send money to others listed in the letter, and then crossing off the last recipient's name and replacing it with yours, are a form of pyramid scheme. The pyramid scheme is mentioned in this book because the Internet is alive with such offers. As with anything else, a user would be wise to know the company or individual he is dealing with before sending money.



**QIC** (Quarter-inch Cartridge) a popular type of backup data storage that uses magnetic tape.

**query** a question, usually one presented to a database or search engine to find a file, Web page, product or service.

**queue** pronounced “*Q*” a waiting line where elements of many varieties are sorted and are waiting to be processed. For example, a number of printing jobs may be “queued up” waiting to be printed. The printer takes a single document at a time and prints it.

**QuickDraw** Macintosh graphic control language used to create, display and manipulate graphical images.

**QuickTime** part of the Macintosh operating system used for the display of video and animation that requires a special QuickTime driver. QuickTime is available for PC users by downloading the Windows plug-in.

**QuickTime VR** (QuickTime Virtual Reality) an upgraded version of QuickTime developed by Apple that allows users to experience 3D photographs and other graphical images using a mouse to zoom in and out, rotate and otherwise manipulate a wide variety of shapes and forms.

**quit** to exit an application by properly saving work and shutting it down.



**radio buttons** one of a group of items or options appearing in a dialog box or drop-down menu, that once selected, inactivates the others, unlike items available in a check box, of which more than one may be chosen.

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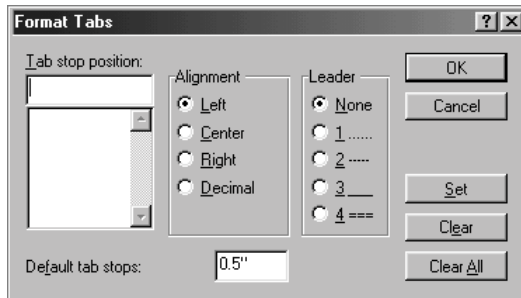


Figure R.01. radio buttons

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**RADIUS (Remote Authentication Dial-In User Service)** a system used by some Internet Services Providers (ISPs) that requires a user to enter a user name and password. This lets the ISP know the user is authorized to access the service and allows the service to track time spent connected.

**ragged margin** in a text document, a margin that does not line up vertically. The margins in this book are left justified with regard to the terms and definitions and ragged on the right. An example of a right ragged margin:

Four score and  
seven years ago, our  
fathers brought forth on this

**RAM** (Random Access Memory) pronounced *ramm*, computer hardware that stores and accesses data as needed from any location within the memory on a short term basis. RAM holds needed information from the application currently running, allowing for quick access as it is called up. The data stored in RAM is cleared when the computer is shut down. There are two types of RAM. Dynamic RAM and Static RAM. (DRAM and SRAM) To facilitate its own functioning, DRAM requires an electrical charge, which is refreshed thousands of times each second while in use. While SRAM is faster because it doesn't need to be refreshed, it is considerably more expensive than DRAM. Because of its higher speed, SRAM is often used for caching. RAM refers to a computer's main memory as opposed to read-only memory (ROM), which contains necessary pre-recorded data used for booting the computer and other routine functions. see DRAM, SDRAM SRAM, ROM.

**RAM disk** a portion of RAM (random access memory) used to simulate a disk drive. Utilizing RAM in this way allows for quicker access to information than calling it from the hard disk, but has some limitations. First, files must be copied from the hard disk to the RAM disk for each session and the new material must be copied back to the hard disk before ending the session. This is necessary because, like normal RAM, a RAM disk clears all data when the computer is shut down. Additionally, a power failure will cause the loss of data on a RAM disk.

**rapid application development** a programming procedure that allows programmers to create usable programs quickly. Software designers are able to use a wide variety of development tools to construct graphical user interface applications that might otherwise require large development teams.

**RAS** (Remote Access Services) a component of Windows NT that allows a user to connect to a LAN using a modem, WAN link, or X.25 connection.

**raster** the rectangular portion of a display monitor where the actual image appears. The raster is usually smaller than the true dimensions of the display panel. On most modern monitors the raster can be adjusted to allow for maximum image display.

**raster graphics** a bitmap image pattern usually in a GIF or JPEG format that fills an entire display monitor assigning color values to every available pixel.

**raster image processor** (RIP) components made up of hardware and software that combine to convert a vector image into a bitmapped image. Inkjet and laser printers are raster image processors.

**rasterize** to transform a graphical image into a bitmap so that it fits the shape and size of a raster output device such as a printer.

**raw data** computer input that has not been organized, categorized or formatted.

**ray tracing** a complex technical process whereby a graphical image is enhanced and made to appear more realistic by incorporating shading, shadow, and color. This is accomplished by simulating the way light plays on individual components of the image. Ray tracing software requires a great deal of memory and processing resources and often takes several hours to produce the end effect.

**RDRAM** (Rambus Dynamic Random-Access Memory) a high speed memory chip developed by Rambus that can function up to six times faster than Synchronous Dynamic Random-Access Memory (SDRAM). see SDRAM.

**read** to access stored data, usually by transferring it from one of many storage media such as magnetic tape or floppy disk, to a hard disk for display or processing.

**readme file** information contained in a software program that was not part of the users manual, usually an update, improvement, a recent development, or feature.

**read-only** recorded computer data that is recorded and cannot be changed. Operating systems contain many read-only files.

**read-only memory** (ROM) permanently recorded computer memory. see ROM.

**read/write** data recording and storage media such as a floppy disk or CD-RW, that allows a user to access information (read) and record/store information (write).

**RealAudio** a proprietary plug-in application developed by RealNetworks, included with both Netscape Navigator and Microsoft Internet Explorer (in addition to being freely available for downloading on numerous Websites) that allows users to play FM quality stereo music online in real time. Previously, a user would need to download an audio file (a time consuming process) and have an audio card installed, providing them with the ability to play the file back.

**real estate** a slang expression that refers to the physical space on a desktop, or computer desktop space. In programming, the hard disk or chip memory space available for data input.

**real time** also realtime, 1. live online communications. The term refers to several types of information transmissions. For example, real time chat programs provide

users with a medium to communicate live by typing messages back and forth. Real time stock quotes give users individual live stock quotes as they change throughout the trading day. Stock quotes can be “snapshot” or “streaming.” Streaming real time quotes change on the user’s monitor as they change on the exchange trading floor. Snapshot quotes are real at the time they are downloaded, but must be refreshed manually for subsequent updates. 2. immediate response to an input command by a computer. Most operating systems can take several seconds to minutes to respond to commands, thus do not respond in real time.

**real time chat** a program that provides a live online forum for users to communicate by typing messages to each other. ICQ and Microsoft Messenger Service are real time chat programs.

**real time clock** a battery operated clock inside a computer that runs even when the computer is turned off.

**RealVideo** a program developed by RealNetworks allowing users to experience streaming real time video online.

**reboot** to restart a computer for any number of reasons. Some computers have a reset switch, others will reboot using a series of key commands such as, Control, Alt, Delete and choosing to restart the computer when prompted.

**rebuild Desktop** a housecleaning operation for the Macintosh that clears the computer’s memory of obsolete data, thus improving performance. To rebuild the Desktop, a user holds down the Command and Option Keys while booting. The computer will ask the user if she wants to proceed, if so instructed, the computer will then clear the unnecessary data.

**reciprocal link** a hyperlink placed on a Web page in exchange for a link on another page. In an effort to increase site traffic, Web managers with similar, but usually not competitive goals, do each other the favor of providing reciprocal links.

**record** a set of data components comprised of fields, that make up a file. For example, a word processing document might contain text and graphs. The text would be included in one field, and the graphs in another.

**recovering deleted files** see file recovery.

**Recycle Bin** comparable to the Trash Can in the Macintosh. In the Windows environment, a folder represented on the desktop by an icon of a small recycle bin.

This is where deleted files are temporarily stored until they are either cleared permanently from a computer's hard disk or restored.

**Red Book** a standard established by Phillips and Sony for CDs that, among other things, set the playing time of a recorded CD at 74 minutes, transferred at a rate of 150 Kbps.

**redlining** in printed word processing documents, the marking of edited text, noting sections that need to be changed or corrected.

**refresh** 1. to update a Web page. Websites offering dynamic content, that is, ever-changing information such as breaking news, stock market or weather reports etc., require a user to update pages containing the changes. Web browsers allow for this with a refresh option. On Microsoft Internet Explorer, there is a button labeled Refresh located in the toolbar. In Netscape Navigator, it is called Reload. 2. to recharge, as with a display monitor or memory chip. To function properly, most memory devices are constantly being charged with power or information.

**register** a high speed storage space within a CPU. The size and number of registers in the central processing unit are critical in determining the speed and power of a computer.

**registration** 1. to provide a software or hardware manufacturer with user information. Manufacturers and commercial enterprises of all types such as Websites request information from users for a wide variety of purposes, many aimed at the marketing of additional products. Registering as an owner of software and hardware often assures the owner of receiving technical support in the event there is a problem with the product. It also helps prevent software piracy. 2. the proper physical orientation of color plates in a color printing job. The proper alignment of individual color plates comprises the full color images we see.

**Registry** a storage space in Windows and Windows NT operating systems that maintains program setup data.

**reload** see refresh.

**remote** hardware, software, and data not directly included in, or connected to a workstation.

**remote access** see remote terminal.

**remote login** see remote terminal.

**remote terminal** the term is synonymous with *remote access* and *remote login*. It means to have the ability to log onto a network, (thus utilizing all of its resources), from somewhere other than the actual terminal site. One small drawback to remote access is a slight compromise in network navigation speed.

**removable hard disk** a hard disk that can be treated as a floppy disk in that it is easily removed and used as needed, yet with all of the speed and storage capabilities of many internal hard disks.

**render** the use of special software to enhance a computer image by adding dimension, color, and shading.

**repaginate** to reassign a numerical sequence to the pages in a document after making changes in the text and/or graphics. see *paginate*.

**Request for Comments** see *RFC*.

**reset button** a switch or button on a computer that stops all functions and restarts the computer. Using the reset button to restart a computer is often the method of last resort after the computer has crashed and all other reboot measures have been exhausted.

**resize** in graphics applications, to enlarge, shrink or distort an image using a horizontal or vertical orientation. see *scale*.

**resolution** the degree of clarity and detail of a graphical image on a computer monitor, in print, or bitmap. With printers, the greater number of dots per inch (dpi) a printer can produce, the better the resolution. In display monitors, screen resolution is determined by the number of pixels the screen can display. Graphical display devices are often generally classified as high, medium or low resolution.

**resource** sometimes called system resources. In operating systems such as Windows and the Macintosh, any data or function that is available to the operation of software running with the system. Memory is a major resource.

**restore** to bring a window back to its original size after having been minimized or maximized. see *maximize*, *minimize*.

**retouching** to modify a photograph or image using graphics software such as Adobe PhotoShop.

**Return key** in word processing, pressing the Return key moves the cursor (insertion point) to the next line. In many applications, pressing the Return key con-

firms the choice of an option or initiates a prompt. In this case, the Return key and the Enter key act in the same way. see Enter key.

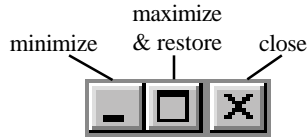


Figure R.02. restore button

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**reverse** to exchange black characters for white or white characters with black, often to add effect. Careful choice of fonts is necessary in using this technique as the finer details of many fonts do not always contrast well in reverse.



Figure R.03. reverse

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**RFC** (Request for Comments) maintained by the Internet Task Force, a collection of notes and observations made about the Internet, beginning in the late 1960s when it was called the ARPANET. With the evolution of the medium, individuals have had the opportunity to make unofficial suggestions about various procedures and protocols as "Request for Comments." Many have evolved into Internet standards. For example, RFC 2660 addresses the issue of Secure Hypertext Transfer Protocol.

**RGB** red, green and blue, the colors that make up all other colors on a computer display monitor.

**rich text format** a standard for developing text documents created by Microsoft that uses the encoding of formatted text and graphics for easy transfer between applications. Other document encoding formats include HTML and SGML.

**right click** to press the button on the right hand side of a mouse. With the mouse cursor on an object, right clicking will often produce a pop-up menu that, de-

pending on the object selected, offers options that can lead the user to open a program, cut or copy, create a shortcut, or display the properties of the selected object.

**right justify** to orient text so it conforms to a vertical margin on the right side of a document.

**Ring Master** the individual who manages and maintains hyperlinks in a Webring.

**ring network** a local area network (LAN) that is connected in a loop.

**RJ-11** (Registered Jack-11) a convenient connection device that eliminated the need to strip, splice, and match color coded wires when connecting telephone lines. Most of us know the device as the small plug used to connect a phone.

**robot** 1. a computerized machine designed for a wide variety of manufacturing functions such as material handling and automobile assembly. 2. often referred to as bot, a computer program that automatically searches, and compiles data or responds to queries such as email. ListBot is a robot of this type.

**robotics** a subcategory in the artificial intelligence field, robotics is the blending of computer science and engineering that endeavors to create machines which are able to react to sensory input independently. Although the field of robotics has made great strides of late, robots are still unable to perform many practical functions for humans outside the industrial setting. Robotics is a term introduced by Isaac Asimov in his science fiction novel, *I, Robot*, in 1950.

**robust** stable performance under most circumstances, even those which are less than optimal. Also occasionally refers to software allowing a user many sophisticated and unique features. In software parlance, opposite of *brittle*.

**rollerball** a pointing device similar to a mouse. see trackball.

**roll up window** a dialog box that offers the user program tools or options and can be moved to a position of convenience.

**ROM** (Read-only Memory) permanent memory used by a computer for essential functions of the operating system. Data cannot be written to, or changed in ROM. Unlike RAM, read-only memory is retained by the computer when it is shut off. The same meaning applies to CD-ROM, a disc, such as one containing a software application that retains data and may not be used for recording.

**Roman** a common font type with serifs and vertical orientation. see Times New Roman.

**root directory** sometimes simply called root, the main directory of a disk from which all other directories, folders and files are derived. see directory.

**Rot13 (Rotate 13)** a simple method of encryption used on the Internet to conceal secrets, the answers to contests and puzzles, and potentially offensive messages. Each of the first 13 letters of the alphabet are assigned a number, so that, A=1, B=2, etc.

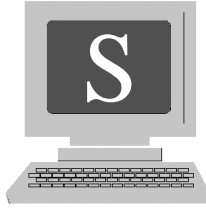
**rotate** in graphics applications, to change the onscreen physical orientation of an image by manipulating it with the mouse.

**router** hardware and/or software that connects networks and facilitates the smooth transfer of data by filtering messages and directing packets.

**RPM (Revolutions Per Minute)** the number of revolutions a disk turns per minute.

**ruler** in graphics and some word processing programs, a line containing designated points running on the top and the side of the display screen used to measure, place objects and text, and accurately identify specific points on a document.

**run** to operate or execute a computer program.



**Sad Mac** the frowning Macintosh icon indicating the computer cannot boot due to a possible hardware problem.

**safe mode** a temporary method of running Windows using the absolute minimum in resources. In the event of a hardware failure or malfunction, it can become necessary to run the operating system in the Safe Mode. In safe mode, it is sometimes possible to back up files and otherwise rescue data that is subject to loss due to eminent hardware failure. Windows is often able to alert the user to such problems before they actually occur. It would be wise to print out the instructions for Safe Mode operation prior to needing them. To do so, go to Start, Help, type “Safe Mode” into the keyword prompt box, click on Display and print the instructions for safekeeping.

**sandbox** a safe environment for running Java applications without threatening a computer’s disk space or memory.

**sans serif** type without serifs. Popular sans serif fonts include Helvetica and Arial.

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This is a sans serif font.

This is a serif font.

Figure S.01. sans serif font

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**saturation** the degree of intensity of a color. Deep vivid color is said to be saturated, while decreasing saturation causes the color to fade.

**save** to transfer data from memory to a more permanent storage medium such as a hard disk, floppy or tape. When a program prompts a user to save work, the transfer that occurs is usually to a file or folder on the hard disk.

**Save As** the option to save a file under a different name, format, or in a different folder. The Save As option comes in particularly handy in word processing functions when variations of a single document must be created.

**scalable** the adaptability of something, especially with regard to size. Scalability refers to the ability of a hardware system or software application to accommodate ever-increasing use or demand. The term is freely used in the marketing of hardware and software to describe versatile products.

**scalable font** sometimes called object-oriented or outline fonts, a versatile font available in graphics oriented language such as TrueType or Postscript that can be used to print characters of high resolution and of any size.

**scale** also called sizing, to change the size of a graphical image without distorting its shape. Most vector oriented graphics programs allow for scaling by selecting the image and dragging a corner handle diagonally.



Figure S.02. scaled object

---

**scan** to convert pictures, text or images into digital data by running them through a scanner. see optical scanner.

**ScanDisk** a DOS and Windows diagnostic program that searches for hard disk errors. see Defrag.

**scanner** see optical scanner.

**screen** short for display screen.

**screen capture** to copy the image currently displayed on the screen to the clipboard for use in another file or document, or to print. In Windows, pressing the

Print-Screen key saves the screen's contents to the clipboard. Holding the Alt key while pressing Print Screen captures only the active contents of the screen. In Macintosh, holding down Command and Shift while pressing 3 places a bitmap screen image in the root directory under PICT.

**screen saver** a program that displays an animated picture or pattern when the computer has not received input from the keyboard for a specified period. Screen savers were originally used to prevent "screen burn" or ghosting, a condition that caused the screen's inner coating to wear from images or text that was constantly present. Modern display screens are no longer subject to this condition, yet the screen saver has retained its popularity. Many interesting and unusual screen saver patterns are included in both Macintosh and Windows operating systems as well on thousands of Websites for free downloading.

**screen shot** see screen capture.

**script** 1. a font type that resembles handwriting. 2. a simple programming language. 3. refers to programs written in Applescript and Hypercard by Apple.

**scroll** the systematic movement of text or images, either up and down, or from side to side on a computer display screen with the use of the keyboard arrow keys, or a mouse. In scrolling down, a new line of text appears at the bottom of the screen as the line at the top disappears. To scroll up and down using a mouse, the user would place the mouse cursor on the scroll bar (a sliding rectangular button located on the right of the display), or on a stationary arrow button at either the top or bottom of the frame. In using the arrow button, the user would position the cursor on the button, left click, and hold the mouse button down. The contents of the screen will move up or down accordingly. To scroll using the sliding button, the user would place the mouse cursor on the button, left click the mouse, and leave the button pressed while moving the mouse either up or down. This causes the screen contents to move at the same speed as the mouse. To scroll using the arrow keys, a user simply presses the key that corresponds to the desired direction of the screen contents.

**scroll bar** a rectangular sliding button located either on the right side and/or the bottom of a computer display screen used to move the screen's contents accordingly. see scroll, Figure S.03.

**Scroll Lock key** a special key on PC and Macintosh keyboards whose function varies depending on the program running. see Special Key Functions, page 281.

**SCSI** (Small Computer Systems Interface) pronounced *scuzzy*, a parallel interface which is the leading standard for connecting high-performance peripherals to PCs and Macintosh computers. SCSI interfaces can accommodate a combina-

tion of up to seven peripherals, such as scanners, hard disks, tape backup devices and more. While SCSI is the exclusive peripheral interface for the Macintosh, PCs support several interfaces in addition to the SCSI.

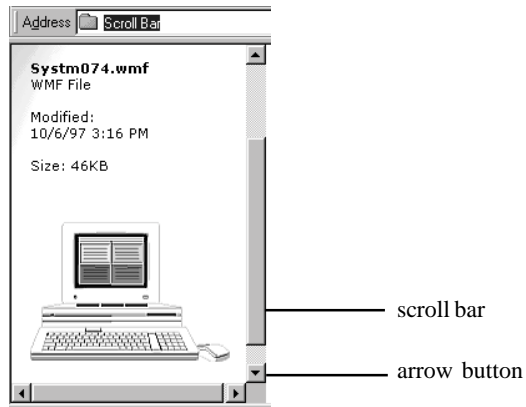


Figure S.03. scroll bar

**scuzzy** see SCSI.

**SDK** (Software Development Kit) programming tools that allow a programmer to create applications that will enhance the operation of other software.

**SDRAM** (Synchronous Dynamic Random-Access Memory) an extremely fast type of DRAM running up to three times faster than conventional memory. SDRAM achieves this by synchronizing itself with the processor.

**SDSL** (Symmetric Digital Subscriber Line) new technology requiring a special modem that allows for the sending of data over copper telephone lines at high speeds. Data can be transferred at rates of up to 3 Mbps because SDSL transmits on frequencies not used for regular voice transmission.

**search and replace** the ability for a word processing application to find a specific word or phrase and replace it with another. Most programs will either automatically replace every chosen character string, or give the user the option of approving each of the changes. In Macintosh compatible software this feature is called *find and replace*.

**search engine** computer software that, through the use of bots and by seeking out keywords, searches an extremely large number of documents and locations on the World Wide Web and Internet for specific information. After searching for

information related to the word or words used in the search, the program compiles a page of *results*, listing hyperlinks pointing to Web pages that contain (hopefully) the desired information. Although “search engine” refers to the actual search software, the term is often associated with a specific service such as Alta Vista or HotBot. Understanding how to ask a search engine for the desired information can minimize the frustration sometimes experienced with using such a service. see Search Engine Tips, page 275.

**sector** the smallest unit of data storage available on a disk. A disk is divided first into tracks then into smaller units called sectors. A track is similar to an individual recording on a vinyl record album. A sector would be represented as a diagonal portion, or cross-section of a track.

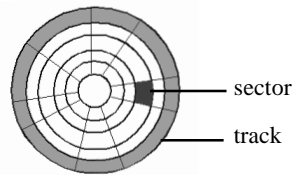


Figure S.04. sector

**security** a wide range of measures taken to guard computer systems, as well as the storage and transmission of data. Among the many security measures taken to ensure that data doesn't fall into unauthorized hands, are the implementation of firewalls, the encryption of information, passwords and security keys for users of institutional and personal secure systems, and the isolation and guarding of mainframe computers so unauthorized personnel do not have access to them. see firewall, encryption.

**seek time** the time it takes a device to call up a particular file or other piece of information, usually measured in milliseconds.

**segment** 1. a representation of a portion of memory in a microprocessor. 2. a defined portion of a network.

**select** to designate an object in preparation to execute a program, file or other function. For example, placing the mouse cursor on a desktop icon and left clicking once will cause the item to become highlighted or *selected*. Pressing the Enter key after selecting the item will open the associated file or program.

**select box** a window in a software application or on a Web page offering a user choices or options. Usually clicking one of the choices initiates a function such as opening a new Web page or entering information as part of a survey or questionnaire.

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Figure S.05. select box

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**semiconductor** a material used in the production of electronic components that is neither a good conductor nor a good insulator. The most common semiconductor material is silicon.

**serial** the transfer of data over a single line, one bit at a time.

**serial port** a computer or other hardware device interface that allows for serial transmission, that is, one bit of data at a time, over a single line. Modems, mice and printers (printers also use parallel port connections) all utilize serial port connections. Most computers have two such interfaces labeled COM 1 and COM 2.

**serif** a decorative adornment to a type character such as the one used in the main body of this book, Times New Roman. Some feel that serifs allow for easier reading. see Figure S.06.

**server** a network computer (and/or software) that performs a wide variety of functions such as delivering data to client computers. Servers store and deliver, upon demand, files to other computers on the network. A Web server, for ex-

ample, stores Web pages that are simply files. When a Web browser, prompted by a user, sends a request for a particular page, the server calls up the file from its hard disk and sends it to the browser over the network. Web servers need to have large data storage disks to store multiple pages. The term also refers to computers other than Web servers. A server on a LAN might maintain files needed exclusively by the users of that network, while an e-commerce server would maintain and deliver data essential to the transfer of funds for commercial transactions on the Internet.

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This is a serif font.  
This is a sans serif font.

Figure S.06. serif font

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**server mirroring** maintaining a computer that has the exact same files contained by a primary server for the purpose of backup in the event of failure or malfunction by the primary machine.

**service provider** 1. a company that provides a wide variety of online services via a Website. 2. sometimes used to refer to an Internet Service Provider (ISP), a company that provides customers with Internet access or Web hosting. see online service, Internet Service Provider.

**servlet** a Java applet that runs on a Web server. Servlets are slowly replacing CGI applications because of their versatility. Unlike a CGI program, an applet is opened by a Web browser and stored in memory so that each time it is needed it is available without the need to reload. CGI scripts must load each time utilized, taking more time than servlets. see applet, CGI.

**session** refers to the time spent using a computer. For example, an online session would be the time a user spent connected to a network.

**SET** (Secure Electronic Transaction) a widely accepted standard that uses digital signatures allowing for secure credit card transactions over the Internet.

**setup** to install computer hardware or software. Most hardware and software programs include a mini-program or setup file that configures an operating system so it will accept the new device or application.

**SGML** (Standard Generalized Markup Language) a method for creating interchangeable structured documents using a special grammar called Document Type Definition (DTD) in ASCII text.

**SGI** (Silicon Graphics Incorporated) a company engaged in high-performance computing, offering powerful servers, supercomputers and visual workstations. The company's broad range of workstations and graphics servers deliver advanced 3D graphics and computing capabilities for engineering and creative professionals. Its highly scalable servers also have a growing presence in the enterprise market, with a particular emphasis on Internet, large corporate data and telecommunications applications.

**shadowing** a method of increasing computer speed by configuring a system to utilize general-purpose ROM during the boot process rather than the slower BIOS ROM. To do this, BIOS ROM is copied into RAM when the computer is booted.

**shareware** computer software available for downloading without charge on the World Wide Web. Based on the honor system, the user is expected to pay a registration fee to the author if he decides to keep the software. If unwilling to pay the fee, he is supposed to delete the program. With registration, a user receives program updates and support. Shareware differs from public domain software in that it is copyrighted. Often at the start or end of a session, a reminder pops onto the screen prompting the user that he has not yet registered. Because of this reminder, shareware is sometimes jokingly called nagware.

**shell** also called user interface or command shell, the part of an operating system that processes user commands and allows them to be executed.

**shift click** to hold the shift key down while left clicking the mouse. In some applications this allows a user to select more than one item.

**Shift key** a computer keyboard key that when pressed at the same time as another key (much like the typewriter Shift key), changes the function of the other key. see Special Key Functions, page 281.

**Shockwave** a product of Macromedia Inc, Shockwave is a popular Web browser plug-in that provides online audio, video, and animation. It lets the user view interactive Web content such as games, business presentations, entertainment, and advertisements from both Windows and Macintosh platforms.

**shortcut** in Windows, the ability to execute a program or open a file by clicking on an icon, usually located on the desktop. A user can easily create a shortcut to a program by first clicking on My Computer, selecting the desired icon and right clicking. Then, with the left mouse button pressed, he drags the icon to the desktop. From then on the user needs only to double click this icon to open the program.

**shortcut key** some keys allow a user to execute certain functions easily. For example, pressing Control and the “P” character, brings up the “Print” dialog box while Control and “S” saves your work. see page 281.

**shout** to post a message in any online forum with the Caps lock key on. Using all caps is considered bad netiquette.

**shut down** to properly turn off a computer. In the Windows operating system, select Start either by left clicking on the icon or pressing the “Windows” key, select Shut down, and press Enter or left click the mouse.

**sig file** short for signature file. A small file, attached to every email of a particular sender that consists of a special group of characters, words, symbols, etc. that acts as the users signature.

**sig quote** similar to a signature file except the attachment is a quote or saying attached to outgoing email. see sig file.

**signal-to-noise ratio** the quantity of useful information found in an online forum as opposed to senseless blathering, off-topic nonsense, and commercial posting. One might say that, “the signal-to-noise ratio on this board is high.”

**signature file** see sig file.

**single-density disk** a low density floppy disk.

**single-sided disk** a floppy disk that is able to store data on only one side.

**site** short for Website.

**size** see scale.

**sleep mode** a computer setting where, usually after a pre-set idle period, the computer shuts down unnecessary operations such as the display monitor and disk drive. The sleep mode is designed to preserve energy.

**SLIP** (Serial Line Internet Protocol) a standard for using a modem and telephone to connect to the Internet. see PPP.

**slot** synonymous with the term socket, an opening where a plug-in circuit board (often referred to as a card) may be attached.

**Smalltalk** an object-oriented program language and operating system developed by Xerox Corporation in the 1970s utilizing a graphical user interface environ-

ment. Smalltalk had a profound influence on the development of both the Apple Macintosh and Microsoft Windows operating systems.

**Smartdrive** a disk caching system developed by Microsoft and used in earlier versions of Windows and DOS that provided faster access to data on a hard disk by caching. see cache.

**smart terminal** a keyboard and display monitor system containing a small amount of processing power, allowing the terminal enhanced functions. A dumb terminal has no processing capabilities.

**SMDS** (Switched Multimegabit Data Services) a standard for high-speed data connections whereby local area networks (LANs) can be connected to form a wide area network (WAN).

**smiley** an emoticon. A smiley is a grouping of common keyboard characters put together to show how the sender or poster is feeling. The most common smiley is, :-). see emoticons, assicons, also see page 228.

**smoke test** a slang term referring to the first time a computer is started. The pun is, "Will smoke come out?"

**SMTP** (Simple Mail Transfer Protocol) a method of transferring electronic mail between computers over the Internet.

**snail mail** a slang term used to describe tangible physical letters or packages delivered by the postal service. The term came into being when email became popular. Snail mail is so named because of its slow delivery time as opposed to email. A snail address is the place where snail mail is received.

**sniff** to monitor information packets en route over a network using hardware and/or software. A device or system designed for this purpose (called a sniffer) may be used both by unscrupulous people trying to gather data for the purpose of theft or unauthorized entry to a system, or by a network system manager for legitimate monitoring purposes.

**SNMP** (Simple Network Management Protocol) a set of protocols used for communications software and devices such as switches and routers connected to a TCP/IP.

**socket** a receptacle for a wide variety of electrical connectors. see slot.

**software** information used by a computer and stored in one of several storage media. Software is the data that enables a user to produce meaningful work.

Although the disk containing such data is considered hardware, the actual data, being intangible, is termed software. Software is synonymous with the term application, which refers to a program that actually produces results for a user such as a spreadsheet or word processing program. System software refers to an operating system such as Windows or Linux. The terms application, utility, and program are often used to describe software.

**software engineer** a software developer or programmer who is focused primarily on design rather than the actual writing of code.

**software license** permission from the manufacturer, developer, distributor, or copyright holder of a software program for an individual to use the program. When a person purchases a program, the copyright holder usually grants the user a limited-use license in exchange for the price of the program. Such a license allows for the personal use of the product but not the right to reproduce or sell it. see license.

**software piracy** the unauthorized reproduction and/or selling of software. see piracy.

**SOHO** (Small Office Home Office) often refers to individuals working from home (and the many resources available to them), one of the largest markets for computers, supporting devices, and software.

**solution** a popular Internet and computer marketing buzzword that refers to what a particular device or application can do for a user.

**sort** to arrange items such as records, individual words, or files in a specific way. For example, the names in a telephone directory would be sorted alphabetically.

**sound card** a printed circuit board that allows a computer to record and play sound such as stereo music and MIDI files. Although generic sound cards come as standard equipment with most off-the-shelf computers, the term implies an added feature, as a card is an expansion (circuit) board.

**sound player** a component of a Web browser that allows a user to play sound.

**source** a common computer term meaning the point of origination for any number of data items such as files or folders. For example, if a file were to be copied from a computer's hard disk to a floppy disk, the *source* directory would be the hard disk while the destination or target would be the floppy. Source is the opposite of target.

**source code** program instructions written in a particular programming language.

To view HTML source code, go to any Web page, click on View in the upper menu bar and select Source. The unusual display of characters and symbols you see is the source code for the page.

**spam** unsolicited commercial offers sent via email or posted to an online public forum such as a news group or message board. Spam is electronic junkmail sent usually to a large mailing list. It is widely considered a nuisance because spam consumes both time and considerable bandwidth. However, some feel that the campaign against commercial mass emailing is overblown considering the ease with which a recipient can dispose of the message (a mouse click is all it takes). Spam can become particularly annoying when it provides a link to a pornographic Website that children can access. It is unclear where the term originated, though it is thought to have come from either Monty Python's ditty that repeats the word spam, spam, spam... thus, the reference to duplicated messages, or from the processed meat product produced by Hormel that some consider unpalatable.

**spank the keyboard** an amusing expression meaning to turn a keyboard upside-down and gently, yet firmly pat particles of debris free.

**speech recognition** the ability for a software application to understand spoken human commands and act on them. The challenge with voice recognition technology lies in the ability for the program to distinguish contrasting patterns in the way people speak. Many of the applications available using voice recognition are word processing programs that transform the spoken word into text.

**speech synthesis** software with the ability to read text files and translate the text into spoken words. Although unable to mimic a human voice perfectly, many such applications do a commendable job of generating recognizable speech in both male and female tones. Speech synthesis applications are also used for automated telephone inquiries. For example, a credit card holder can call a customer service number almost any time of the day, and after keying in his account number, receive computer generated information in the form of synthesized human speech. Additionally, speech synthesis can be particularly useful for sight-impaired individuals.

**spell check** a feature found in many text oriented software applications such as word processors that scans the text in a document and alerts the user to misspelled words, many with the ability to offer suggestions for the correct spelling. Such a program needs to maintain its own dictionary. A small drawback to a spell check feature is that many don't recognize a misused word that is correctly spelled, such as the words *there* and *their*.

**spider** a program that searches out information online. It works by systematically accessing one Web page after another, making use of the many hyperlinks connecting the pages on the World Wide Web. Search engines employ spiders to seek out information from millions of sources. see bot, crawler.

**splash page** also called a doorway page, the first page a user often comes upon when arriving at a Website, though usually not the Homepage. Often the splash page displays a paragraph or two describing the site's contents. The purpose of such a page is to incorporate keywords and phrases that will get the site listed on the major search engines. A Website may have several splash pages, each using a different set or a combination of keywords, with the intention of picking up more and higher search engine ratings.

**split screen** the division of a display screen into two or more frames each displaying a different document or different portion of the same document.

**spod** an unsophisticated inhabitant of cyberspace who, often unknowingly, makes a nuisance of himself by violating any and all rules of netiquette. Spods, like dweebs, are concerned with meeting members of the opposite sex and gaining access to forums such as MUDs where they are unwelcome. They often achieve this end through the use of begged, borrowed, and stolen passwords and codes. see dweeb, MUD.

**spoof** also called spoofing, to fool or trick. In online data transmission (called IP spoofing), to make a message appear as though it originated from a user or computer other than the one that actually generated the message.

**spooling** to order items or jobs in a queue before sending them to an output device such as a printer. Spooling furnishes a waiting area for documents to pause while waiting for the printer to accommodate each item in the queue.

**spot color** the use of a specific color of ink in the production of an image rather than the combination of the four basic colors (cyan, magenta, yellow and black) used to simulate the desired color.

**spray can** a tool available in a paint program that applies color much like a spray can in the real world. That is, when used, it disperses color sparingly first using a fine mist. To add density, the user must concentrate the application by spraying more in the same area. The concentration of color depends on how quickly the can is swept over the desired surface while using a mouse.

**spreadsheet** a table, chart, or graph displaying information such as numbers or text arranged in vertical and/or horizontal columns and pie charts. Spreadsheet applications are capable of a wide range of functions such as mathemati-

cal calculations, which will automatically adjust values as new data is added. Spreadsheets can be created using three-dimensional features and color to accent specific items.

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N	Customer Name	▲ Date	Model	G/F
11	M.V. Hansen	5-6-01	Linc. Twn. Car	Y
12	J. Canfield	5-6-01	El Dorado	Y
13	H. Potter	5-6-01	Blue Cherokee	N
14	C. Obi	5-6-01	Astro Van	Y
15	T. Gore	5-7-01	Mercedes SUV	N

Figure S.07. spreadsheet

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**sprite** used in video games and animation, an image within a larger graphical image that moves.

**SQL** (Structured Query Language) a standard query language used to manage large databases. The original version, called SEQUEL was developed by IBM in the 1970s.

**SRAM** (Static Random-Access Memory) pronounced *S-ram*, unlike dynamic RAM, which requires refreshing with electrical current thousands of time per second to function, Static RAM does not need to be refreshed. Consequently, it is faster and more expensive. It is used in caches and video memory, where speed is of the essence.

**SSL** (Secure Socket Layer) a protocol used by Netscape utilizing encryption, and ensuring the secure transmission of data between client and server.

**stack** in programming, a set order of prioritizing tasks (also called last in, first out) where each additional item is added to the top of the order and acted on first.

**stand-alone** a hardware device that is able to operate independently. An electronic calculator or hand-held video game would be a stand-alone device, while a computer monitor is not because it requires input from a computer.

**standard** a value by which other values are measured. A standard may either be official and endorsed by an organization of some type, or unofficial and simply accepted as an industry-wide rule. Standards are important when considering computer hardware and software because, among other things, they

ensure that devices are compatible and can be used together. Among the organizations setting computer standards are, Video Electronics Standards Association (VESA) and American National Standards Institute (ANSI).

**star** the computer keyboard character (on the main body of the keyboard) sharing space with the number 8, also called the asterisk. On many keyboards such as the numeric keypad, it has its own key. A star key is also present on push-button telephone keypads. The star or asterisk (\*).

**star network** a local area network (LAN) in which nodes are connected to a central computer.

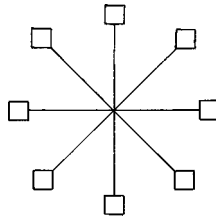


Figure S.08. star network

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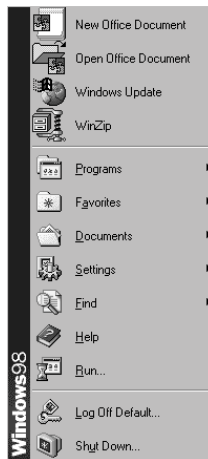


Figure S.09. Start menu

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**Start** In the Windows operating system, a menu activated either by a desktop button located in the lower left side of the display monitor, or a keyboard key displaying the Microsoft logo (sometimes called the Windows key). Activating

either brings up a menu that allows a user many options such as starting a program, changing system settings, finding files, or shutting down the computer. The Start menu can also be displayed by pressing the Control and Esc key at the same time.

**Start menu** in Windows, the menu that is displayed by pressing the Start key on the computer keyboard or clicking the Start button in the lower left section of the display screen. see Start.

**startup disk** a disk used to start or boot a computer. Under normal conditions, a computer boots using operating system instructions on the hard drive. In the event a hard drive is damaged or otherwise compromised, it is necessary to boot from a floppy disk. To create a startup disk:

1. Insert a fresh floppy into the floppy drive.
2. Select Start, Settings, Control Panel.
3. Open Add/Remove Programs.
4. Select Startup Disk, and click Create Disk.
5. When finished, label Windows (version...) Startup disk, and store in a safe place.

**storage** the capacity of a hardware device to store and maintain data.

**store** 1. to copy and save computer data. 2. sometimes refers to an e-commerce Website.

**streaming** online data transmission which displays constantly changing realtime information. For example, streaming stock quotes show stock prices actually change as buyers and sellers bid for the stocks.

**StuffIt** a Macintosh data compression application from Aladdin Systems that allows a user to combine more than one file into a single file.

**style sheet** in word processing, desktop publishing, and Web design applications, a set of parameters determined and set by the user that define the overall look of a document or Web page such as margins, fonts, and headings.

**stylus** a writing or drawing tool shaped like a pen found in paint and graphics programs.

**subdirectory** a directory (folder) kept within another directory. All directories other than the root directory are subdirectories.

**subscribe** to take advantage of an offer online by submitting email information.

**suite** a bundle of compatible software applications made by a single manufacturer for the purpose of user convenience. For example, Microsoft Office is a suite that offers several useful applications. Among these are a program for word processing, desktop publishing, presentations software, and a spreadsheet, all designed for compatible operation.

**Sun Microsystems** a worldwide provider of products, services and support solutions for building and maintaining network computing environments. The company sells scalable computer systems, high-speed microprocessors and high-performance software for operating network computing equipment and storage products.

**supercomputer** a computer with extremely fast processing capabilities used for specialized applications requiring many complex mathematical calculations. Among their many functions, supercomputers are used for the creation of complex animated graphics.

**SuperDisk** disk technology from Imation Corporation using high-density disks that are compatible with many other disk systems.

**superscript** a character, smaller than those in the main body of text appearing above the baseline. For example,  $10^3 = 10 \times 10 \times 10$ .

**supertwist** a high contrast liquid crystal display (LCD) which uses technology that twists light rays, changing their polarization, producing a high resolution image.

**super VGA** video graphics with higher resolution than VGA. Display monitors receive instructions from a video card that, among other functions, allow for color display and screen resolution. VGA (Video Gate Array *or* Video Graphics Adapter) was a standard introduced by IBM in the 1980s that had a maximum resolution of 640x480 pixels with 16 colors. Although SVGA features differ according to individual manufacturers, the standard allows for resolutions of up to 1600x1200 pixels and color display capabilities from 256 colors to 16 million colors. Standards for video display are reviewed by a number of graphics manufacturers known as the Video Electronics Standards Association (VESA).

**surf** (surfing) refers to the casual browsing of Websites and online discussion forums with no particular purpose or destination. Because virtually all information on the World Wide Web is linked, surfing is as easy as pointing a mouse and clicking.

**surge protector** a hardware device similar to an extension cord, containing several power outlets for connecting any number of appliances requiring electrical current. Surge protectors are designed to absorb excess current produced by lightning or other electrical system malfunctions. It is important for a user to make sure that all outlets providing power to computer equipment are grounded and plugged into a surge protector.

**SVGA** see super VGA.

**switch** 1. a small lever or button used to activate or deactivate a hardware device. 2. in networking, to direct or route information packets.

**synchronous** a signal or message occurring at evenly timed periods. Usually, communications within a computer are evenly timed, while communication between computers and peripheral devices is not regularly timed, therefore referred to as *asynchronous*.

**syntax** the instructions or guidelines by which computer language (as well as spoken and written language) is constructed so it has meaning. Computer language has its own set of spelling and grammar rules.

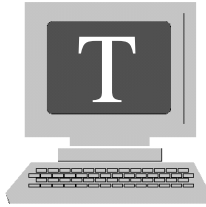
**synthesizer** a device used to generate sounds resembling the human voice or music.

**sysop** (**system operator**) a person who manages the day-to-day business of an online message forum such as a bulletin board.

**system** any number of computer devices and software applications working together to accomplish a specific goal. For example, a Web designer would probably have a system consisting of a high speed computer with plenty of disk storage, one or more Web page development applications, an optical scanner, a high resolution display monitor and printer.

**system programmer** an individual or team of individuals who designs and writes custom applications for a system required to do specialized work.

**system software** operation software applications designed and written for computer systems that perform specialized functions.



**24/7** abbreviation for an enterprise operating 24 hours a day, seven days a week.

**T1 line** a leased telephone line connection allowing for the transfer of data at a speed of 1.544 Mbits (1.544 million bits) per second. Though not fast enough to accommodate realtime streaming video, a T1 connection is often used by businesses to connect to the Internet.

**T3 line** a leased telephone line connection allowing for the transfer of data at a speed of approximately 45 Mbps (45 million bits) per second. T3 connections provide the bandwidth for realtime streaming video. T3 lines comprise much of the backbone that allows for the transmission of data over networks such as the Internet. Many ISPs use a T3 connection to provide services to customers. see bandwidth, backbone.

**tab** a designation in a program document or Web page similar to the ridge-like projection that divides and identifies sections in a notebook or planner. Like the physical tab in a notebook, the onscreen tab in a program application or Web page usually isolates a body of information. Clicking on such a tab with the mouse brings the material to the foreground.

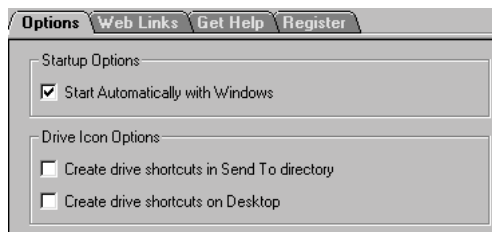


Figure T.01. tabs

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**Tab key** a useful computer keyboard key that moves the cursor to a new insertion point as determined by a user's margin settings. The tab key also brings a user to a new field when making entries in a cell or dialog box (form).

**table** a particular orientation of information, arranged in vertical columns and horizontal lines of items such as text or images. Spreadsheet applications produce many types of tables.

**tab stop** a designated point set by a user that positions the cursor in a particular spot on a page. In word processing, tab stops can be useful for setting recurring margins, paragraph indentions, and other repeated parameters in a document.

**tag** an instruction written into a program or document that signals a particular function or series of functions to occur. In HTML, commands are sometimes called tags.

**tape** a magnetically coated material used for the storage of computer, video, or audio data. The advantages of storing computer information on tape are that tapes can store large amounts of data and are less expensive than disks. The drawback to using tape is slow running speed. Tape is the preferred method of storing information that is not needed frequently such as archived data.

**tape drive** a device that reads and/or writes data onto a tape. Accessing data on tape can be time consuming depending upon the location of the information. For example, a tape drive would need to fast forward through a large quantity of tape to access data stored in the middle of a spool.

**talk** realtime online chat (replete with all of the familiar abbreviations and acronyms) that takes place in a virtual community of which there are many, according to an individual's interests. As with most other communication forums, regular participants take the medium seriously and discourage poor netiquette. In some talk forums, administrators monitor discussions.

**target** also referred to as destination, the program, file or final location for computer data that is being transferred or copied. Target is the opposite of source.

**task** refers to the particular function being performed by a software application.

**taskbar** in Windows, the panel on the bottom of a display monitor that contains icons, beginning with the Start button on the far left, that provides shortcuts to opening selected applications. The taskbar also displays the symbols representing folders, programs, and/or files that are presently open. It is also home for the volume control and displays the current time. Clicking on an item in the taskbar brings that item to the foreground.

**TCP/IP** (Transmission Control Protocol/Internet Protocol) a standard protocol that allows computers to process and display information such as Web pages and email that originate in the various networks that comprise the Internet.

**teamware** sometimes called groupware, software that lets individuals separated geographically work on the same project. The Internet is usually what links participants to each other.

**technical support** assistance provided by the manufacturer of both hardware and software. It is also a service provided by ISPs, online service providers, and Web hosting companies. Technical support may be offered by telephone, via an online chat program, by email, or by snail mail. Support personnel answer questions of all varieties such as, “How do I set up this equipment?” to “Where is the on switch for my new computer?” The popularity and success of many companies offering computer-related products and services is often directly related to the quality of technical support they offer.

**telecommute** a popular term originating in the 1970s used to describe working from home with the use of electronic devices such as a fax, computer, modem and telephone.

**teleconference** a meeting of individuals separated geographically, using telephone as well as audio and/or video connections provided by a private network or the Internet.

**television board** an expansion board that allows a computer and monitor to act as a television. Some allow a user to place a small TV picture in a corner of the monitor screen while using the computer for other work. A television board might also be called a TV card.

**telnet** a program that allows a user to log onto a remote server or host. For example, if you were away from home, and connecting to your ISP required a long distance call, you could use telnet to connect and avoid the charges. You would need a user name and password and would have access to services normally offered by your home ISP such as email.

**template** a model or pattern. The word is used to describe several functions with regard to software applications and graphical layout. For example, in a word processing application, a template might refer to a style sheet, in that the layout for a document is set before beginning work. Entering information into pre-set fields is all that is necessary to create the framework for the document. The same could apply to entering information into a spreadsheet. In graphic or Website design, a template might be used to maintain a uniform theme throughout the creation.

**terabyte** approximately one trillion bytes.

**terminal** hardware consisting of a keyboard and display screen allowing a user to communicate with a computer either through normal cable connections or by a network. see dumb terminal, smart terminal.

**Texas Instruments** a global semiconductor company and the world's leading designer and supplier of digital signal processors and analog integrated circuits, the engines driving the digitization of electronics. These two types of semiconductor products work together in digital electronic devices such as digital cellular phones. In 1958, Jack Kilby, a researcher for Texas Instruments, developed the first integrated circuit. In 1967 the company introduced the first hand-held electronic calculator.

**text** characters, numerals and symbols that make up sentences and paragraphs.

**text box** a designated area within a software program or Web page where a user may enter text.



Figure T.02. text box

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**text file** a file containing primarily text. A word processing document however, is usually not simply a text file. Word processing files are different because they incorporate items such as boldface and italic characters, margins, underlined words, and many other variables that set them apart from text files. A true text file is one where the sentences have no special characters or uniformity such as margins or columns. Some word processing programs allow a user to save documents in a "text only" or an ASCII format, allowing for easy uploading and downloading to others.

**text wrap** also called text flow, a feature supported by many word processing programs allowing a user to enter text around a picture, clipart or other image placed on the page. see Figure T.03.

**thermal printer** a low cost printer that produces characters and images using heat applied to a special type of paper. Calculators and some fax machines employ this technology.

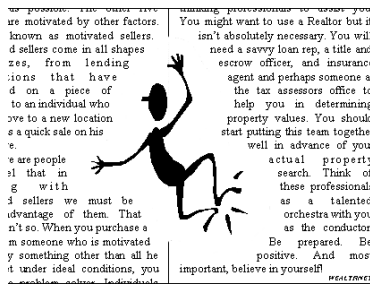


Figure T.03. text wrap

**thrash** to move about wildly without accomplishing anything useful. With computers, thrashing occurs when too many programs are open and the system does not have the resources to accommodate them all. Closing one or all applications will get things under control. A more permanent solution is to install more memory.

**thread** a series of posted messages of the same topic found on a bulletin board or newsgroup. It is often possible for a user to call up all of the messages associated with the original.

**three-dimensional audio** a method of enhancing stereo sound. A device listens to the sound while evaluating factors such as room acoustics. It then sends this information back to the computer and the sound card makes adjustments, producing optimal sound.

**three-dimensional graphics** the process by which software makes two dimensional images appear to be three dimensional. 3-D graphics are essential for many games and other animation. The process requires a large amount of memory and a special microprocessor.

**thumbnail** 1. refers to a preview of an image and is usually considerably smaller than the actual image. When viewing images such as photos and clipart stored on a CD-ROM or floppy disk, the user is sometimes shown a smaller sample (preview) that allows her to either continue on through the samples, or enlarge the preview image to display the entire graphic. 2. on a Web page, a small image that contains a hyperlink. When clicked with a mouse, the image is enlarged.

**TIFF** (Tagged Image File Format) a popular file format for saving bitmap images on both PCs and Macintosh computers. The TIFF format can store large im-

ages, black and white graphics, unlimited color, and can display an image in any resolution. TIFF files are identified by the .TIF file extension.

**tilde** the keyboard symbol (~).

**TLD** (Top Level Domain) the suffix attached to Internet domain names such as .com, .net, org, uk, .ws .cc, etc. As the Internet grows in popularity and domain names become increasingly scarce, new TLDs are being created.

**Tillamook** an Intel processor designed for use in portable computers. The Tillamook chip is a version of the Pentium that runs at more than 200 MHz.

**time out** after waiting for an answer, a program or hardware device will often display a time out message and abandon the function. For example, when accessing computerized stock quotes on the telephone, the program will ask for the user's account number. If it isn't given within a certain period of time, say 30 seconds, the computer might return the user to the main menu or even disconnect.

**time sharing** refers to more than one user having access to the same computer. Time sharing utilizes the multitasking concept, that is, that a computer rapidly switches processing duties among two or more open applications.

**Times Roman** a popular font style noted for its legibility both on the printed page and on a Web page. The font is characterized by its vertical orientation and serifs. The vast majority of type used in this book is Times New Roman, a slight variation to the original Times Roman.

**title bar** the uppermost rectangular bar in the frame of a program or Web page containing the program title or file name, and possibly an icon that identifies it.



Figure T.04. title bar

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**toggle** a term used to describe several actions. Primarily, to toggle means to switch functions from one to another. Occasionally people refer to clicking hyperlinks while surfing the Internet as toggling through the Net.

**token** 1. a single component of a programming language such as a keyword or symbol. 2. a code or message transmitted from one member of a token ring to another, allowing the holder the ability to transmit.

**token ring network** a network arranged in a circular fashion where a message is transmitted from one member to another. It is the token that gives the holder the ability to transmit. see ARCnet.

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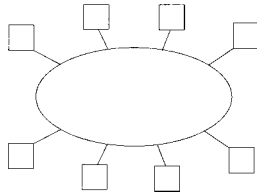


Figure T.05. token ring network

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**toner** electrically charged ink-like powder used in copiers and laser printers. Toner is available in disposable cartridges for both printers and copy machines or may be added to a reservoir as needed.

**tool** one of any number of utility function devices available in a software application allowing a user to accomplish useful work. Often a tool can be manipulated with the mouse cursor. For example, in a paint program, the spray can, scissors, and pen are all tools.

**toolbar** an assembly of tools, represented by buttons, placed on the top, bottom, or either side of the display monitor. The toolbar allows a user easy access to a number of functions offered by the program. Usually, one needs only to left click on a function to activate the desired tool. see tool, floating toolbar.

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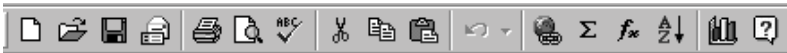


Figure T.06. toolbar

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**topology** refers to the manner in which individual items or points are connected. In networking, topology usually refers to the arrangement of computers connected in the network. see local area network for network configurations.

**touchpad** a touch-sensitive area on a portable or hand-held computer allowing a user input by use of a special pen or her finger. The touchpad is used in place of a keyboard.

**touch screen** a display monitor that, when running with certain software allows a user to make selections and input data into the computer by touching the screen with a finger. Touch screen technology is often used in kiosks.

**tower** computer components are assembled inside of a metal box. Tower refers to a box that is taller than wide. The advantage of a “tower model” computer versus a desktop model, is the tower saves space. see PC.

**track** a circular section on a data storage disk containing data, resembling a single musical selection on a vinyl record album. Data storage is further isolated into sectors.

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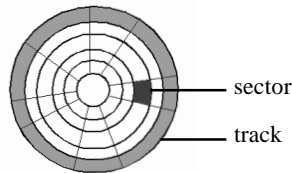


Figure T.07. track

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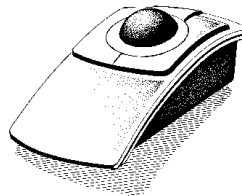


Figure T.08. trackball

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**trackball** a device similar to a mouse used for pointing to and clicking on items on a display monitor. The difference is the trackball has a free-moving ball that is housed in a socket in the device. The user rolls the ball to position the cursor while the device remains stationary.

**traffic** 1. refers to the number of communications being sent over a system or network. The extent of traffic sometimes determines a users ability to login and navigate a network. 2. the frequency and number of visits received by a Web page or Website.

**transfer interrupted** a message box appearing on a display monitor after the downloading of data has been stopped. A user may have pressed the stop button, or the source server may have shut down for any number of reasons.

**transfer rate** the speed that data travels from one hardware device to another, either through conventional wire and cable connections, or over a network. Factors such as network traffic, the type of data being transmitted, and individual computer speeds affect the transfer rate.

**transistor** a small electronic device composed of semiconductor material such as germanium or silicon, that amplifies or otherwise modifies a signal or current. Transistors replaced vacuum tubes and are rapidly being replaced by printed circuit boards, both of which perform the same or similar functions. Computers, as we know them today would not exist without transistors.

**transparent** 1. unable to be seen or noticed. In software applications, functions that automatically happen without the user being aware of them are said to be transparent. 2. in paint and graphics applications, to make transparent means to take an image and eliminate its background so it can be placed in a new field without any trace of the old background.

**Trash** the folder in the Macintosh where deleted files are kept until they are permanently cleared or restored. The Trash bin in the Mac is the equivalent to the Recycle bin in the Windows operating system.

**tree** a data storage structure where new items are attached to elements below them. The first item in the structure is the root. The connections are called branches. see dir, directory, root directory, hierarchical.

**Trojan horse** a program downloaded from the Internet that contains destructive elements to a computer. Unlike a true virus, the Trojan horse does not replicate itself, it simply erases the users hard drive. A Trojan horse can come disguised as a useful application such as a game or even a virus protection program. The name is taken from Greek mythology, where the Greeks gifted their Trojan enemies, a large wooden horse as a peace offering. Once inside the city of Troy, Greek soldiers, who were hiding inside the hollow horse, opened the gates to the city allowing fellow soldiers to invade.

**troll** sometimes referred to as flame bait, a message posted to any number of public chat or bulletin board forums that is designed to prompt a large number of responses. Often the message is a complete exaggeration, lie, or insult. One might be said to be “trolling” for a particular type of response.

**tron** to communicate online and not through more conventional means such as telephone or face-to-face.

**true color** a graphics application using at least 24 bits for each pixel of color. True color applications are able to display more than 16 million colors.

**TrueType** developed as a joint venture between Apple and Microsoft in 1991, an outline font included in both company's operating software that has become a standard of sorts for everyday home computing.

**truncate** to shorten something. In programming languages, (especially when disk storage space was at a premium) there would not always be room to enter an entire character string, so there was a need to shorten it. For example, the number 45.070921 becomes 45.

**tune** to clean up hard disk space by deleting old files and otherwise run applications that improve the speed and efficiency of a computer. Running a defragmentation utility would be one method of tuning a computer.

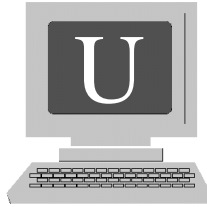
**turnkey system** a computer system that is designed for a particular application and comes to the user ready to perform certain functions. For example, a desktop publishing system would come with publishing, scanning, and printing drivers as well as the appropriate hardware and software. A user could figuratively turn a single key to be up and running.

**TWAIN** (Technology Without An Interesting Name) an interface that allows optical scanners to communicate with application software. A TWAIN driver delivers the scanned image to the various software applications a user might be working with, allowing the scanned image to be used in many applications.

**tweak** to adjust, align, manipulate, or otherwise fine tune a hardware device or software application for maximum efficiency.

**type** 1. to enter characters as computer input using a keyboard. 2. the various styles of characters and symbols produced by a keyboard.

**typeface** a particular design for characters such as Courier or Times New Roman. The two major distinctions that separate typeface styles are Serif and Sans serif. see sans serif, serif.



**UI** (User Interface) the part of an application the user experiences as opposed to the internal functioning of the program.

**undo** a command included in many word processing and graphics software applications that allows a user to eliminate or reverse the last action. For example, say you've just applied a moustache to the Mona Lisa with your new paint program. You then decide you like the painting better the way it was originally. With a click of the undo button or command, the moustache is gone. In many Windows compatible programs, pressing the Ctrl and Z keys together will accomplish the same thing as the undo feature.

**undocumented** features included in a program that were not described in the users manual. Sometimes undocumented items are left out unintentionally. Sometimes undocumented features were present to facilitate the writing of the program by the designers and programmers and thought to be unimportant to the end-user. Other times, such features are present as part of a test in determining whether they will be included in future versions of the program.

**UNIX** a multitasking, multi-user, operating system created by Ken Thompson and Dennis Ritchie along with a small team at Bell Laboratories in the early 1970s. Although felt to be user un-friendly, UNIX evolved over the years and has become popular. Because it was originally distributed in its source language format, anyone could make modifications to the system. Today there are two major versions of the program, System V, produced by Bell Labs and BSD4.x, developed at Berkley University.

**unpack** to convert a compressed file to its original form.

**upgrade** a newer version of a software program or hardware device. Software upgrades are usually less expensive than buying the entire program new, however, one must be able to prove he has bought the earlier version to qualify for the upgrade. When installing the upgrade the new features can be thought of as being “overlaid” onto the previous version. As computer technology rapidly advances, both hardware and software becomes dated quickly. Many times, people feel the need to own the latest devices and software without regard to what it will be used for (the earlier version works well for the intended use). Operating speeds are often among the most important features included in upgrades of all types.

**upload** opposite of download, to transfer files to another computer via a network. For example, a Web designer, would publish newly created pages (upload) to a server that would store them for users to call up and view.

**uppercase** keyboard characters that are “large” or written in capitals such as X Y Z, as opposed to small letters, x y z. The term dates back to the early days of printing when the capital letter characters were stored in drawers (cases) above the small letters.

**URL** (Universal Resource Locator *or* Uniform Resource Locator) the addresses by which individuals are able to find information on the Internet. The first component of the address indicates what protocol is to be used such as **http://** The next part of the address is the location of the document, such as **www** for World Wide Web. The remaining elements point to the particular document stored on a server.

**Usenet** a collection of newsgroups (discussion forums) that can be accessed through many online services as well as the Internet, that discuss more than 15,000 topics. The rules of netiquette are usually strictly observed in these groups.

**user** an individual, with an experience level that might vary from novice to expert, who operates a computer and/or other hardware devices.

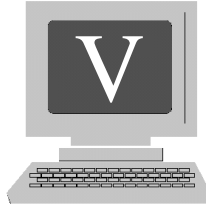
**user-friendly** any software or hardware that allows for easy operation by a user. Operating systems using graphical user interface features such as menus, buttons, onscreen clickable items, and a mouse all contribute to the degree of user-friendliness of home computers.

**user interface** the means by which an individual communicates with a computer through a software application. The common methods for such communication are, commands, menus, and icons. see interface.

**username** a name that allows a user access to a computer, network, or message forum. When logging onto a computer or network it is often necessary to enter a username and password. The username might be a proper name like Chester, or a nickname such as sluggo. The username may or may not be case sensitive. If case sensitive, it must be typed exactly as it was originally given. For example, Sluggo is different than sluggo.

**utility** a program that helps manage an operating system or other application. Virus scans and data recover programs are utility software.

**uunecode** a UNIX utility program used to convert binary files into ASCII for the purpose of posting to a newsgroup or sending email attachments.



**vaccine** utility software that protects a computer from viruses by running a system check periodically or each time the computer boots.

**value-added reseller** an individual or company that buys computer components, assembles them, and adds features such as software or additional hardware, then resells the entire unit for more than the sum of the parts.

**vanilla** a slang term used to describe a computer or software program without extra features ( bells and whistles). The term infers that vanilla is considered plain.

**vaporware** a slang expression that refers to software that is announced, and promoted but never makes it to market.

**variable pitch** refers to a typesetting style that places characters closer together or farther apart depending on the space available for them. Variable pitch is a method used to ensure that documents are centered and justified.

**vector graphics** in contrast to a bitmap, which is figuratively a stored snapshot of a graphic that contains a fixed number of pixels, a type of image that is more versatile in that it can be sized without encountering distortion. Additionally, vector images display better on computer monitors.

**Veronica** a search engine that uses a spider to locate information compiled by Gopher. see Gopher.

**vertical alignment** in many word processing programs, a feature that automatically adjusts the space between each line allowing for even space at the top and bottom of the document.

**vertical orientation** a document that is taller than it is wide. see portrait.

**vertical portal** an entry point to the World Wide Web providing a wide variety of online services. The difference between a vertical portal and a simple portal is specialization. Vertical portals try to cater to the needs and desires of a particular group of consumers or in the case of business-to-business, a particular industry or business group. see b2b, portal.

**VGA** (Video Gateway Array *or* Video Graphics Array) video monitor technology developed by IBM that provides for a maximum resolution of graphical images of 640 x 480 pixels with 16 colors. For text, VGA provides a resolution of 720 x 400 pixels. see SVGA.

**video** the transmission of moving pictures or animation to a monitor or television. In a broader sense, any text or images transmitted from a computer and displayed on a display monitor or television. Video images may be broadcast live, filmed, or video-recorded and stored on tape or disk.

**video adapter** sometimes called video card, a plug-in circuit board that gives a computer video display capabilities. The ability of a computer to produce video will depend not only on the adapter but the monitor as well. Most video cards contain some memory so the computer's RAM is not called upon to store images. A video adapter allows the computer to display both text and graphics. Some also offer the user a choice of resolutions.

**video capture** refers to a device that converts analog video signals to digital and stores them on a hard disk.

**video card** see video adapter.

**video conferencing** using a computer, video camera, and network such as the Internet, to conduct a live conference between two or more people. Video conferencing is an extremely useful method of communication because it saves people the time and expense of travel and can often accomplish many of the things a physical meeting can. A two-person videoconference is known as *point-to-point*, while more than two people involved in a session is a *multipoint* conference. Until recently, video conferencing was prohibitive due to the costs of the equipment required, however, hardware costs have become more affordable within the recent past.

**video memory** the memory found in a video adapter that stores images as bitmaps before they are sent to the display monitor. Because displaying video images requires a great deal of computing speed and memory, the video adapter is equipped to handle this function rather than relying on the computer's CPU. There are several types of video memory such as VRAM and WRAM.

**video mode** the setting of a video adapter. The mode will be set to either video, for displaying images or to text for displaying ASCII characters.

**viewer** a program whose primary purpose is for the display of graphic files.

**viral marketing** refers to the promotion of products through word of mouth and email. Viral marketing, however, is not related to spamming, but to small groups of people sharing exciting information via email. For example, the popular movie *The Blair Witch Project* was a success due to the buzz created over the Website and the upcoming movie, months in advance of its release.

**virtual** an imaginary conceptualization of something real. For example, many feel that the Internet is a virtual world unto itself. The term takes on many uses in the computer world as a wide variety of devices and software exist for the sole purpose of providing simulations of reality.

**virtual desktop** a computer desktop displayed on an external monitor allowing for better resolution and larger display size. Sometimes the desktop image sent to an outside monitor from a portable computer such as a laptop or notebook is referred to as a virtual desktop.

**virtual hosting** a server that stores more than one Website on its hard disk and offers them to users on the Internet is said to be a virtual hosting service provider. Virtual hosting is the opposite of dedicated hosting. This is an arrangement where a *single Website* is stored on a single server and does not have to share space with other sites. Problems do not usually arise unless a site being hosted by the virtual server begins to pick up a significant amount of new traffic. This can slow access to all pages hosted there. Offering Web pages using virtual hosting is far less expensive than using a dedicated service.

**virtual memory** a way of expanding the memory capabilities of a computer by using disk space for memory functions. With virtual memory, a program stores memory addresses on the hard disk, called pages, and are only used when called upon. It is the job of the operating system to distinguish which addresses reside in memory and which must be called up from the disk.

**virtual reality** a realistic environment often used for entertainment, created using computer hardware and software that stimulates the human senses of sight, sound, touch an occasionally taste and smell. The user wears special glasses or goggles, gloves, and headphones. A virtual reality experience uses three dimensional images, stereo sound, and tactile stimulation to give the user a feeling of actually living through a physical experience.

**virtual server** A server that stores and delivers more than one Website. see virtual hosting.

**virus** a program or string of code that gets inside a computer and replicates itself often causing destruction along the way. Even if not designed for destruction, such as erasing or changing data, a virus can be dangerous because as it continues to duplicate, it uses up valuable disk space until it crashes the system. Viruses can be found on any computer storage medium such as a hard disk, floppy, zip, or CD-ROM. As viruses become more widespread, prudent computer owners should protect themselves by installing virus scan software. These programs are designed to search the computer's disk drives each time the machine is booted and destroy any virus found. As many viruses are introduced through email (a virus cannot be introduced simply by reading an email message, only by opening attachments), users should only open attachments received from people they know, and even then, do so with caution.

**virus protection software** also called virus scan software and vaccine, utility software installed on a computer designed to locate, identify, and eliminate viruses. Each time a computer is booted the virus scan searches the system for viruses and destroys them. No vaccine is 100 percent guaranteed effective because new viruses are being created all the time. Many virus protection programs offer periodic updates for free. McAfee and Norton Utilities are popular software makers offering virus protection software.

**Visual Basic** a type of object-oriented programming language and environment developed by Microsoft for the Windows operating system. Visual Basic allows programmers to create applications quickly by writing code to accompany onscreen objects such as buttons and windows.

**voice recognition** the ability for computer software to understand and respond to the spoken human word. see speech recognition.

**volume** 1. the capacity of a storage device such as a disk. 2. a control located on a toolbar that regulates the loudness of an audio file.

**VRAM** (Video Random-Access Memory) a special type of memory used by a video adapter that has the ability to serve more than one device at the same time, allowing for uninterrupted image display. VRAM is much faster than conventional RAM and thus, more expensive.

**VRML** (Virtual Reality Markup Language) pronounced as the individual letters "V R M L" or sometimes vermil, a programming language developed by Tony Parisi and Mark Pesce used to create three dimensional screen images. More specifically, VRML is used to create virtual worlds, with 3-D rooms and scenes where users, represented by avatars, can walk, rest, fly about, or encounter other avatars. Animation, video and sound are all part of what makes VRML unique.



**W3** short for World Wide Web. see World Wide Web.

**wait state** the time that passes while a microprocessor reads data from memory. A wait state usually occurs when the processor speed is faster than the memory capacity and speed.

**wallpaper** a picture or pattern displayed on a computer display monitor. Wallpaper is usually shown while the computer is inactive. Operating systems such as Windows and Macintosh offer choices in wallpaper. They are also widely available for free on the Internet. To change wallpaper in Windows, Click Start, Settings, Control Panel. Then choose Display. Here you'll find various wallpaper themes offered by Windows. To set one as yours, select the desired pattern and click OK. To use wallpaper from the Internet, right click on any image and select the "set as wallpaper" option by left clicking the mouse.

**WAN** see Wide Area Network.

**warez** pirated commercial software made available to the public on the Internet or through personal contact. see piracy, software piracy.

**watch icon** in Macintosh, the cursor changes to a wristwatch while the program is processing, indicating that the user must wait for the function to complete. The watch icon is the equivalent of the hourglass in Windows.

**WAV** the format for storing digital audio files developed as a joint venture by IBM and Microsoft. A WAV player was first introduced to the public in Windows 95. The file extension or suffix for a WAV file is .WAV.

**Web** short for World Wide Web.

**Web browser** see browser.

**Webcasting** the use of the Internet to broadcast information. Webcasting utilizes push technology, meaning, the information is sent out indiscriminately, sometimes without the user requesting it. see push.

**Webcrawler** a popular Internet search engine operated by America Online.

**Web developer** an individual who creates the layout of a Website. Among the considerations for developing a commercial site would be, ensuring the merchant can accept payment online, logical links to products, and easy navigation through the purchasing process. A Web developer is sometimes referred to as a websmith.

**webmaster** an individual who maintains Web pages. The webmaster's duties might include creating a site, updating pages, maintaining the hardware to keep a site operational, responding to user inquires, fulfilling orders on a commercial site, and monitoring site traffic using specific software designed to count hits, and impressions. For especially large Websites, a webmaster might employ a team of assistants. A webmaster might also be called a websmith, webmistress, or Web guru.

**Web page** a document posted on the World Wide Web containing a URL. A user may call up a Web page by typing the URL into the address field of a Web browser.

**Web page design** the creation of Web pages for individuals and companies wanting a presence on the World Wide Web. Web design incorporates the knowledge of how users access particular types of information, and delivers it that way. For example, people are likely to return to a site repeatedly if valuable information is offered and updated daily or more frequently. Additionally, ease of navigation and wise use of graphics come into play. As businesses scramble to establish a presence on the Web, good site designers are very much in demand and command healthy salaries.

**Webring** a group of Websites with a common theme, configured in a loop, allowing a surfer easy access to subsequent sites in the ring by clicking on links. Some rings only allow users to access the next member in the ring or the previous member, thus maintaining the integrity of the ring concept. Others allow users to jump to the site of any member in no particular order. Many Webrings maintain standards for members so a user can expect a certain degree of uniformity and quality when visiting a member site. There is power in Webrings because a visitor with an interest in the ring's theme is likely to visit many or all of the sites in the ring.

**Web server** a computer, usually maintained by a for-profit company, that stores and delivers Web pages for clients. Almost any computer can be made to function as a Web server with the proper software and hard disk capacity.

**Website** a Web page, usually associated with a group of related pages, connected by hyperlinks, located on the World Wide Web. A Website may exist for a number of reasons. It is possible for an individual to put up a site that displays family photos for the world to see. The many branches of government maintain Websites to allow citizens easy access to information and services. There are sites for users to play games, view cartoons, and access information of all types. Perhaps the most common of all Websites is the commercial site. Here users from all over the world can purchase a wide variety of goods and services from home and pay using a credit card or some other method of online cash transfer.

**WebTV** the ability to access the World Wide Web using a television and telephone or cable lines. Web pages viewed in this way are occasionally slightly distorted. WebTV is an easy way to access the Internet. However, computer functions such as the ability to download programs, and post to message boards is not available with WebTV.

**What's this?** a help feature included in Windows 95 and newer versions that allows a user to place the mouse cursor on an item and have a small box appear with a brief description of what the item does.

**whiteboard** a component of a chat or teleconferencing program that is a white surface appearing on a display monitor, allowing multiple participants in the forum to write messages.

**wide-area network** a computer network that encompasses a large geographical area and is made up of two or more LANs. The network may be connected by telephone wire, cable or satellite. The Internet is the largest WAN known.

**widow** in word processing and publishing, the first line of a paragraph appearing on the last line of a page. Some applications adjust for this. Widow is synonymous with orphan.

**wildcard** a symbol that represents a character or series of characters. In DOS and Windows the asterisk (\*) can represent a letter or combination of letters. This is useful in performing file and text searches.

**window** a rectangular box shown on a display monitor by the application presently running. The window is a staple of graphical user interface technology. Windows may be minimized so they become buttons resting at the bottom of the

toolbar, or sized so several can be displayed at a single time. see maximize, minimize, scroll, scroll bar.

**Windows** (Microsoft Windows) the operating system developed by Microsoft that became popular in the early 1990s utilizing graphical user interface technology. The early versions ran using DOS as a platform. In the 1980s Microsoft offered Windows versions 1 and 2 but they never caught on. In 1990, the company introduced the Windows 3 series, which revolutionized the software industry allowing users a wide variety of computing options.

**Windows 95** introduced by Microsoft in 1995, the long-awaited operating system was much improved from the earlier version Windows 3.1, with a new user interface and the ability to support 32 bit applications. Windows 95 discontinued using DOS as its underlying platform. Software specifically designed to run with Windows 95 runs faster and more efficiently. Windows 95 includes a number of free applications, as did its predecessor Windows 3.1. Microsoft's Web browser, Internet Explorer, is included with Windows 95.

**Windows 98** an updated version of Windows 95, the 98 version was originally going to be called Memphis, then Windows 97, but the company was unable to meet the projected release date. Among the new features in Windows 98 are, the Active Desktop, which combines features of Internet Explorer with the operating system (one benefit here is a user has the option of single clicking a mouse to fetch a file or access a Web page). Additional benefits of the newer version are a feature that better utilizes disk space, faster loading of programs, and automatic troubleshooting and maintenance wizards.

**Windows 2000** the most recent of the Windows operating systems, however, not the logical evolution of Windows 98. Windows 2000 comes in four versions all with a professional or business flavor to them. First, there's Windows 2000 Professional, designed using NT Workstation, it incorporates the familiar Win98 interface with speeds of up to 30 percent faster than the previous version. The other versions are Windows 2000 Server, Advanced Server, and DataCenter Server. These systems are set up to offer networking capabilities that many home users will not need. Windows 2000 is faster, more crash resistant, and allows for easier Internet access than any other version of the operating system.

**Windows NT** the most sophisticated of Microsoft's operating systems, NT is a high-performance system utilizing multitasking and graphical user interface. More similar to UNIX, Windows was never built on the DOS platform. NT includes a security system that prevents programs from manipulating hardware without proper authorization (the underlying cause of many system crashes). There are two versions of Windows NT, Windows NT Workstation

(Of which Windows 2000 was born) and Windows NT Server, designed for use in networking.

**Wintel** a sarcastic term used to describe the combination of Windows operating systems with Intel microprocessors. The term refers to the fact that the Windows 3 series and 95 operating systems ran only on Intel microprocessors.

**WinZip** a program used to decompress Windows-based files downloaded from the Internet.

**wireframe** a three dimensional view of an image outlined using a wire-like frame.

**wireless modem** a modem that accesses a wireless telephone system (as do cellular telephones) to provide a connection to a network.

**wizard** a utility included with a software application that helps a user perform certain functions. Wizards are often used to set a program up for installation. They also provide templates that allow a user to enter required information to create documents such as Web pages, letters and spreadsheets.

**Word** short for MS Word, one of Microsoft's word processing programs. There is also a version available for Macintosh users.

**WordPerfect** a popular word processing application that can be used on both Windows and Macintosh. WordPerfect is versatile in that it supports many different file formats and includes a wide range of different characters. Among these are full alphabets for Russian, Hebrew and Japanese.

**word processing** the use of a computer to create word documents such as letters, books, news articles etc. The computer must have a word processing program installed. A user can easily set up the layout of a wide variety of documents with little training. One very distinct advantage of using a computer to create word documents versus a typewriter is the ease with which corrections can be made with a word processor. Moving text around and the storage of documents also adds to the benefits of computerized document creation. Word processing is probably the most popular use for computers.

**word processor** a program and/or hardware that allows a user to create word documents. Before the widespread popularity of personal home computers, word processing machines (the combination of hardware and software all in one device) existed for the sole purpose of word processing.

**word wrap** a word processing feature that makes text conform to margins so words do not continue forever. This is the feature that brings the cursor to the next

line without a user having to press the Enter key. For certain types of documents the word wrap feature may be disabled.

**workstation** a computer with large storage capabilities and memory capacity, a high resolution display monitor, and a fast microprocessor used for engineering or scientific applications.

**World Wide Web (WWW, W3)** an extremely large group of computers linked together utilizing many networks, offering information to users via Web servers and browsers. Most of the information found on the Web is formatted in a programming language called HyperText Markup Language (HTML) and transmitted using Hypertext Transfer Protocol (HTTP). Navigating the World Wide Web is often as easy as clicking a hyperlink located on one Website leading to another. Though the terms Internet and Web are used interchangeably, there is a distinction between the two. The Internet is actually a global collection of computers linked to exchange information, of which the World Wide Web is a part. The distinction lies in that Web pages are characteristically linked through hyperlinks and most of the information found on the Web is formatted in HTML. The Internet evolved from ARPANET, which was originally a communications tool of the US Department of Defense. The World Wide Web was officially established by Tim Berners-Lee in 1989 at CERN, a research institute in Switzerland.

**World Wide Web Consortium (W3C)** founded by Tim Berners-Lee in 1994, an international group of companies that exists to create standards and enhance the Web. One of the main concerns of W3C is that the medium progresses together, in a single direction, rather than divide into many factions with different goals.

**worm** a program that enters a computer and replicates itself, often causing damage to the system. see virus.

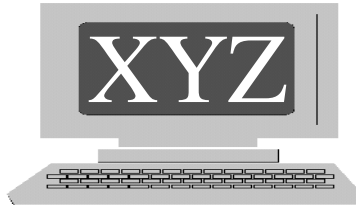
**WORM (Write Once Read Many)** an optical disk that allows a user to copy data to it one time only, thus making it permanent. WORM disks can only be read by the type of driver that created them.

**write** to copy data from main memory to one of many storage media such as a floppy disk.

**write-protect** to ensure that a disk cannot be modified and the contents cannot be over-written by a computer. A user can protect a disk by using a write-protect utility found in many operating systems.

**WWW** stands for World Wide Web. see World Wide Web.

**WYSIWYG** (What You See Is What You Get) pronounced *wizzy wig*, refers to a program that displays data exactly as it will appear when published as a Web page or printed. For example, Web pages are often created using HTML, a code that appears as gibberish to the untrained eye. Of course, the HTML appears as a readable document when actually posted on the Web. To overcome the need to learn HTML, there are many Web design applications that allow a user to create pages in WYSIWYG, bypassing the process of learning the code.



**X.25** a common standard for packet-switching networks.

**Xenix** a version of the UNIX operating system developed by Microsoft for use on PCs.

**Xerox** a leader in the global document market, providing document solutions that enhance business productivity. The company's document processing activities encompass developing, manufacturing, marketing, servicing and financing a complete range of document processing products and solutions designed to make organizations around the world more productive. In the 1970s Xerox developed devices such as the mouse and graphical user interface technology that was later adopted by Apple for use in early home computers.

**Xmodem** a protocol for transferring blocks of data together from one computer to another developed in the 1970s by Ward Christensen. The advantage to Xmodem technology is in its ability to detect errors and to ensure that data isn't lost during transfer.

**Yahoo** a global Internet communications, commerce and media company that offers a comprehensive branded network of services to more than 120 million users each month worldwide. As the first online navigational guide to the World Wide Web, Yahoo is a major guide in terms of traffic, advertising, household and business user reach, and is one of the most recognized brands associated with the Internet.

**Yellow book** the book that explained the standards set forth by Phillips/Sony for CD-ROM recording. see red book.

**Ymodem** an asynchronous protocol for transferring data developed by Chuck Forsberg that extends the capabilities of Xmodem by increasing the size of data blocks.

**yotta** metric prefix meaning X 1,000,000,000,000,000,000,000.

**zero wait state** a state in which both microprocessor and memory run at maximum speeds without waiting for memory.

**zetta** metric prefix meaning X 1,000,000,000,000,000,000,000.

**zine** short for ezine, an electronically published magazine. see ezine.

**ZIP** a popular format for compressed data using .ZIP as the file extension.

**Zip drive** a dense type of floppy disk with the capacity to store either 100MB or 250MB of data, developed by Iomega Corporation. Zip disks are useful for backing up large amounts of data.

**Zmodem** an asynchronous communications protocol providing rapid data transfer with the enhanced ability to detect errors and allowing the transmission of larger blocks of data.

**zoom** also called maximize, to enlarge a window on a display monitor. see maximize.





# HOW TO SHOP FOR A COMPUTER

*Gigabyte, megahertz, hard drive, modem, resolution, microprocessor. If these words seem like digital soup, fear not. In no time flat, you'll be ready to get a great computer, with minimal stress and without breaking the bank.*

There's no escaping it. Everywhere you go you hear about computer viruses, the Internet, the Microsoft antitrust case, and computers, and more computers. Face it, in the age of information computers rule. You can't put it off any longer, it's time to buy a computer and see what all the excitement's about. But, what's that? Feels like the same butterflies that took over your GI tract when you first had to recite poetry in front of your third grade class? You're about as technically adept as your old gray haired granny you say? No? She's been online for years.

Well relax, you can do it too. It just takes a little understanding of what makes up a computer system to be knowledgeable and confident enough to buy one without overpaying. In this section we're going to break a computer into bite-sized pieces so they're easier to understand, then tie them all together so we can see the big picture. When we're finished, you'll have a good working knowledge of the individual components of a computer and supporting devices such as a printer and monitor, and how each one relates to the overall cost of a good system. We'll also look at some of the important things to consider when actually shopping and buying a computer.

The first question to ask when buying a computer, or anything else for that matter, is, what am I going to do with it? The most common uses for home computers today are, word processing, playing games, and surfing the Internet. Of course, they'll do much more than that. With very little effort you can use a computer to communicate live with family, friends, and business associates around the world. You can create elaborate designs, modify photographs, or build Web pages. With very little effort you can even set up your computer to record the origin of incoming phone calls, as well as send and receive faxes. But we're getting ahead of ourselves.

Whatever you end up using your computer for, you'll need to evaluate its capabilities in much the same way. So let's get started. The first consideration is the computer's brain.

## The Microprocessor

When you hear someone speak of the processor or the chip, it's the microprocessor they're talking about. In case you hadn't noticed, lots of PCs have little decals on them that say "Intel Inside." That's because Intel is the leading manufacturer of microprocessors and have been supplying many PCs with chips for years. A couple of other companies that make them are Advanced Micro Devices and Motorola. Maybe you've heard of the Pentium chip. Again, this is Intel's premier processing chip. First there was simply the Pentium, then the Pentium Pro, and then the Pentium II and Pentium III. Each new version came equipped with more power and features.

The microprocessor determines how fast a computer can compute, that is, the speed with which it can accomplish the hundreds of millions of little calculations it takes to produce useful results for us. In technical language this is called the clock speed, and refers to the number of instructions per second the processor can execute. The clock speed is measured in megahertz (MHz). The important thing to remember when shopping for a computer is, the higher the MHz rating, the faster the computer, and the more expensive it becomes.

In the old days, (about six months ago when it comes to computers) a fast computer had a processor rated at between 450 and 600 MHz, and depending on other very modest features, would run anywhere from \$600 to \$800. Today, such a machine can be purchased for about \$500. In fact, if you simply want a computer for word processing, games, and surfing the Net, it's pretty easy to find a respectable system in this price neighborhood. But we're getting ahead of ourselves again.

Processor speeds have broken new ground recently and are beginning to be measured in GHz or gigahertz, with the recent introduction (though limited and expensive) by both AMD and Intel of 1000 MHz processors. Wow! a 1GHz processor. G stands for giga, the metric prefix for one billion.

What all this means to the end-user is declining costs for better technology. There will always be people who need to be on the cutting edge of all varieties of technology, from stereo, to video, to communications and computers. However, if you are buying a computer for simple tasks, and want to

keep the price down, a processor speed of between 450 and 600 MHz. should be plenty. There are other considerations affecting the price of the processor. The main one is memory.

Microprocessors contain their own “working memory” called a cache, or more specifically the L2 (level two) cache. What this does is temporarily store data called up from the main memory while the processor is functioning. When looking at the individual components that will make up your computer, you will see ratings for the cache capacity mentioned. It’s common to see 512K, which is plenty of memory for this function. One last word on processors. As you read through the list of computer features in any catalog or computer retail store, the processor is usually the first item mentioned. It is often referred to by manufacturer, model, and then speed.

## Memory

The next consideration is memory, more specifically, main memory or system memory. A computer’s ability to manage multiple functions depends both on the processor and memory. When opening a program or file, data must be copied from a storage medium such as a hard disk, CD-ROM, or floppy disk to the main memory. Therefore, having enough memory to handle several open applications becomes very important. For example, if a computer has 32 MB of memory, that means it has approximately 32 million bytes of memory available for programs to use.

The main memory used in computers is called RAM (Random-Access Memory) because the computer can call it up for use randomly, that means, any location in the memory can be used without regard to a specific sequence or order. There are several types of RAM, three of which we will look at in this section. The first is DRAM (Dynamic RAM). While operating, DRAM needs to be refreshed with an electrical charge thousands of times per second. Next is SRAM (Static RAM). SRAM does not need to be refreshed, thus making it faster and more expensive. Because of its high cost, SRAM is usually used in memory caches and not as the computer’s main memory. The third and most common memory is SDRAM (Synchronous DRAM). This type of memory works by synchronizing itself with the microprocessor, achieving very fast speeds.

Like everything else concerning computers, memory is constantly improving. These days, off-the-shelf computers often come equipped with 32 to 64 MB of SDRAM. Again, we are faced with determining what we will be

using the computer for. It has been my experience that as an individual becomes more proficient with a computer, her requirements for better and faster equipment seem to grow. Since memory is relatively inexpensive, it makes sense to go with at least 64 MB, or even 128 MB of SDRAM, especially if the computer is going to be used to create elegant graphics or play elaborate video games (Is there any other kind?). Also keep in mind that in most computers, memory can up upgraded, meaning more can easily be added.

## Hard Drive

Hard disk is a more accurate description for the computer's main storage medium. A hard disk is simply a magnetic platter where computer data is stored. When we refer to data or information, we mean all of the software, including the operating system, word processing programs, games, and Web browser - the program that allows you to surf the World Wide Web. In addition to the software you choose to install and run on your computer, the hard drive will store almost all of the work you produce. When you save your work, it is stored to the hard disk unless you designate another destination.

These days, almost without exception, hard disk storage capacity is measured in Gigabytes (GB). The data kept in a computer, whether in the form of commercial software, or something we create with it, is measured in bytes. To make things easier, computer people have divided up the designations of the way we store data. We have kilobytes (K or Kb), approximately 1000 bytes, megabytes (M or MB), about 1,000,000 bytes, and gigabytes, (G or GB) equal to about 1000 megabytes. These prefixes continue into the trillions and beyond, but we'll stick with these three for our discussion. A GB is 1000 megabytes. That's a lot of information. But many of us have grown accustomed to the idea that more is better, and when it comes to hard disk space, more *is* better.

Have you noticed that each time we evaluate an individual computer component we always come back to the same question: what will you be using the computer for? Same thing here. Off-the-shelf computers are coming equipped with anywhere from 4GB hard disks to 20GBs and sometimes more than that. Although I do subscribe to the "more is better" theory, between 10 to 20GB should be more than the average user could ever need in a lifetime, unless he plans to install tons of software and produce and store thousands of graphics, video, and music files.

## CD-ROM, DVD, and Floppy Drives

Like the hard disk, the CD-ROM, DVD, and floppy disks are data storage disks. When shopping for a computer there are a couple of differences to be aware of though. One, they're portable, and two, they hold less information. We'll start with the CD-ROM. The letters stand for compact disk-read only memory. The compact disk is the storage medium, and read only memory refers to a disk from which data may only be read and not copied to. CD-ROMs can hold from 650MB to 1GB of data. There are CDs available that can be read, written to, and re-written to. For our purposes in this section we'll be talking about the CD-ROM and a little about the CD-RW (more later). Our main interest lies in the internal machine that allows us access to what's stored on a CD-ROM.

The most important consideration with the simple CD-ROM drive (player) is its speed. Off-the-shelf computers include single-speed drives rated using numbers such as 50x. What they measure is how fast (in Milliseconds) the computer can access data on the disk, and how fast it can be transferred. It's common to see speeds in the 50x range with the ability to transfer data at around 7 megabytes per second (MBps). These features are fairly standard, but there's more. Another popular feature is the CD writer. In addition to reading the data on your CD-ROM, it can write or record data from other disks. These are great for backing up programs, files, and even music CDs. They take a special disk called a CD-RW. The RW stands for Read and Write. A decent internal CD-RW drive will bump the cost of your computer up anywhere from \$250 to \$300. A good external CD writer will cost around \$300.

DVD stands for digital video disk *or* digital versatile disk. DVDs can hold more than 5 GB of data, which is more than enough for a full-length movie. Though they were considered optional equipment until a short time ago, they are starting to come as a standard feature on many computers. With a DVD drive, you can play movies on your computer. I know, the last thing you'd want to do is gather the family around the ol' computer and watch a movie. The good thing about the DVD player is they can also play CD-ROMs. And if that's not enough, industry buzz says that because of its massive storage capacity, the DVD drive will be *the* method to access, record and store all types of data in the near future. In other words, if the buzz is correct, DVDs are going to replace the CD-ROM. Another way to get the public to pony up more money to assimilate new technology, or simply a better way? Probably a little of both.

The last item here is the floppy disk drive. The floppy disk is actually a rigid storage disk that measures 3 1/2 inches. The term floppy is a holdover from the days when some floppies (the 5 1/4 inch variety) were flexible. We really have few options with the floppy drive as they simply come as standard equipment on all modern computers.

## Display Monitor

Computer display monitors vary greatly. They come in display sizes ranging from 14 inches to 37 inches. There are several items to consider when shopping for a monitor. The first is resolution. Resolution refers to the clarity of images displayed and it depends on pixels. Pixels are the individual points of color that make up the image on a display screen. The more tightly packed the pixels, the better the resolution. This is sometimes referred to as dots per inch or dpi.

One doesn't ask a salesperson how tightly packed the pixels are on a particular monitor though. One asks about resolution. A standard reference to resolution is for a manufacturer to state the number of pixels present across the top of the screen and the number along the side. The more pixels, the better the resolution. It's common for off-the-shelf monitors to display 1600 x 1200. If you were to multiply these two numbers, you'd find there were a total of 1,920,000 pixels on the screen at any given time. That's good resolution.

Another consideration is the refresh rate of the monitor. What this means is, how many times per second is the screen refreshed or renewed. This is measured in hertz (Hz). Look for at least 60 Hz or the screen could flicker. We might also consider dot pitch. That's the amount of white space between each pixel. We're looking for a small number here.

Many computers are sold in packages that include a monitor. It has been fairly common to see computers sold with 15-inch monitors. In my opinion, that isn't a large enough picture. I look at it this way. Virtually everything we do with a computer is first shown to us on a monitor. Photographs on the Internet, word processing documents, spreadsheets, and almost everything else displayed on a 15-inch screen is compromised by some measure using a small display screen. Yes, you can see the entire image by using a scroll bar, but you don't get to see the whole image all at one time.

Computer manufacturers and retailers are aware of this and have begun to respond. Many computers are now coming with 17-inch monitors, a great improvement. We've seen the price of display monitors come down a lot in the past couple of years. A decent 17-inch monitor can be had for

between \$150 and \$200. And a smart shopper can get a 19-inch unit for under \$250.

Again, what will you be doing with the computer? If you are going into business as a graphic artist or Web designer, you'll probably want higher resolution than you'd find in an off-the-shelf monitor. There are flat panel monitors with display screens as thin as one inch. These save a lot of space but are pricey. Some of the larger display flat panel monitors are selling for up to \$4000. There's always a premium to pay for new technology.

For most of us, a medium to higher resolution 17 to 19-inch monitor should be just fine. Some retailers offering a 15-inch screen in a package deal will allow an upgrade for a few dollars more. Again, to me the monitor is very important, so I'd go with the upgrade. Remember to always ask.

## Printer

Of all the peripheral hardware devices associated with computers, the printer has probably come down more in price than any other. At the same time, the resolution and document quality they produce has only improved. You can buy a decent color inkjet printer these days for under a hundred dollars. I remember paying \$350 for a comparable machine only a few years ago. But like the Polaroid camera and safety razor, there is a downside. You'll need to maintain a constant supply of ink cartridges ready to keep the machine running. That shouldn't be a problem though. The average black ink cartridge should produce about 1000 printed text documents.

Like a monitor, a printer is rated according to the resolution of the documents it produces. Additionally, the speed of a printer is important. We're going to take a look at inkjet printers and laser printers in this section and weigh the differences between the two.

Laser printers use a laser beam that projects images onto a drum. During this process, the laser light alters the electrical charge of the drum. At the same time, the drum is rolling through a reservoir of toner, which temporarily adheres to the charged portion of the drum. The final step in the process is for the drum to roll over paper. Using heat, the toner is transferred to the paper, producing the image.

The technology employed by the laser printer is relatively complex. Perhaps complex isn't the right word. Expensive is a better word. Earlier I said printer costs have come down more than any other computer accessories. That's true. It's true for laser printers as well. However, they are still pricey.

Laser printers are rated using several standards. First, many contain their own microprocessor. This tells the printer how to best organize its work. Microprocessors in laser printers range from around 70 MHz to 200 MHz. As with computers, the faster the processor, the faster the printer runs, and the higher the cost.

Printers have their own memory as well. The reason for the memory is, when you click the print button, the entire job, whether it's a single page or a hundred, is stored in the printer's memory. The pages are then printed in the order they were created. When a printer is able to store printing jobs, it frees up the memory resources of the computer. When talking about laser printers there is really no "off-the-shelf" standard. Laser printers can be very task specific, so their components will vary greatly. The RAM included in such a printer could be as much as 200 MB, more than most computers. Lower end models might have as little as 2 MB of RAM. The more memory a printer has, the faster it can run and the larger jobs it can store.

Another consideration when evaluating a printer is the clarity of the documents it produces. Again, we're talking about the resolution. Much like a display monitor, this is determined by the number of dots per inch (dpi) it prints. The more dots per inch it prints, the better the clarity. Lower end laser printers are often rated at around 600 dpi. More expensive units can go as high as 1200 dpi and more. By the way, when I speak of lower end laser printers, I'm referring to a price range of \$300 to \$600. Higher end models can range from \$2000 to \$6000.

The last item we'll look at here is the ppm or pages per minute a printer can put out. All printers will produce text documents faster than graphics documents or photographs. And they will produce black ink documents faster than color. When looking at the features of a printer, the manufacturer will quote the ppm for black ink text documents. Lower end laser printers average around 8 ppm while higher priced machines can go as high as 18 ppm or more.

Many printers come with the option of connecting to a network. A network card (plug-in circuit board) is required and adds cost to the machine. Additional memory can also improve resolution and speed in many laser printers. As with computers, additional memory and network cards may be added to many printers at any time.

Most inkjet (and laser) printers produce letter quality documents. This is a standard where a document is compared to one produced by a high quality typewriter. For my money, I'll take the printed document over the typed document every time, but that's the way the standard has been set.

With an inkjet printer, images are produced by squirting fine streams of ink onto paper at high speeds. There isn't much more to it than that. Since the technology involved here is almost primitive in comparison to the laser printer, prices are much lower.

We are looking at virtually the same components with inkjet printers as with laser printers. That is, inkjets come with memory, varying resolutions, varying speeds, and network capabilities. And as with the laser printer, printing speed and resolution can often be improved with more memory.

Because inkjet printers are simpler than laser printers, they require fewer resources. The memory found in an off-the-shelf inkjet machine will often range from 2MB to 8MB. In high-end printers the memory can go as high as 70MB or more. The average dpi for an inkjet is around 600 and ppm varies from 6 to around 12. Many inkjets are network capable.

## Modem

The modem is the device that allows the transfer of digital information between two computers over a network. In other words, the modem is what allows you to connect to the Internet. The standard modem used in the majority of computers today is the 56K V.90. 56K refers to the speed of the data transfer measured in bits per second, so 56K is equal to 56 thousand (K=1000) bps. V.90 refers to a standard that makes use of digital connections. In many instances modems connect computers over analog telephone lines. However, there are more and more digital lines becoming available all the time. The V.90 standard allows for faster connections speeds when a digital line is available.

We've looked at the major components of a computer system. There are more. You might want to add a scanner, a digital camera, an enhanced sound, TV, or video card (a card is simply a small circuit board that adds or enhances features like video or audio). A TV card will allow you to watch television on your computer. Some will let you devote a small portion of your computer screen to television while you work on other things. The bells and whistles available for computers are staggering and could be the topic for an entire book. Most of these items go beyond the scope of our discussion.

## Software

Think of software as nothing more than an exhaustive list of instructions for your computer to carry out. Software is what allows us to use computers for useful work. We'll start with the operating system. Until now, everything we've discussed has been hardware and would apply to both PCs and the Macintosh. When it comes to software, we need to become a bit more specific. Since approximately 90 percent of home computers are PCs, we'll be talking primarily to PC users. The good news is, much of the software formerly available only to PC users, now has Mac versions available.

The most common operating system for the personal computer is Windows. Regardless of how you feel about Microsoft or Bill Gates, the fact remains, if you're buying a new PC off the shelf, it's going to come with some version of Windows, probably Windows 98. Why not Windows 2000? Windows 2000 is geared more towards professional and business use. Windows 98 is still a perfectly good, robust, operating system with a wide range of functions.

If you are buying a computer to explore the Internet, you'll probably enjoy Internet Explorer. This is Microsoft's Web browser. A Web browser is a software program that allows us to look at online documents and Web pages. Netscape Navigator is another popular browser that works much the same as Internet Explorer. It seems that people often stay loyal to the first browser they used. The nice thing with Windows 98 is that Netscape Navigator comes with it, so a user can choose. Included with Windows 98, is an email program called Outlook Express. This should take care of all of your email needs unless you're using an online service provider like CompuServe or AOL. They have their own way for you to access email that's just as effective.

In addition to letting you run a wide variety of Windows compatible software, Windows 98 includes many free programs that you can use. There are a few games such as the card game Solitaire, Minesweeper, where you eliminate tiles on a grid one by one, trying to avoid hidden mines, and FreeCell, a card game similar to Solitaire, with 32,000 variations. There is a paint program that lets you draw and modify your pictures in color. Windows 98 includes a simple word processing program called Word Pad, a program you can use to automatically dial your phone, an imaging program that lets you communicate with a scanner, a calculator, and several diagnostic utilities for keeping your computer in good shape.

What about the programs that will do the things you bought your computer for in the first place? There are word processing programs such as

Corel's WordPerfect and Microsoft's Word. There is software such as Quicken to help arrange your finances. There are thousands of games available. Everything from simple casino games like blackjack and poker, to Duke Nukem, an aggressive warrior who nukes em as he sees em. There are several encyclopedia software packages you can buy, allowing you access to instant research information. There is software to help you track stocks, mutual funds and commodities. In fact, if you can think of something you'd like to do, there's probably software out there to help you do it.

## Where Do You Buy It?

Now that you've got the basics down, it's time to venture out into the marketplace (or stay seated right in front of your present computer and shop online). We won't be able to be as specific about actually shopping for the computer as we were in describing the hardware because there are so many ways to shop. We'll take a broad look at a few of them and talk a bit about finding the best value.

Many people opt to buy a computer from one of the leading computer manufacturers. These are Gateway, Compaq, Dell, and recently eMachines has gotten a lot of attention for their attractively priced computers. Others will want to visit a computer specialty shop and have a computer custom built. Most of the readers of this piece however, are probably in the first category, so we'll concentrate here.

Let me start by saying that all of the previously mentioned companies make great computers. As with automobiles, home appliances, office equipment and pizza, it often comes down to personal preference. To some people, one product is as good as another, while others will swear by certain manufacturers. We find the same thing with computers.

So, if, with only small differences present, the leading manufactures offer the same features, what would make you choose one over the other? First, look at technical support and service. Is there toll free 24-hour help available? Some technical support centers don't offer a toll free line to call, while some actually charge you to answer questions. It pays to find out about support in advance.

Does the computer you're considering have a good warranty? Most come with at least a full year parts and service warranty. But check the fine print. Do they have a service center near you? Do they contract with local computer repair shops to do their service work? Some do, some don't. Some

manufacturers will want you to pack your machine up in the original container and ship it at your expense to their service center before they'll take a look at it. That could get expensive.

Most computer retailers offer an extended warranty in the \$50 to \$100 range for the first year. Like the computer you're buying, you can also upgrade the warranty. You can buy from one to three years and sometimes have the option of having a technician come to your house to diagnose and repair problems. Such an option could be mighty useful. Although, for the most part, computers are sturdy and dependable, they can also be fragile and temperamental at times. And like all other manufacturers, the computer industry produces its fair share of lemons. Purchasing an extended warranty is often a wise move, especially if the manufacturer's warranty requires you to ship the machine for repairs.

The last item we'll address is free computers and free Internet service. They usually go hand-in-hand. The way such deals are structured is, "buy this computer and get three years of Internet access free." Or, pay up front for three years of Internet access and get the computer for free. The length of service varies from retailer to retailer, but most offers are similar to the ones I've described here or variations on them. There are a couple of considerations with these arrangements. First, break down the time you'll be committed to the ISP (you will be committed by a contract). Most such offers value their Internet service at inflated prices. It isn't uncommon to see them charging \$40 or more per month. The national average is around \$20 per month for an ISP, and there are an ever-increasing number of them offering this service for free lately.

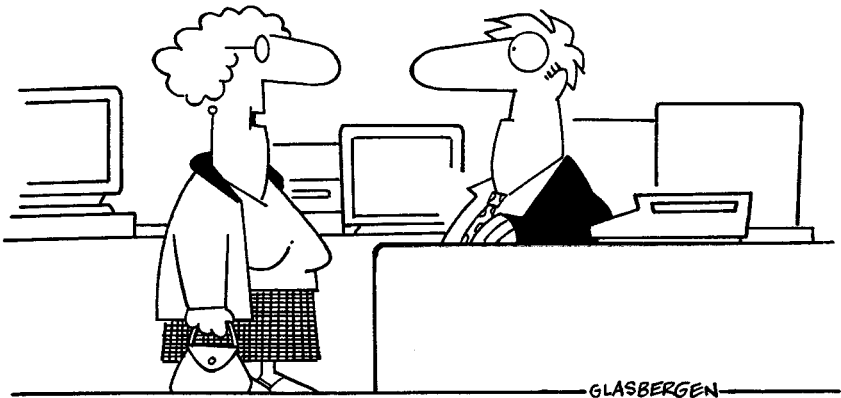
Multiply the monthly rate by the number of months you're commitment will last, and you have the true cost of the computer. By the way, deals such as these usually don't offer the latest in computer features. Take \$40 per month and multiply it by a 36-month commitment and you pay \$1,440 for your computer. I'd be willing to bet a smart shopper could buy a comparable, or even better computer than most offered in deals like this for about 60 percent of that price. Occasionally a decent system comes along marketed this way, but it will benefit the shopper to always do the math.

As a computer enthusiast for close to 20 years, I've watched the industry grow and change. Today's cutting edge technology is tomorrow's bargain basement special. That just happens to be a fact of life. Does that mean you should put off buying a computer? No. If you don't enter the game at some point, you'll be missing out on a lot of fun.

As you venture out into the computer marketplace, take some time to become familiar with the various components that come with computers. Take

this book with you. There are dozens of computer publications available free in electronics and music stores. There are magazines and books. Pick up a few and compare components and prices. Talk to sales people. Ask lots of questions. And when you're ready, jump in with both feet, you'll like it.

## Computer Shack



**“I need a 750 MHz processor, voice recognition technology, ISDN networking capability, DVD-ROM and CD-RW, earth-shaking stereo speakers, and a blistering kick-butt graphics card to help me organize my recipe files.”**

# THE HISTORY OF THE INTERNET

*We often take it for granted without ever wondering how it came to be. The Internet as we know it, has been more than 30 years in the making and has certainly experienced its share of milestones and growing pains.*

Ask just about anyone who invented the light bulb or the telephone and chances are, they can tell you. But ask even the most scholarly individual who invented the Internet and you're sure to be met with a puzzled look. In 1999 Al Gore was quoted as saying he "took the initiative in creating the Internet." It's no secret that sometimes a politician's mouth runs faster than his brain. In reality, it's likely that what Gore meant was, during his time in Congress and the Senate he supported the development of the Information Highway, and that would be accurate. So who invented this wonderful communications medium called the Internet?

The seeds that were to blossom into the Internet were scattered in the late 1950s during what was known as the Cold War. Not to be outdone by the USSR's launch of Sputnik, the US military was looking for a way to keep the lines of communication open for both government and military officials in the event of an actual attack, act of sabotage, or other catastrophic event.

By 1964, Paul Baran of the Rand Corporation came up with the idea for a government-operated network of computers. The unique aspect of his brainchild was that there would be no central controlling node in the network because such a master unit was likely to be a target should the country come under attack. Consequently, each computer in the network would function the same as all the others.

It was further proposed that data transmitted over this network be allocated into packets, each carrying the digital address of the sender and the intended recipient. The network would be set up like a giant grid or lattice. That way, if a hole was blown out of any particular portion of the grid, the packets would be able to make their way around the damaged section, the

exact route being unimportant. Fundamentally, this is how the Internet operates today. Data transmissions usually follow the path of least resistance.

The government kicked this idea around for a few years and decided to give it a try. In the fall of 1969, under the direction of the Advanced Research Projects Agency (ARPA), the first node was installed at UCLA. By December of 1969, three additional nodes were placed relatively close, one at SRI International, a non-profit corporation in Stanford, California, one at the University of California Santa Barbara, and the third at the University of Utah. This first computer network was connected with dedicated general-purpose telephone wire. Data transmission speed was 50 Kbs. The tiny network was christened ARPANET after its sponsor.

By 1972 there were 37 nodes in place. Unlike today, computer access was at a great premium in the late 1960s and early 1970s, so initially the network was used by researchers to share valuable computer time. The protocol for transferring data around ARPANET in the early days was known as Network Control Protocol (NCP).

## First Opt-In Email List

Another milestone was realized in 1972. Ray Tomlinson of BBN developed the first email program. It wasn't long before the growing network was being used as much for personal communications among its operators as it was for official business. Many operators had personal email addresses and often sent messages to one another about science fiction. The first email list was created allowing for early "mass" mailings. Among the first groups to receive these messages were the "SF-LOVERS." Around this time the Advanced Research Projects Agency was re-named Defense Advanced Research Project (DARPA).

In 1973 a team headed by Vinton Cerf and Bob Kahn began work on Transmission Control Protocol/Internet Protocol (TCP/IP), a more sophisticated method of transferring data over a network. TCP/IP converts packets into streams of digital data that are able to intermingle with other packets while traveling over a network. Because each packet carries the address of the sender and receiver, there is no chance of misdirecting the transmissions. The newly named DARPA found this protocol more favorable than NCP. With the adoption of the use of TCP/IP, the term "Internet" was first used by Vinton Cerf in 1974. Although the network continued to grow, data still flowed over telephone lines at a rate of 50 Kbs.

As the 1970s progressed researchers concentrated on faster transmissions of data over the expanding network. While doing research for the Xerox Corporation, Dr. Robert M. Metcalfe and D.R. Boggs developed the Ethernet, a local area network that used satellites and coaxial cable to broadcast data over networks. This allowed for data transmission at 10 megabits per second. In 1979 Metcalfe left Xerox and started 3Com, an acronym for the three words, computer, communication, and compatibility. Under Metcalfe's direction, 3Com went on to become a Fortune 500 company.

By the end of the 1970s a collection of newsgroups and discussion forums called the USENET began to take shape. Created by Steve Bellovin, a graduate student at the University of North Carolina, and programmers Jim Ellis and Tom Truscott, the USENET used UNIX-to-UNIX Copy (UUCP) as its transmission protocol. USENET is very much alive today with thousands of discussion groups in existence. Long time users of the medium often consider themselves among the Internet elite. The USENET played an important roll in shaping the terms of netiquette and many of the unwritten standards of behavior used on the Internet, and in time, on the World Wide Web.

The 1980s saw the establishment of standards both official and informal for the Internet. In 1983 the Internet Activities Board was created. Additionally, ARPANET decided that any computer operator wishing to utilize their backbone would be required to use TCP/IP. To make network communications easier, the University of Wisconsin created the Domain Name System (DNS). This allowed users to access servers by directing packets using names which were assigned IP numbers. The majority of transmissions on the Internet were still at 50 Kbs.

It's interesting to note that despite the fact that the federal government developed the Internet, the majority of computers that connected to the network were owned by universities and corporations. The taxpayers subsidized very little of the growth of the medium after its initial launch. Each computer owner joining the network paid for his own development. And as more computers connected, the network became more powerful and popular. The medium feeds on itself.

## Picking Up Speed

In an effort to increase data speed transmission, the National Science Foundation, contracted with MCI in 1984 to upgrade CNET, a backbone independent of ARPANET. MCI came up with the T-1 line, a type of cable that

allows for the transmission of data at speeds of 1.5 Mbps. Additionally, IBM provided much of the hardware that routed traffic around the network. The Internet's backbone was growing. The project was scheduled for completion in 1988. With so many new players joining the expanding network, a method for identifying entities online was developed. Domain names were assigned suffixes such as gov, edu, org, com, and net.

No sooner than the T-1 line project was completed in 1988, were plans underway to upgrade the system with the T-3 line, which could accommodate a 45 MBPS connection. In 1990 the Department of Defense dissolved ARPANET and replaced it with NSFNET, the backbone jointly developed by ARPANET and the National Science Foundation.

Also, in the early 1990s Tim Berners-Lee, working with a European consortium called CERN, introduced the hypertext system to the Net. Software developed by Berners-Lee allowed users of the Internet to view a wide variety of documents created by different software applications. By combining the Internet with hypertext he created hypertext transfer protocol (HTTP), and hypertext markup language (HTML), as well as the first Web browser called World Wide Web. This was initially done because Berners-Lee himself had so much difficulty accessing documents online. He made his programs available on the Internet. People began using the protocol and developing browsers of their own. The World Wide Web had been born. Tim Berners-Lee is the founder of the World Wide Web Consortium, an organization that works to provide direction and unity to the Web.

## Internet vs. World Wide Web

Though the terms Internet and World Wide Web are often used interchangeably, one can see that the Web is actually a sub-set of the Internet. For the most part, documents available on the Web are ones using hypertext transfer protocol (HTTP) and written in hypertext markup language (HTML). Until this system was developed, the Internet was used mainly by devoted computer enthusiasts with little focus on the medium's commercial potential. The Web changed that.

As the 1990s progressed, interest was growing in the Web. Despite the fact that random individuals were creating primitive Web browsers designed to view HTML documents, there was still no easy way for the average person to access much of the information available online. In 1993 Marc Andreessen, working with the University of Illinois and the National Center

for Supercomputing Applications, created a Web browser called Mosaic XX. Andreessen later went on to start Netscape Communications with SGI founder Jim Clark. Netscape Navigator, the first practical Web browser available to the masses, brought the World Wide Web to the world.

The backbone for the Internet is no longer maintained by the earlier supporters of the network such as the Department of Defense or the National Science Foundation. Though these organizations still play a part in the ongoing business of the Internet, it is private carriers such as AT&T, GTE, MCI, and the many other telecomms that support the giant network. The Internet has existed for more than 30 years but the Web is virtually a baby. It's no secret that the medium has become a commercial goldmine for some, and is sure to create many fortunes in the future. Just about anything anyone could ever want in a material sense can be found on the World Wide Web.

From time to time I hear the question, "Who owns the Internet?" The answer is anyone, no one, and everyone. The theory behind the Net's original design still holds. That is, there should be no central or controlling unit for the network. And I think that is what makes it great. Our government might try to regulate it, but how can anything that spans the entire globe be regulated? And if it were regulated, how could the laws be enforced? For example, there has been some noise about restricting online gambling in this country and Web casinos simply moved offshore. I think that was a lesson to some politicians that this thing is just too big to tackle, at least for now. But why try to analyze it? It's here, and it's loaded with interesting and fun things to do. It provides unlimited opportunity for those willing to learn how it works. Why not simply enjoy it?

So, is it any clearer as to who invented the Internet? For my money, I'd have to say it was Paul Baran while working for the Rand Corporation. He came up with the original idea. But it's obvious that no one individual can take credit for inventing the Internet. The medium as we know it today has evolved greatly since its inception in 1969. And the Internet, especially the World Wide Web, is still very much in its infancy. Many people contributed to the creation of both the Net and the Web. It should be fun to watch where they go from here.



## WHO OWNS IT?

### A Look at Intellectual Property Rights on the Internet

The Internet has been called many things. Offhand, the one that first comes to mind is, “the last frontier for freedom.” Perhaps this is because the medium has yet to become excessively encumbered with laws and restrictions. Some refer to the World Wide Web as a “free for all.” Usually this particular phrase is voiced tongue in cheek, and for Internet critics, it’s often repeated with contempt. I mention the word “free” in the opening remarks of this piece for a purpose. The idea of the Net being the last frontier of freedom may be in jeopardy for several reasons. Let’s look at them.

The Internet is overflowing with free offers. Commercial Websites, in an effort to attract visitors to their sites, are giving away all kinds of things. Magazine subscriptions, Websites, cameras, clothes and computers are just a few of the freebies being offered. But it’s not promotional offers that threaten some of our basic freedoms. There’s something else going on, and if it isn’t brought under control, the regulators will be more than happy to apply a few speed bumps to the last frontier.

What I’m talking about is, the misappropriation of intellectual property. Intellectual property is a piece of artistic work created by someone and protected by a trademark, copyright, and occasionally a patent. A few years ago, as the Internet was making its way into mainstream America, I heard that anything published on the Web was exempt from copyright protection. I quickly did some checking and was relieved to learn that wasn’t true. For a moment I became just a little concerned.

But what if it were true? As of the middle of the year 2000, there were more than two billion Web pages in existence. Without protection from copyright theft, the Internet would make for an enormous database of material for individuals or companies seeking something for nothing. Never before has it been so easy to claim another’s work as your own. There are companies that spend thousands, sometimes hundreds of thousands of dollars to

create state-of-the-art Websites. And for about \$100 anyone can buy a software program that allows the user to download the site to disk, change the significant individual company information, remove any obvious trademarks, and publish the site as their own.

The question in my mind is this, “is this okay?” Technically speaking, there aren’t any laws keeping people from doing this, yet. But aside from the use of unabashed creative license when it comes to Website design, there are more serious issues at hand.

At present, there is an international dispute simmering over the free distribution of copyrighted music and video over the Web. And it presents an interesting dilemma. In the spring of 2000, a company called Napster went into business. One of the co-founders developed a software program that allows the fast and easy transfer of MP3 music files over the Internet. At first glance one might think this was another milestone in the ever-growing world of technology. And that would be true. It’s the application of the software that has the music and movie industries in such a tizzy.

What Napster has done is actually quite clever. Using the Internet, they’ve formed an association of people who wish to both borrow and lend music to other people in the association. It works like this. When an individual signs up for membership, he provides Napster with a list of music he is willing to allow others in the club to download, using the software developed by the company. In exchange for this, he has access to all of the music offered by the other members. Each member downloads the software from the Napster Website, which includes a directory of available tunes and an online chat forum. This way, members can find out who has the music files they are looking for, and who is currently online making them available. It’s like an international music library with an unlimited supply of inventory.

What this does is allow people to download entire music CDs and collections and make copies to keep. The music industry and many recording artists feel this is outright piracy. The company contends that the arrangement is simply a big music lending co-operative. One might easily get the impression that once an individual has paid for a legitimate copy of a CD, that it is his to do with as he pleases, including lending it to another. I think the question comes down to this, is he really lending it? The argument can be made that he is, and be compared to the arrangement book borrowers have with libraries, but very few people have ever borrowed a library book, and made a copy before returning it. To do so is against the law.

It seems both sides have valid points. Is the digital transfer of music a violation of the law? We know that to sell the music file would be a violation. But no one is selling anything. With every new wave of recording technology

that has come along, from early tape recorders to audio and videocassettes, the holders of the copyrighted materials felt their livelihood threatened. In reality however, piracy was discouraged because of the difficulty in mass duplicating audio and videocassettes. But the Web changes everything. Mass duplication of music is occurring, even if it happens one recording at a time over the Net. And the bottom line is, the people who created the music are not being paid for their work.

A Federal judge has ordered Napster to stop the facilitation of the music downloads. The company was granted a last minute stay of the order. Everyone concerned awaits the final outcome. It almost goes without saying that this issue will need to be resolved in the courts. Though digital duplication hasn't presented a threat to the book publishing industry yet, at least on a large scale, it's possible we'll see similar conflicts arise here as well. And this all comes back to the point I made in opening. When people give cause for governments to regulate or restrict something, politicians on both sides of the aisle are all too happy to oblige. It seems only fair that both sides of the issue have their day in court. That's what this country is all about. I think we'll all be able to live with whatever decision the courts hand down. There are laws that address copyright infringement now, and if it's decided that's what is happening, let it be so. Politicians always seem to want to create more laws where existing ones would work well if only enforced. In my opinion, that would be a shame. It would be a sad day to see more restrictions imposed on the last frontier of freedom.



**“This computer is very fast! It became outdated faster than any computer I’ve ever owned.”**

# THE TRUTH ABOUT ONLINE TRAVEL

*Does booking travel online automatically give you the best ticket price for your money? Understanding how tickets are written can be an eye-opening experience.*

Among the early successful business models the Internet has spawned, we find the travel industry. Despite the popularity and convenience of booking travel online these days, many travel agents are clinging to their very survival by precarious threads. The industry is presently undergoing significant changes for a variety of reasons, the Internet among them. Community based travel agencies everywhere are losing business to the Goliaths of the industry that can offer quick and easy Internet service. And if the dramatic increase in online bookings by travelers weren't enough, scores of mom and pop agencies have felt the pressure of commission reductions by all of the major airlines over the past few years.

## Industry Shakeout

Industry analysts predict a major consolidation of all travel agencies over the next decade, with only the strong surviving. The ability for agencies to accommodate customers online will play a major roll in who survives and who gets squeezed out. Is all of this good for the consumer? On the surface, it seems that it might be, but, as with any change in the way an entire industry conduct business, a closer look needs to be taken.

Many people assume that when they go online to an Internet travel agent and enter a destination, travel dates, etc., the agent's computer automatically returns the lowest fare. It's got to be, right? It says, click here for the lowest fare. This assumption can be costly. In fact, five of the exact same itinerary queries submitted to the top five online booking companies are very

likely to turn up five different prices. How can this be so? There are several reasons.

Regardless of how an individual makes travel arrangements, whether online or by calling an agency on the phone, the booking entity is usually a *retailer* of airplane seats, cruises, hotel rooms and auto rentals. This isn't anything new. How and where the agency gets its product will determine the end cost to the consumer. And there are an enormous number of sources for product. The price a customer pays for a ticket has a lot to do with how an agency is set up, what wholesalers or consolidators they use, if any, the profit margin they're after, and how they choose to treat their customers. For a better understanding of how travel services are priced, let's take a look at some of the resources retail travel agents have available to accommodate their customers. We're talking about live agents you might call on the phone, as well as automated online booking Websites.

Since most people use travel agents to buy airline tickets, we'll keep our discussion focused on the airlines, but the following principles also apply to hotel and auto rental bookings as well. The question in this business boils down to this: why is there such a difference in the price of an airline ticket? The answer is simple. It depends where the ticket comes from.

## Wholesalers

In the travel business there are three major wholesalers that supply products to the agencies. Each of these wholesalers have contracts with the airlines, and each of them maintain huge databases that track available inventory such as flight destinations, times, dates, etc. Additionally, they keep track of data on the availability of car rentals and hotels. The first place a difference in price might arise is with the wholesaler. The largest of the three might be able to get a slightly better deal with an airline and pass that deal along to a customer. This is not usually the case, as the big three have about the same clout in negotiating with the carriers.

So, again, why the difference in price? To start, *availability* of what you're after *and*, and this is where it gets good, the willingness of an agent to search out the best price. Please don't misunderstand. It is possible for a computer running a search on your ticket to come up with the best price. In fact, it happens about 60 percent of the time. Those odds aren't bad, but they're not great either. Despite the popularity and convenience of online travel agencies, it seems we always get back to the human element when we

seek the best price and service. When you check for a ticket price online, you get one shot for the best deal. When you give your request to a live agent, that person can explore a number of options the computer cannot or will not explore.

Only a well-trained agent can guarantee the best price when using one of the wholesalers - an agent who is familiar with the quirks of the computerized ticketing systems available through the wholesalers. Each one has a similar system (similar in that they all operate using databases compiled from the same raw information) yet each is different unto itself, and all of them are loaded with their own particular quirks. The large wholesalers have recently made efforts to modernize the various interfaces to their databases and make them easier to use. Yet, industry professionals have told me that a good deal of the bargain tracking ability of the system has been lost as a result of making them more user-friendly. This is the price we all pay for convenience.

There are other reasons for price discrepancies. Some travel agents don't deal with the wholesalers at all. Having a relationship with one of the big ones is costly. Among other things, an affiliation with a wholesaler means the agency will have to use the wholesaler's computer system, and post a surety bond. Of course there are benefits to using them, but all agencies don't see it that way. Chances are, an agent without a relationship with a wholesaler is dealing directly with the airline or with a consolidator. Lets look at these two options.

## Airlines & Consolidators

First, the airlines. Dealing with them may or may not get you a better price. Some airlines offer both consumers and travel agents seats that aren't made available to wholesalers. If your particular travel agent hits upon one of these fares, you've gotten yourself a bargain. It happens all the time. If an online automated service doesn't show that flight, or price, then you can bet that fare somehow wasn't available to them. Can an agency that does deal with a wholesaler *also* check with the airlines? Of course. And the good ones always do.

What about consolidators? These are companies (often big travel agencies) that buy blocks of tickets, in advance, for popular destinations and make them available to the public at a discount - sometimes a big discount. The airlines are willing to sell these seats to the consolidators for one reason: cash flow. It's simple business based on the "bird in the hand" theory. They

offer a good deal to the consolidator today, in exchange for cash today. The consolidator is able to pass the savings on to the customer.

You might ask, don't the online booking Websites have access to these cheaper seats. The answer is, sometimes. What it comes down to in the travel business is this: There are lots of variables to consider with ticket prices, and they are constantly changing. Even the best live travel agents have a tough time keeping track of all these variables. It's virtually impossible for an automated service to do it, especially when all available booking options aren't accessible to them.

The last item I'll address before offering a few constructive suggestions is the auction-type ticket seller. We've all heard of this. It's the name-your-own-price deal. And, like online booking, can be great. There is, however, fine print. You've named your price, it was accepted, so you confirm the ticket. Good. In addition to the price you got, there are also fees and taxes. Not a problem, this stuff was spelled out to you when you signed up for the service. But sometimes we forget exactly what it was we agreed to when we signed up, and now they're asking for \$60 more than my bid. What gives? Another thing, often tickets bought through the bidding process are not exchangeable - not even for the standard exchange fee. So if something happens and you can't make the trip, you end up eating the cost of the ticket. For many of us, no problem, for others, the right to cancel or exchange an airline ticket (even for a fee) is important. Just something to consider when bidding for a ticket.

## The Personal Touch

It's no secret where my bias lies when it comes to booking travel. I always opt for human assistance. This in no way means that cannot be accomplished online. Some of the best travel agencies out there have become much more efficient by going online. The benefit is, you email your request to them, and they get back to you either by phone or by email. In the meantime a real person does the necessary work in locating the best fare for you using one or more of the methods we've already discussed. Ah, personal service.

After finding you the best fare, an agent can have you confirm your reservation and accept payment online, by mail, or by phone with a credit card. And there's another bonus associated with using a live person to book your travel. Make sure you have them continue to check prices for your ticket, even after you've booked it. Often, if an airline offers a deep discount

on your destination after you've already booked, it can make sense to cancel your original booking, pay the cancellation penalty, and reserve the cheaper ticket.

Of course this only makes sense if the sale price beats the original price *plus* the cancellation fee. Often it does. The point is you don't even have the option of trying this online. Once you've booked your ticket at an automated Website, that's it. Good live agents are also good at asking if your departure and return dates are flexible. Sometimes a day's difference either way can save you a bundle. You can sometimes do this when booking online, but not to the degree that a live travel agent can work the system for you.

Reading this, one might get the impression that I'm against online travel agencies. First let me say this. I love the Web. I spend lots of time investigating online commerce and studying the way information is stored and delivered. But just because I have a passion for the medium, doesn't mean I blindly accept everything I hear about it. There are hundreds of Websites offering the best prices on all types of products and services. Sometimes they include travel, and sometimes not. The idea that you are going to get the best price on anything by making the purchase online is a perceived notion. It's the result of carefully planned and very expensive marketing by the travel industry. Marketing that, over time, is designed to benefit the industry leaders. But, as with all things, smart individuals will always seek a better way.

# THE INTERNET SHOPPERS GUIDE

*In the not-so-distant future, this is how virtually all shopping will be done. Understanding a little about the workings of online retailers can help to put you way ahead of the pack.*

According to the Gartner Group, an international information technology research and consulting company, sales of consumables online will reach \$119 billion by the year 2004. Compared to a gross domestic product of more than \$6 trillion in 1999, \$119 billion seems like a drop in the bucket. And it is. As much buzz as the Web receives has still not put it into the mainstream for a majority of Americans. In many respects, the Internet hasn't even begun to take its first baby steps. Buying products and services online is an area that, though gaining wider acceptance, still has a considerable way to go.

Why, you might wonder, during what is being called the Internet revolution, are people not more willing to shop online? I think the answer is uncertainty. It has been said, a confused mind always says no. Perhaps people are not quite in a state of confusion over shopping on the Net, but there seems to be a good deal of healthy caution when it comes to spending money online. In this section, we will look at some of the advantages, as well as the few drawbacks to shopping on the Web.

## E-Z Shopper

The most obvious benefit of shopping online is the convenience of having access to millions of retailers any time of the day or night from your home or office. Of course, the drawback is not being able to examine a product before buying. This too, was a concern in the early 1890s when R.W. Sears published his first mail order catalog. It wasn't long, however, before people came to know Sears as a quality retailer, trusting the goods he offered.

It took Americans some time before feeling comfortable shopping by mail. The same thing is gradually happening with Internet shopping. It's simply a matter of time before people feel confident seeing a picture of a product on a computer monitor before they will be comfortable buying it.

Many people who shop online will only purchase familiar items. In fact, some people do their actual shopping in traditional brick and mortar stores to determine the exact make and model of a product they want, then go online, find the best price, and buy the item there. Because so many online retailers are fighting to establish a customer base, they are often willing to dramatically undercut the prices of traditional retailers.

But there are more benefits to shopping online than convenience and price. The variety of products is enormous. If you're looking for something a little unusual, then the Web might be the place to find it. Because shelf space is at such a premium, brick and mortar retailers must stock only proven sellers. In 1998 entrepreneur, Craig Winchell came up with a board game called Conscience, designed to help parents teach their children the difference between right and wrong. Large toy retailers refused to stock the game because it had no track record. So Winchell sold it on the Net using various e-tailers such as Etoys. The game has proven to be a big success, selling tens of thousands of units.

## Online Shopping Benefits

- There is no sales tax charged for purchases online. With e-commerce becoming increasingly more popular both Republicans and Democrats seem to be in favor of extending the current moratorium on Internet sales tax.
- Shopping online helps the environment and makes you safer. Face it, a single online purchase, as opposed to a trip to the store, multiplied by millions of shoppers would reduce auto emissions considerably. Additionally, you aren't at risk of an auto accident or street crime shopping at home.
- Online merchants trying to convince you to shop with them are offering fantastic deals on all types of merchandise. Just to establish an online presence, many retailers are losing money on selected merchandise in an attempt to keep you coming back. Consider this the "honeymoon period" of e-commerce. It won't last forever.
- It's easy to comparison shop. When you've found something you like,

bookmark the page. Then, while still connected to the Net, launch your browser again. Find another site with a similar product and click the restore button in the upper right of your screen (this will shrink the page). You can size the page by placing your mouse cursor at the edge of the panel. When the little bi-directional arrow appears, click and drag the window until it's the size you want. Then go to bookmarks, and open the first site you found. You can position four or more individual pages onscreen simultaneously this way by clicking on the uppermost banner and dragging the window to the desired location onscreen.

- Stores offering discounts and sales will notify you immediately by email. You simply need to let them know you want to hear about such offers.
- There are hundreds of Websites specializing in giving away money saving coupons on both a local and national level.

As you can see, there are several benefits to shopping online. Why don't more people do it then? For the most part, they're afraid of being cheated in one of two ways. First, many think that if they pay for a purchase online their credit card number will be stolen and used by a thief. The second fear is that they won't receive what they ordered. These are both valid concerns. However, both can be overcome easily.

## Credit is King

When shopping on the Web, the wisest way to pay for a purchase is with a credit card. A buyer always has the option of disputing a charge when using one. If you've written a check and there's a problem, it could be impossible to get your money back once the check has been cashed. Why not let the credit card company take the risk? In fact, a company called Nextcard Internet Visa compensates cardholders for losses due to online fraud.

To avoid problems with your credit card, be sure the merchant has the ability to offer secure transactions. This means that when you enter your account number, it is encrypted before being transmitted. Even the CIA would have trouble using it without the appropriate decryption software. On the bottom of the ordering page, you'll find an icon of a key or a lock. This indicates the merchant uses encryption security. If there is no evidence the site is secure for credit card transactions, ask for proof that it is.

If you're afraid you won't receive your order, restrict your purchases to nationally known merchants you trust. Personally, I feel you limit your shopping options too much this way. If unfamiliar with a merchant, you can always ask them how long he's been in business, and can he provide you with a list of several satisfied customers. Merchants understand your fears and want to help. Legitimate retailers will be more than happy to do whatever they can to make a customer feel comfortable.

## Web Watchdogs

There are a few other measures you can take to make your online shopping experience safe. Look for merchants that display a seal. Because the medium is so new, you might not recognize some of them. The *Web Assurance Bureau* has been operating since 1995 and maintains a database of customer complaints you can check along with the action the merchant took to correct the complaint. There's also the *Public Eye*, *Web Trust*, *Gold Certified Merchants*, and *Platinum Certified Merchants*. For dispute resolution concerning an online transaction, you might check with [iLevel.com](http://iLevel.com).

For anyone thinking of making his or her first purchase online, it might be wise to start small. Perhaps your first online purchase should be a book rather than a Buick. It's easy to get carried away. You'll also want to ask about shipping costs. And find out what the business does with your personal information. Unless you don't mind calls from telemarketers and tons of commercial snail and email, you should make it a condition of the sale that the merchant not sell it. There is usually a privacy policy posted somewhere on the Website, read it before buying.

Find out about guarantees, warranties, and return policies. For example, because many online hardware and computer retailers sell computers at such low prices, they charge as much as a 20 percent restocking fee for returns. You should know this before buying. Finally, keep good records. Consider using a journal listing all of the vendors you've visited and requested information from. And when you do buy something, save the order form to disk and print out a copy for your records. Following these simple tips can help you on your way to a happy and productive Internet shopping experience.

# THE TRUTH ABOUT INVESTING ONLINE

*Can making a killing in the stock market really be as simple as opening an online trading account? Madison Avenue would like you to think so. Perhaps you should take a closer look.*

Ever wonder if investing on the Internet is as simple as the many television commercials for the online brokerages make it seem? Some of us know the answer from up close and personal experience. Yet, if we buy into the concept, becoming a successful online stock market investor is simple. All you've got to do is set up an online account with one of the many brokers who are able to execute trades on the various stock exchanges out there, right? There must be more to it than this. Well there is.

Just about anyone with a pulse has noticed a lot of interest in the stock market over the last several years. There is a good reason for this. The markets have been up dramatically for much of the last decade. To put it in market lingo, It's a bull market, baby. And right in the middle of the hottest stock market the country has ever seen, comes this thing called the World Wide Web. Wow, if the two concepts weren't made for each other, I don't know what was.

It's really interesting watching some of the TV commercials for the online brokers. One would think that beating the market is as simple as just clicking a mouse. And with capital placed in almost any growth oriented technology company or fund, making money in the market has been pretty simple compared to other periods in history. Presently there are more new investors in the market than at any other time since markets began trading stocks. And for many of these market newbies, their only link to a licensed broker is through a personal computer sitting somewhere at home or the office. Is this a good thing or a recipe for disaster?

The truth is, during a bull market, well-placed capital has a greater likelihood of begetting more well-placed capital. It has nothing to do with how

the buy and sell orders are placed. For many large brokerage houses the Internet has become a blessing. It means they don't have to keep as many brokers on hand as they might without the medium. The marketing done by many online brokers makes it seem like one simply has to open an online account to become a successful investor. Can it really be that simple? Let's look at some of the so-called advantages of investing online.

## Free Research

All of the online brokers offer free research. That sounds good. But take a look at the Internet for a moment. If nothing else, the World Wide Web has got to be the biggest interactive library or information depository the world has ever known. When an online broker boasts "free research on over 10,000 companies" they aren't offering anything that isn't available all over the Net already. Sure, there are exclusive services an investor can pay for to get additional information, but this is not the stuff the online brokers are using to attract customers. Many are offering the same information that most people got access to when they signed up for Internet service.

## Charts & Quotes

Another of the benefits offered by the online brokerage community is free charts and quotes. Hmmm, you say. That can't be bad. It isn't. It's just that, again, this stuff is free on hundreds of Websites. Wait, anyone can get a quote online, but it won't be a realtime quote. It's likely to be a 15 or 20 minute time-delayed quote. And what good is information that's 15 minutes old in a market that can move 100 points up or down in a matter of minutes? So, the online brokers offer customers the benefit of realtime quotes. Good deal, right? The truth is that there are plenty of Websites offering free real time quotes. You'll have to answer a few questions and submit those answers to get a password that will allow you to access the service. But that isn't any trouble. So if research, charts, and quotes are free, what *are* the online brokers offering?

## Rapid Order Execution

How about the ability to execute a trade online quickly? Well, there's some merit here. But, as with everything else, this too, has its drawbacks. In a fast moving market, orders to buy and sell stocks and options come in quickly. In fact, when you sign up for a trading account with a broker either online or one you deal with in person or on the phone, one of the first disclaimers the firm will make, in writing, is, they are not responsible for orders not executed due to high trading volume. So, we're back to square one. I've talked to many people who have actually had online trades confirmed, only to find out later in the day the trade had not actually gone through. This does happen occasionally with a live broker, but it is rare.

## Customer Service

Another claim made by the online firms is great customer service. This is almost laughable. The real life translation of this claim is, if all attempts to make a trade online fail, you can place a trade with a live broker. The problem here is, it's rare to get the same person to help you twice, and they are not at all service-oriented. In other words, there is no advice or investment coaching available with the majority of online brokers. That part of the service was covered with the free online research you get.

## Deep Discounts on Commissions

There's got to be something good about trading online. What about those deep discount commissions? Yes, the commissions are less than what you'd pay with a full service broker. Sometimes a lot less. However, a good live broker can consistently beat the discount commission by getting an order filled in the spread. That simply means at a price better than the posted price, whether buying or selling a security. It's called a limit order. You can place limit orders online, but in many cases you will sacrifice the discount commission.

It seems I'm against trading online. In most cases that's true. There are experienced investors who do very well trading online. Notice I said ex-

perienced investors. I don't feel that trading online is something a new investor should do until he understands exactly what he's up against. If you're a new investor making more than six to eight trades a month, you probably need a live broker, at least for a while. If you are depending solely on your Internet firm to place timely buy and sell orders for you, it's simply a matter of time before a misunderstanding occurs.

As with most things in life, there are exceptions. Here they are. If your trading volume is light, and you are buying stocks for the long term, it might be worth it to trade online. The savings in commissions could be to your benefit. Along those same lines, if you want to maintain a self directed IRA, one where the majority of your investments will be kept for the long haul, then perhaps an online account would be sufficient. For investors using the buy and hold strategy, quibbling over an eighth of a point when buying or selling can be silly. Momentum players abound in today's market and a fraction of a point can make a big difference when trading heavily. For the long-term investor, the money is made in growth not fractions.

## Momentum Trading

My intentions in this section were to shed some light on some of the enthusiastic claims being made by the online brokerage companies. As I said, for some, they can be just fine. Many people would be better off with a live broker who understands her client's needs. Having said that, I want to briefly discuss a phenomenon that has taken the market by storm and it is directly related to the Internet.

If nothing else, the Web is a wonderful tool for communications. There are hundreds of thousands of interactive Websites, bulletin boards, chat rooms, and of course email. It so happens that much of the movement in any particular stock is derived from news. If it is rumored that a particular company will beat earnings estimates, will launch a new product, hire or fire a CEO, or is under consideration for a takeover, the news alone can cause the stock to move dramatically. Both the upward and downward moves a stock makes are called momentum. And an interesting thing has developed with the rise in popularity of the Internet. People can often create momentum in stocks by simply repeating news online.

There are email services that will mail anyone who wants it the "pick of the day." Usually the pick of the day is based on some newsworthy item about to happen, such as an earnings announcement for example. As the list

of email subscribers becomes larger, the pick of the day becomes more subject to price swings or momentum. The logic here is simple. The more subscribers, the more people who'll buy the stock based on the pick, thus driving the price up. The pick of the day becomes a self fulfilling prophecy.

This type of activity has become very common online and has created many fortunes. One first becomes familiar with an analyst and his record, and buys the "pick" at the appropriate time. The rumor or prediction being touted is almost secondary to the frenzy that can be created when the herd gets behind a stock. Of course, there comes a time in every momentum play that the herd changes direction. That's the downside. Momentum works both ways. It's as though someone stands on the country's highest mountaintop with a super powerful megaphone and shouts, "We're in." The buying begins and can become outrageously crazy. Then all of a sudden, the same person shouts, "We're out," though not nearly as loudly as the "We're in" announcement. Remember playing Old Maid? Unfortunate investors sometimes get stuck holding the bag.

Momentum traders were around long before the Internet became popular, but getting the word out on a stock was much tougher in the past and it took a lot longer for the momentum to build. Using the Web to move market rumors around the country can have dramatic effects, sometimes immediately. Am I suggesting that anyone should go out and try to capitalize on this type of thing? Certainly not after reading this little piece. Is there money in this type of trading? Yes, lots. Can it be risky? Yes again. Might it be somewhere to focus your online energy? Only you can tell.

# AVOIDING WEB FRAUDS & SCAMS

*The vast majority of online merchants deliver what they promise. Learn what to look out for in the ones who don't.*

The Internet may not be the last frontier but it certainly is a new one. And anything new is sure to attract not only the curious, but the devious as well. The greatest fear people have when it comes to shopping online is that their credit card number will fall into the wrong hands during data transmission due to faulty or non-existent security by the merchant.

Surprisingly, online shoppers are more concerned with their credit card numbers falling into the wrong hands than they are about downright deception by the merchant. That should not come as a great surprise as Americans, for the most part, are a trusting people. But there are individuals in cyberspace who see the Internet as a medium to make a quick buck without delivering anything in return. Our focus in this section is to learn to recognize such scamsters and avoid being among their victims.

Virtually every type of fraud perpetrated on the American public since the first settlers set foot on the North American continent is alive and well in the year 2001. The Internet is simply another medium that crooks will attempt to use to run age-old schemes and their modern variations. Unfortunately, the single factor that allows shady operators a foothold is often our own greed. The old saying bears repeating here, if it seems too good to be true, it probably is. Lets first take a look at where the scammers are concentrating their efforts.

According to Internet Fraud Watch, the bad guys pulled in \$3.2 million in 1999 deceiving people online (actually a small percentage of total online sales). The following is a breakdown of frauds perpetrated in 1999 listing the product or service, the home state of the fraudulent company, the method of payment used, and the age groups of the victims.

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## Fraud Statistics

1. Online Auctions 87 % of the money stolen was due to people not delivering a product or service to the winning bidder of an online auction
2. General Merchandise 7 %
3. Internet access services 2 %
4. Computer equipment and software 1.3 %
5. Work-at-home-scams .9 %
6. Advanced fee loans .2 %
7. Magazine subscriptions .2 %
8. Adult products and services .2 %
9. Travel .1 %
10. Pyramid/Multi level marketing .1 %

### *The top five states where fraudulent companies were located:*

1. California.
2. Florida.
3. New York.
4. Texas.
5. Pennsylvania.

### *The most common method of payment used by victims:*

1. Money order.
2. Personal/business check.
3. Cashiers check.

### *The age groups of the victims:*

1. 40 to 49.
2. 30 to 39.
3. 20 to 29.
4. 50 to 59.
5. 60 to 69.

Looking at these statistics, it seems the vast majority of fraud occurring online is by individuals and not companies or organizations. The numbers weren't available for the breakdown of auction sellers operating as companies and those selling as private parties. But sellers using online auctions seem to be comprised of private individuals and small one-person home based commercial enterprises.

Much of what needs to be done to avoid becoming a victim is common sense. It really comes down to careful due diligence. In fact, performing due diligence online is probably easier and less stressful than in the physical world because you can avoid the pressure of a live sales person pressing for your decision now. When determining whether or not to do business online, it pays to take your time in checking out the merchant. Let's look at some of the ways you can protect yourself when making a purchase online. We'll go through most of the items on the list.

## Auctions

Online auctions can be a great place to pick up bargains, but obviously one needs to exercise caution when using them. The largest auction Website is Ebay and they have several precautions buyers can take to reduce the chance of fraud. First, they maintain profiles on both sellers and buyers. Ebay allows you to look at a seller's profile before making a buying decision. The company uses a point system for buyers to rate sellers. +1 indicates a positive experience. 0 indicates neutral and -1, a negative experience. Basically, this tells a prospective buyer if a seller is in good standing with Ebay. They also provide a feedback section listing the number of people who've done business with a seller, along with remarks from previous buyers about quality of merchandise, promptness of delivery, and whether a buyer would recommend the seller to others.

Every Ebay buyer automatically receives up to \$200 in insurance (minus a \$25 deductible) against non-delivery of products, or merchandise that is not up to the standard described by the seller. In addition to insurance, they have an escrow service, where a seller can send her payment until she determines whether she wants to keep an item. And finally, they have a dispute resolution division, where buyers and sellers can work out issues that may arise using mediators.

It would seem that the resources to avoid trouble are all in place, but a determined crook can sometimes circumvent even the most stringent secu-

rity measures. Many sellers provide email addresses when advertising. It may be prudent to drop them a line and try to get a feel for what type of person they are. I realize this might sound a bit naive, but often, your gut feeling can help you to make the right decision. And remember, if an offering sounds too good to be true, it probably is.

## General Merchandise

Here we're talking about anything from housewares and apparel to books and camping gear. Seven percent of the fraud reported in 1999 fell under the category of general merchandise. When trying to minimize the risk of making a purchase, think of the things you'd look for in a brick and mortar merchant. First, how long have they been in business? Because the Web is a relatively new medium, you might find the seller has only been operating a few months. Is this a reason to avoid them? Not necessarily. Ask if they can provide a list of at least three satisfied customers. A legitimate business should be happy to oblige. Any hesitation here by the merchant should send up the first red flag.

With a brick and mortar establishment you can inspect the physical location and determine a lot about the type of operation the proprietor is running. Online, you need to judge the merchant solely by the Website. There are two considerations here. First, if the site looks like it was designed by an amateur, that could be a sign to shop elsewhere. Though not always cause for concern, an unprofessional appearing Website could mean trouble. Secondly, a Website that looks great could be just as dangerous. It isn't hard or all that expensive to create a great looking site. The point is, it's difficult to judge an online merchant solely by the appearance of his Website.

So let's look a little closer. What type of payment does the business accept? If they take credit cards you'll want to be sure that your transaction will be completely secure. By completely secure, we want all aspects of the transaction including name, address, credit card number, and all other personal information to be encrypted so it would be useless to a thief if intercepted during transmission.

Don't simply accept the merchant's word that transactions are secure, check it out. How? Somewhere on the ordering page, there should be a small key or lock icon or banner stating the name of the vender supplying the encryption security. Click on this link and inquire about their security methods. If there is no link to a security service, ask the merchant who he uses. By the

way, paying by credit card when shopping online is the best way to go because if there's a problem with your purchase, you can always dispute the transaction with the card issuer. The most common method of payment for people who had problems buying online in 1999 was money orders and checks.

In addition to secure payment, you'll also want to be clear on shipping charges as well as the terms and conditions surrounding your purchase. Can you return it? Under what conditions is it returnable? Is there a warranty? After the company has received payment, how long will it take to arrive? Does your purchase involve a service contract? Reputable online merchants should be able to offer the same level of quality and service as retailers with a physical location. One exception might be an online company specializing in closeouts or refurbished goods. These are usually sold on an "as is" basis. If you have trouble getting answers on any point that concerns you, it's probably a sign to keep shopping.

One way to avoid problems is to deal only with merchants you are familiar with. I feel you'd be narrowing your shopping options considerably, but if you only feel comfortable with names you recognize and trust there's no reason to shop elsewhere. Once again, when considering any purchase online, step back, look at the big picture, and ask yourself, is this too good to be true? If you feel it is, you're probably right.

## Internet Access Services

There are a wide variety of service arrangements offered online by both ISPs and Web hosts. I've seen companies offering a lifetime Internet connection for a one-time charge of \$999. Could that be legitimate? It could, but before I signed on the dotted line I'd want to see some kind of track record for the company. How long have they been in business? How many subscribers do they have? What type of equipment do they use? What are their plans for upgrading their equipment? How fast can they get you connected? What is their total percentage of downtime? How many customers have taken them up on their lifetime offer? If you happen to live nearby, can you tour their physical location? Any hesitation on the part of the company in answering these questions warrants a pass in my book.

If you're in the market to put up a Website, a major consideration with Internet hosts is, are they a primary provider, or a reseller of service? Many large Web hosting companies sell blocks of Web space to resellers at a discount. For example, a large Web services company might sell someone

enough space to host 50 unlimited Websites for a flat rate of \$200 per month. The buyer of such a deal can then offer Web hosting on his own site at any price he can get, say \$39 per month. He acts as an agent for the larger company. Often this is okay, but the reseller might not have the means to provide technical support and service to customers. You might ask, what does Web hosting have to do with ISPs?

Large ISPs may make the same type of arrangements as the Web hosts. They sometimes sell blocks of service to independent companies who resell individual service contracts. This is a common practice in a small resort community near me. Vacationers visiting the community for a few weeks wanting Internet access can sign up for service with a merchant in the community for \$25 per month. The merchant is buying that access for \$15 per month. As long as everyone is happy there's no problem.

The main area of concern with ISPs and Web hosts is paying a large sum upfront for an extended service contract. You can often get a great discount for doing so, but you've got to be certain the company will be around to deliver the service. How can you be sure they'll be there? The only way is to check them out thoroughly and make a decision based on past performance. Be especially careful when paying for anything upfront online, or anywhere else for that matter. There are lots of reputable hosts and ISPs out there. Ask a satisfied friend who they use. In fact, if you are willing to put up with a relatively small banner ad on your screen, you can get Internet access as well as hosting for free. Nothing to lose there.

## Computer Equipment and Software

What better place to buy the tools of the trade than online, right? Maybe. One thing the consumer has in her favor when it comes to purchasing hardware and software online is, many of these vendors have been around long enough to establish a reputation. Some have been in business online since 1994, a lifetime on the Web. Another advantage to shopping online for computer hardware (and sometimes software) is the market is highly competitive. This means the best price for the consumer.

As we've already discussed, don't judge a vendor by how flashy the Website looks. Try to determine important things like, their length of time in business, are their customers satisfied, do they offer guarantees and warranties, what are the shipping costs, can you return the product if you aren't happy with it, do they offer the option of paying by credit card, and is the payment secure?

## Work at Home Offers

You've seen the ads, "Assemble Products at Home" or "\$1 for Every Envelope You Stuff." Are these offers legitimate? Some certainly are. These types of promotions have been running in magazines for years, so it isn't surprising to see them on the Net. What you'll often find are companies selling an expensive kit you'll need to do the work. Another thing to be wary of is, are the products in demand, and is the pay the company is offering too high for the easy work they promise?

Another ploy used by some companies is to get an interested client to a seminar to tell them about the opportunity, and then pressure them into making an on-the-spot decision. There are some very legitimate home business offers to be found online. Most however, are not as easy as the promoters will make them seem. Surprised? This is perhaps the category where the question, "is this too good to be true" applies the most. There are a few precautions you can take to minimize problems in this area.

1. Get a written description of the exact work as well as the pay you will receive.
2. Read and understand any contract you are asked to sign.
3. If you are unclear about anything in the contract seek professional help.
4. If any promise is made verbally, insist it be included in the contract.
5. Many companies offer a money back guarantee. Understand what you must do to get your money back, and be sure this too is in your contract.

## Advanced Fee Loans, Credit, Credit Repair

Offers to secure financing of all types have been very popular over the past year. Everything from secure credit cards to first mortgage loans are available online. In fact, the number one unsolicited email offer (a nice way of saying spam) of late has been for credit of every imaginable variety, second only to "Get out of debt" and "Credit repair."

Perhaps the cardinal rule of purchasing anything online is, don't send money upfront without knowing exactly what you're getting and exactly who

you're dealing with. Many companies, for a fee, promise to submit your loan application to scores of lenders. They make no guarantees about approval. Does this mean they aren't running a legitimate service? Not at all. I'm simply saying what I've been saying all along. Know who you're dealing with. Find out what their success rate has been by talking to clients they have helped in the past. Check with the Better Business Bureau and your State's Attorney General to see if there have been any complaints or legal actions taken against them.

As for mortgages and home equity lines of credit, the only upfront fee that is customary is the credit check and appraisal. And the mortgage market is so competitive right now that most companies are either willing to waive those fees, or add them to the loan amount, if and when the loan is approved. It goes without saying that you should closely investigate any company offering mortgage loans. Read carefully the loan application and any loan documents. Verify all promises regarding interest rates, origination fees, pre-payment penalties and the term of the contract. This would probably be a good place to bring in an accountant or attorney to help if you are unsure of the many particulars.

Credit repair is another popular service offered online of late. We've talked enough about checking out the company, so we'll get to the nuts and bolts. You should receive a summary of all the work the credit repair company is promising to do for you. Don't be fooled by claims that the agency will wipe out all of your debts and establish a new Social Security or Tax ID Number for you. They can't, not legally anyway. Don't pay any upfront fees. If you actually owe money to a merchant, you're probably going to have to pay it or declare bankruptcy.

What a credit repair company can do for you is write to credit reporting agencies asking them to remove erroneous data from your file. They can also write to creditors asking them to help you set up a payment plan that is more suitable to your budget. The creditors will want you to send them your credit cards cut into little bitty pieces, before they'll give it a try. These are probably things you can do on your own, without incurring the cost of the service. However, for some people, having the support of a credit repair agency gives them the feeling they are not fighting the battle alone. Can such support be worth the cost of the service? Absolutely. What I'm saying is, do your homework in checking out a prospective agency.

## Magazines

There are many legitimate magazine offers online. Some offer a two or three month trial period for free. If you don't cancel at the end of the trial offer, you'll be billed for an entire year. This is nothing new. Subscription services have been doing it for years.

The real problem with online magazine subscriptions is people often don't realize that they are signing a contract to receive a magazine or group of magazines for a long period of time. President Clinton recently signed legislation that makes entering into a contract online just as binding as one made face to face. So the bottom line here is to understand the terms you're agreeing to.

## Pyramid Schemes & Multi-Level Marketing

What would a piece on Internet fraud be without pyramid schemes? Simply put, a pyramid scheme or Ponzi Scheme as it is sometimes called, is an arrangement where you give your money to someone with the agreement that you'll get it back, and then some, when you get other people to put up their money. This is also how multi-level marketing (MLM) works with one major exception. With MLM, there is an actual product or service being sold. With a pyramid, the idea is to recruit members, who will recruit more members, who will recruit more members, etc. There is no product behind a pyramid scheme, at least not a product that anyone would buy without the fantastic promise of making easy money. As long as the recruiting continues, everybody is happy. As soon as enough people tire of the process and stop bring in new members, the pyramid collapses, and the folks on the bottom (the newest players) get crushed.

Once you have the ability to recognize such an arrangement, it isn't hard to weed out real opportunities from the bogus. Many pyramid schemes pretend to offer products such as mailing lists of opportunity seekers (people they claim who would be likely to join the fun) or useless newsletters.

Multi-level marketing is different than the pyramid scheme in that there is a legitimate product or service being sold and people make money from the profit generated from real sales. There are hundreds of honest MLM companies doing business on the Internet. The reason MLM is mentioned here is because it so closely resembles the pyramid scheme. MLM isn't without its critics however. Many are poorly conceived, short-lived ideas that

experience an explosion of early activity. This often makes the founders of the company very rich along with a few of the early players, but members in distant downlines can often be left holding the bag. As with everything else we've discussed, do your homework when considering any opportunity online.

For the most part, products and services offered online are of high quality and will be delivered as promised, same as in the physical world. However, it only takes a few crooks to put everybody on alert. Perhaps, in an odd way that's a good thing. It makes us more aware of who we're dealing with as well as forcing us to ask questions we might not think to ask otherwise. The following is a list of items a prudent shopper will always consider when buying online:

- How long has the company been in business?
- Can the company provide references or a list of satisfied customers?
- Don't be overly impressed by a slick Website.
- Can the company offer secure credit card transactions that are encrypted?
- Paying by credit card leaves a shopper with the option to dispute the charge.
- Read and understand any contract before signing.
- Get any verbal promises written into the contract.
- What is the company's policy on returns?
- How much will shipping cost?
- What company will ship the merchandise?
- Is there a guarantee or warranty on the product?
- If uncertain about any item in a contract, seek professional advice.
- Don't pay for products or services upfront without satisfying all of the previous points.
- If it sounds too good to be true, it probably is.

# E-COMMERCE CLOSE-UP

*Opportunities abound as this wonderful medium called the World Wide Web blossoms. Here are some insights on what's really happening.*

While traveling from the San Diego airport to a hotel in La Jolla recently, I couldn't help but notice several ads and sign banners along the road promoting Websites of various businesses. I imagined myself waking up after being asleep for 10 years and finding all of these interesting "dot com" commercials everywhere. What would a stranger who's been out of touch think of this? What could this be?

Obviously the Internet isn't going away. Even marketing genius Bill Gates had to do a double take a couple of years ago and re-evaluate his opinion of the Internet. He decided it wasn't just a fad as he'd previously thought, and made a major effort for Microsoft to gear up to capitalize on the many opportunities available there.

Was Gates late to the game? Hardly. As a medium that will serve many functions, the Internet is still in its infancy. I've heard it said by would-be entrepreneurs "all the good domain names are taken." On that point, I'm a little dubious. Currently, conventional wisdom says that unless you have a .com domain, you're likely to be considered a Johnny-come-lately or a newbie, to use the vernacular of the times. Sure, a .com URL might be an indication that a business has been around awhile, but the purist attitude that goes with having an exclusive .com suffix to your domain name will soon seem silly. Does anybody shun a free toll call because the number doesn't begin with, 1-800? Of course not.

## Early Leaders

E-business is a new animal. Sure, many large Internet companies are fighting tooth and nail to establish a presence that will be a lasting one, but

what does that mean to the small time operator? Very little. To make a very respectable living, even a fortune, doesn't mean having to compete with the big dot coms. In fact, smaller online businesses have advantages that the big guys don't. But even if it did mean competing, many of today's Internet leaders will probably be little more than a memory in the not-so-distant future. Think back to the early days of Personal Computers. There were dozens of companies offering their own versions of home computers.

Some of us can remember back to the early 1980s when computers like the Sinclair ZX Spectrum or the British-made Dragon, or the Vetrex were introduced. How about the Epson HX20, or The Corvus Concept? Some of these computers promised to be *the* future. My first experience with a computer was in 1982 when Sinclair teamed up with Timex and offered a mail order computer for \$100. It came with instructions for programming! I thought it was pretty cool. I remember working my way through a couple of the exercises in the manual and programming the thing to function as a clock. Of course this was after connecting it to a TV set so I could view my work. Wow!

My point here is, most of the early home computer pioneers didn't become industry leaders, and the same thing is likely to happen with early Internet pioneers. Some will be swallowed up in mergers and takeovers and others will simply fold. It's likely that the true dominant players in the field have not even gotten started yet. So, if you endeavor to start an online business of some type, you just might have a chance, an excellent chance at that.

Consider these interesting points:

- Even though online shopping has been around for several years, people are just now becoming comfortable with offering credit cards as payment online. Security has been the issue.
- Until recently, there have only been a few business models that have been able to use the medium successfully. So unless your Website offered travel, pornography, an auction forum, or consulting, your chances for success were greatly diminished.
- The Internet is finally gaining mass acceptance. As I mentioned earlier, even Bill Gates felt the World Wide Web was little more than a fad just a few short years ago. Many Americans are now embracing the medium. There are even 12 Step groups forming to help people who have become addicted to Web surfing.
- The cost of Personal Computers has dropped dramatically in the last few years. As the leading computer manufacturers battle for market

share, they are offering faster computers, with more features, for less money - something that allows more people to get in on the action.

- As of the spring of 2000, only 60 million American families had Internet access. This represents less than 40 percent of the population of the United States.
- 35 percent of the time spent online is concentrated visiting just 50 of the Web's best sites. 70 percent of the traffic goes to the same 4,500 Websites and 75 percent of online purchases are made at the top 10 sites.

The infrastructure that makes the Internet available to us is also improving. In other words, the network of connections that brings the Web into our homes is being upgraded all the time. Maybe not fast enough for some of us, but as the saying goes, Rome wasn't built in a day.

## Great Timing

All of these factors point to a world that will grow even smaller as Internet technology improves. The day will certainly come when it will no longer be a novelty to shop online. Is there time for a savvy entrepreneur to get in on the Internet boom? The time has never been better. As the medium becomes more accepted by mainstream America, the future can only get brighter. What business model should one adopt? That's anyone's guess. But there are definitely some business models that make more sense than others.

Presently, a business that is part of the machine helping to build the medium makes the most sense to me. Graphic designers who are able to adapt their skills to Web design are in tremendous demand right now. And clever copywriting is a talent that is much needed for Website owners who want to grab the attention of a visitor and keep it.

Of course, there is the technical aspect of keeping the Internet alive such as Web hosting, as well as providing connections to people simply wanting to surf the Web as an Internet Service Provider (ISP). Perhaps the most valuable service that may be offered to those trying to establish an Internet presence is marketing and promotion. Presently, it is possible to make money on the Internet simply by having a successful Website. By successful I mean a site that receives a lot of visitors, because site traffic, as we will see, is everything to e-commerce.

## Free Lunch After All?

Web traffic is achieved with clever marketing and promotion. Ever wonder why online businesses sometimes resemble a free-for-all (pun intended) where everyone seems to be giving everything away for free? Free computers, free Websites, free Internet connections for life, and the list goes on. I hear the question all the time, “Why is there so much free stuff on the Internet?” One reason is to drive traffic to a site. There are virtually hundreds, perhaps thousands of marketing methods that can achieve this.

When it comes to the big dot coms giving away free stuff on the Internet, it all boils down to one primary objective: branding. Many of the large Websites, funded with capital from Wall Street, have enormous budgets. They use the money to fund big give-away promotions in the hope you’ll remember them and come back. At this point, selling merchandise is secondary. They are trying to buy name recognition with their capital. But as I mentioned earlier, many won’t survive even the first round of cuts. In fact, many early leaders have been acquired or have gone bust. The Information Highway is littered with the bleached bones of many a dot com start-up who blew all of their capital on reckless promotions. As I mentioned earlier, just a handful of the names we’re familiar with now are likely to go the distance.

Of course, as the Internet grows, virtually all products and services will be offered there. Recently I heard of a couple who installed video cameras in day care centers, then, for a small fee, offered parents the opportunity to look in on their children via a Website throughout the day. Good idea? Great idea. What might your niche be? Only you know. But understanding how the Web works can help you to determine how to tap this wonderful resource. Let’s take a look at what drives this elusive thing called the Internet.

Of course, name recognition is important but it isn’t everything. If your goal is to turn a profit with your own Website, then the immediate question should be, what will people pay for? In looking at a Web business, it’s important to realize that you have two customer bases. One of them is the business to business (b2b) arena. The other is the retail consumer. And anyone endeavoring to set up a commercial Website should look closely at both. You might be surprised to see how profit is really generated online.

## How it Really Works

First, let's look at the "free stuff" concept. I'm not talking about costly items here. I'm referring to free Web postcards, clipart, Web classified ads, T-shirts, magazines, phone service (a limited time for switching carriers), contests, Websites, and the list goes on. It's no secret the Internet is loaded with free offers, and virtually any site promising give-aways gets traffic, even with minimal promotion. With proper promotion, it becomes a gold mine. How?

Someone looking for freebies types "free stuff" into any of the major search engines. They click on one of the first links. Their visit to that site is counted as a page impression. Every page the visitor views while there is counted the same way. The freebie site hosts banner ads. Depending on several factors, the host is paid a flat fee for each 1000 views of an ad, or grouping of ads. Depending on how targeted an audience is, a banner exchange might pay from \$5 to \$24 or more per thousand page impressions and more if someone actually clicks on the banner. I know a Website operator running several "give-away" sites that easily log 40,000 to 50,000 page impressions per site a day. Now even at the low rate of \$5 per thousand, based on 40,000 impressions, this site is grossing \$2,000 a day from banner advertising, for a single Website! Not bad, but there's more.

Among the many items people find on freebie Websites are opportunities to sign up for a "give-away" newsletter or e-zine. This electronic publication promises to alert the subscriber to the latest hot freebies as they come along. In essence, the site owner is capturing an email address, often complete with a physical address and phone number. Because the subscriber has agreed to being notified of online offers, this type of email is considered an "opt-in" listing because the customer has agreed or *opted* to hear about various online offers. The customer's name is golden.

Opt-in names, in lots of 1000, are commanding between \$.50 and \$1.00 per name to other businesses marketing products and services. The freebie site I mentioned earlier receives between 2500 and 3000 fresh names each day. Out of 40,000 visitors one might wonder, why not more names? Some visitors view several pages and are counted more than once, and many are return visitors, so they won't sign up for the newsletter. Again, if a site manager signs up 2500 new visitors a day, and is able to sell the names for \$.50 each, that's an additional \$1,250 a day. And we're still not finished.

Many of the free offers are promotions sponsored by big companies. For example, large long distance phone companies will give a new subscriber 30 days "free" service for switching carriers. That certainly qualifies as a

freebie. Using special tracking software, the telephone company knows where that new customer came from (the freebie Website), and if they remain a customer, the site operator will receive a commission or finder's fee. The same arrangement is common with ISPs, online malls, network marketing companies, Web developers, CD retailers, movies, magazines, again, the list goes on. By far, this is the least profitable of the three profit centers because commissions are small, but with enough traffic, could generate another \$5,000 per month. Some people would be thrilled to generate \$5000 per month without any other income

Of course, everything depends on getting visitors to the site. And that will depend on many factors, such as search engine placement, marketing, advertising and word of mouth. Traffic is everything because the volume of visitors viewing pages and requesting information is where the real profit is. With this in mind, would it make sense to perhaps offer the nation's top 10 selling music CDs to your customers online at cost? Any retailer worth his salt should be able to buy product for 50 to 60 percent of its retail price. If a top 10 CD retails for \$14, that means you could buy it for about \$8.50. If you sold it for that and added \$2.00 for shipping and handling, you'd be giving customers a super bargain, and driving tons of traffic to your site. With the profit generating methods we discussed previously, do you think you could make money? It's almost hard to fail, once you understand how e-commerce *really* works.

## Information Utility?

We've talked a little about generating income by servicing other businesses, but what about retail customers? There's a great deal of opportunity here too. Almost anything can be marketed online, but because the Internet is well known as a massive information utility, why not market information? People have made fortunes selling recipes, tips on playing video games, how-to books and newsletters of all types, consulting, personal coaching, you name it. Packaged and marketed properly, information commands big bucks. Could you sell services you already offer? Flowers, travel, real estate, advertising, home wine making, and computers are among the many things marketed successfully online. To be noticed takes a little ingenuity. If you are uncertain as to how to start, get some help. There are lots of individuals who understand online marketing - they've made it their business. Remember, with a high volume of traffic to your site, you can often sell your products or services at

break-even. You simply funnel the traffic into the profit areas we talked about earlier.

Will online marketing always be so lucrative? It will for those who are able to think outside the box - or can hire someone to do it for them. Many of the profit generating opportunities will dry up only to be replaced by new ones. Forrester Research has projected that Internet advertising will exceed more than a trillion dollars by the year 2003. That's only 2 short years away. The Internet is still in its infancy. Increased sales and growth are only going to continue. Marketing a product or service online is something an entire family could do to generate extra income. Overhead is very little because ingenuity is the real capital in this game.

We've all heard the naysayers. I don't necessarily mean people who are opposed to the Internet or even technology. I mean your garden-variety negative person who would like us to believe that opportunity has simply dried up in this country. I say baloney! This medium called the Internet represents a once in a lifetime opportunity to make a difference, to offer something good for society, while serving yourself at the same time. Are you the next dot com millionaire?



**“You said I should spend more time with our children, so I turned their faces into icons.”**

# FUN WITH EASTER EGGS

*Easter eggs are hidden surprises concealed inside of a software program by the programmers. Sometimes they are as simple as a list of the names of the programming team that created the application. Other times, they might be elaborate animated three-dimensional displays complete with sound. Why do they exist? It seems the programmers want to leave us with a little more than we bargained for when purchasing the software. Some are easy to detect. Others take patience. Oh, one more thing, you can't hurt your computer playing with Easter eggs, so roll up your sleeves. We've uncovered some neat eggs for you to explore. We hope you enjoy them.*

## ***Netscape Navigator***

Here are a few simple Easter eggs for you to get started. Some of these will work on all versions of the browser, while others work only with earlier versions. In the address field of Netscape Navigator browser type:

about:mozilla	about:cache
about:global history of images	about:mailintro
about:copyright	about:photo
about:license	about:plugins
about:1994	about:authors
about:chouck	about:document
about:français	about:global
about:hype	about:image-check
about:javalogo	about:Netscape People
about:jwz	about:language
about:logo	about:marca
about:memory_cache	about:security?banner-mixed
about:pics	about:security?banner-payment
about:rsalogo	aboutsecurity?banner-insecure

### ***Dancing Fools?***

This works with Microsoft Chat version 2.5.

1. Type: WhoIsTheGenius?
2. Press Shift and Ctrl and press the Open Favorites button.

### ***Windows98 Red Square Freak-out***

1. Double click My Computer and double click on Dial-up Networking.
2. Enter your password and press Enter.
3. Keep Enter pressed while your modem dials.
4. On the Dial-up icon, notice the little red square between the phone and computer?

### ***Microsoft Word97 Pinball anyone? (Very Cool)***

1. In MS Word, open a new document.
2. Type "t3!" without quotes, select it and make the letters bold.
3. In the menu bar click on Format and again on Format menu. Click OK.
4. Open Help and click About Microsoft Word.
5. Click on the Word logo.
6. Use the z key to control the left flipper and the m key for the right.
7. Press Esc to exit.

### ***Windows Word97 Light Show***

1. Open a new Word document and type a short sentence.
2. Select (highlight) the text.
3. Click Format in the menu bar and click Font.
4. Click on the Animation tab and select Las Vegas Lights. Click OK.
5. Position the cursor after the text and press Enter.
6. In the menu bar click Format, select Background and click Black.
7. Press and hold down the space bar.

**Windows95, 98, 2000 Volcanos**

1. In Windows, press Start, Settings, and click Control Panel.
2. Double click Display and click the Screen Saver tab.
3. In the field under Screen Saver click the arrow and select 3D Text.
4. Click Settings and in the Text field type Volcano.

The Screen Saver will display the names of various volcanoes as it runs.

**Win98 Development Team (This takes some patience but is worth it)**

1. Click Start, Settings, and click on Control Panel.
2. Double click on Regional Settings. A world map should appear. If not, click the Regional Settings tab.
3. Hold the Ctrl key down and left click just to the left of the uppermost part of the Nile River in northeast Africa.
4. With Ctrl and the left mouse button pressed, drag the cursor to Tennessee (halfway between the Great Lakes and Florida, slightly to the left).
5. Keep Ctrl pressed and release the left mouse button.
6. With Ctrl still pressed, left click the mouse and drag the pointer to Redmond, Washington.
7. Release both control and the mouse button.

*If you didn't get it the first time, try again. Everything must be done exactly as outlined. I can't understand why Microsoft hid such a cool display as an Easter egg. Enjoy.*

**Adobe PhotoShop 4.0 Cool Cat Graphic and Program Development Team**

1. Open PhotoShop.
2. Hold down Ctrl, Alt, and Shift.
3. Click Help and click About PhotoShop. See the kitty?

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***Microsoft FrontPage (All versions) Development Team Video Sound Show***

1. Open FrontPage.
2. Hold down the Shift Key, click Help and About Microsoft FrontPage Explorer.
3. With the Shift Key pressed, repeat step two to three times.

***Microsoft Excel95 Room of Doom (Cool)***

1. Start Excel and open a new worksheet.
2. Go to row 95 and highlight it with your mouse.
3. Press the Tab key to go to column B.
4. In the menu bar click Help and About Microsoft Excel.
5. Press Ctrl, Shift, and Alt, then click the Technical Support button.
6. You are now in the 3D Room of Doom.
7. Type "excelkfa" without quotes and explore.

***Microsoft Excel97 Flying (Cool)***

1. Start Excel and open a new workbook.
2. Press F5.
3. Type X97:L97 and press Enter.
4. Press Tab, Shift and Ctrl.
5. In the toolbar click on the Chart Wizard icon.
6. Fasten seat belts.
7. Use the mouse to navigate. Right click for thrust, left click for reverse thrust.

***Microsoft Excel 2000 Spy Catcher***

1. Start Excel and open a new worksheet.
2. In the menu bar, click File, Save As, and select Save as Web page.
3. Click Publish and Add Interactivity.
4. Name the file and save it.
5. Open the page in Internet Explorer.
6. Go to row 2000, column WC.
7. Select (highlight) the entire row and press tab to make WC the active column.

8. Press Ctrl, Alt, and Shift.
9. Click the Office icon.
10. Use the arrow keys to drive.
11. Use the 0 key to lay rubber.
12. The spacebar fires your gun.
13. The H key controls your headlights.

### ***Microsoft Money 2000 Money Matrix***

1. Open Money 2000 and create a current new Check account named Microsoft.
2. Go to the “Change Account Details” section of the account and type “Money Rocks!” without quotes in the Comment field.
3. Click Done.
4. Click the Accounts icon to return to the main accounts list page.
5. Click on Balance an account, and select your Microsoft account.
6. Crank up the volume.

### ***Outlook Express version 4 Developer Team Credits (Cool)***

1. Open Outlook Express and click Compose (New) Message.
2. Click Format and select Rich Text (HTML)
3. Click in the body of the message.
4. Click in the Font field box and type “athena” without quotes.
5. Press Enter.
6. Close the Message Window.
7. Return to the main Outlook Express window.
8. Select (highlight) the OE icon above and to the left of the Inbox.
9. In the new product information window on the right, click between Read Mail and Read News.
10. Type “about” without quotes.
11. Enjoy the show.

### ***Windows95 Nice Horsey***

1. Start Windows95.
2. During the boot process, you'll see a black screen with only a cursor blinking.
3. Before your wallpaper loads, press (without commas) Ctrl, F6, the right shift key, Delete, and right click your mouse.
4. Say hello to Nugget, Bill Gates' horse.

### ***Microsoft Works Hilarious***

1. Open a new Works document and type, "I would like to kill Bill Gates" without quotes.
2. Highlight the sentence.
3. In the menu bar, click Tools and Thesaurus. Hilarious.

### ***Microsoft Works version 4.5 New definition***

1. Open a new Works document and type "zzzz" without quotes.
2. Highlight the text, Click Format and Spelling.

### ***Microsoft Works 2000 Development Team Credits***

1. Open Works, Click Help in the menu bar.
2. Click About Microsoft Works.
- 3 Click inside the address field and type "Phoenix"

### ***Microsoft PowerPoint 95 & 2000 Cool Development Team Visuals***

1. Open PowerPoint.
2. Click Help, and About PowerPoint.
3. Click on the PowerPoint logo (double click in the 2000 version).

### ***Microsoft Word95 Floating Splash Screen***

1. Open a new Word document, Click Help and About Microsoft Word.
2. Press Ctrl, Alt, Shift.

3. Click on the line above the buttons.
4. The splash screen will appear.
5. Click OK and the splash screen will stay on top.

### ***Microsoft Word 2000 Turn your mouse pointer into a clover***

1. Open Word.
2. Press Ctrl, Alt, and the plus sign (+).
3. If a dialog box pops up, close it.
4. To return to the normal cursor, click on File, and close the document.

### ***Microsoft Word97 Interesting Synonyms (the programmers had fun with this one!)***

1. Open a Word document.
2. After typing each of the following phrases, without the quotes, highlight the text.
3. In the menu bar click, Tools, Language, and Thesaurus.
4. Enjoy the synonyms.

“Where can I find god?”

”Unable to follow directions”

”I want to see you naked”

”I am gay”

”Eat Me Shorts”

”I’d like to see Bill Gates dead”

”Unable to get a date”

“I want to kill Bill Gates”

“I’d love to see you naked”

“I love porn”

“Shag Me”

“Ice boobs go with what?”

“Love her and leave her”

“I’d like to bash Bill Gates”

### ***Microsoft Word97 & 2000 Sad face***

1. Open a new document.
2. Press Shift, semicolon and 9.

### ***Windows 98 Mystery Tab***

1. While holding the Ctrl key, Press Start, click Settings, and Taskbar & Start Menu.

2. Notice the tab titled Deskbar Options? It wasn't there before.
3. Try the same series of commands without the Ctrl key for verification.

### ***Windows98...or is it?***

1. Right click on the desktop.
2. Select New and shortcut.
3. Take a close look at the Microsoft logo.

### ***Windows 2000 Billionaire Convention?***

1. Right click on your desktop, click Properties and Backgrounds.
2. Select Clouds, tiled, as the background.
3. Go back to your desktop, right click on My Computer, select Rename, and rename the icon "my microsoft" without the quotes. (Don't worry, you can change it back to My Computer in a minute)
4. Don't move the mouse, a video of Bill Gates and company will play.

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*Software programs aren't the only place you'll find Easter eggs. They're also in hardware devices, such as printers and scanners. You'll find them in video games. They can be found in movies and television shows. And of course, there are plenty to be discovered on the World Wide Web. Check out these Websites for some interesting hidden goodies.*

### ***Dancing Mouse***

1. In the address field of your browser, type:  
**http://www.clickey.com**
2. In the search field type: "we love clickey" without quotes.

### ***Scene from Monty Python***

1. In the address field of your browser, type:  
**http://www.ask.com**
2. In the Ask a Question field, type:

What is the air-speed velocity of an unladen swallow?

3. The question will appear again as one of the answers, ask it again.
4. The following question will either ask what kind of swallow, or make reference to Monty Python. Choose whichever one appears.

### *Haywire!*

1. In the address field of your browser, type:  
**<http://www.iwin.com/games/treasurehunt/argh.asp>**  
(I know, it's a long one, but it's worth the trouble)
2. Press Shift and +, or simply +
3. It appears that your computer has gone haywire, but it's totally simulated.

### *MTV Message to the unwanted*

1. In the address field of your browser, type:  
**<http://www.mtv.com/cgi/>**

This is probably a message to crackers and hackers snooping around the site.

### *Virtual Perspectives*

1. In the address field of your browser, type:  
**<http://www.detroitlions.com/tickets/tour.html>**
2. When the stadium diagram loads, click on several seat sections.
3. For a bird's eye view click center field.

### *Double take*

1. In the address field of your browser, type:  
**<http://www.sevenelements.com/oops.html>**
2. After reading a less-than-humble message, click on the white mark in the lower right hand corner of the screen to see how they really feel about things.

### *How Alice Really Got To Wonderland*

1. In the address field of your browser, type:  
**<http://www.ask.com>**
2. In the question field, type Drink me.
3. Among the replies, you'll find Drink me? Click this one.

### *Evil Empire?*

1. In the address field of your browser, type:  
**<http://www.google.com>**
2. In the search field type: "more evil than satan himself" without quotes.
3. Click on Google Search.
4. Some wild answers appear.

### *"Poorest Easter Egg"*

1. In the address field of your browser, type:  
**<http://www.dogbomb.co.uk>**
2. At the bottom of the Homepage you'll find the copyright symbol ©.
3. Click on it. You'll come to another page. Scroll to the bottom. Here, you'll find two more copyright symbols. Click on the first, not the one at the absolute bottom. You've been Egged.

### *Digital Demon*

1. In the address field of your browser, type:  
**<http://www.dogbomb.co.uk/cgi-bin/index.html>**

### *Dogbomb Poetry*

1. In the address field of your browser, type:  
**[www.dogbomb.co.uk/44884](http://www.dogbomb.co.uk/44884)**
2. Click on the "0" in 404.
3. This is probably rated PG-13.

***Wolfs, Camels***

1. In the address field of your browser, type:  
**http://www.eeggs.com**
2. In the search field type “wolfs” without quotes for information on the site creators.
3. On the same site, type “funky camel” without the quotes in the search field.

***The Team***

1. In the address field of your browser, type:  
**www.easywireless.com**
2. Click “Visit Our Online Store”
3. Click the “About Us” tab.
4. In this window, click any unoccupied space.
5. Press Shift and the Tilde key (~) for the names of the site developers.

# EMOTICONS: PUT A SMILE IN THAT FILE!

O:-)	Angel	:-E	Bucktoothed Vampire
O*-)	Angel Winking	:-F	Bucktoothed Vampire with Missing Tooth
X-(	Angry	}i{	Butterfly
d:-)	Baseball Dude	)i{(	Butterfly - Prettier One
: =	Beaver	>:->	Buy You a Drink?
:-) ^ <	Big Boy	q:-)	Catcher
(:-)	Big Face	C=:-)	Chef
:-) 8 <	Big Girl	8 ^	Chicken
((H))	Big Hug	;-(-	Chin Up
(:-D	Big Mouth	:-.)	Cindy Crawford
:-X	Big Wet Kiss	* <):o)	Clown
=l:o}	Bill Clinton	:-S	Confused
* <:-)	Birthday	H-)	Cross-Eyed
?-(	Black Eye	:~-(	Crying
[:-]	Blockhead	:-@!	Cursing
:-}X	Bow Tie-Wearing	>:->	Devilish
%-6	Brain Dead	:-e	Disappointed
:-(=)	Bucktoothed	:3-]	Dog

:*)	Drinking Every Night	%*@:-(	Hungover with Headache
:#)	Drunk	?:^[]	Jim Carrey
.\ /	Duck	(8 {	John Lennon
<:-1	Dunce	@:-}	Just Back From Hairdresser
:-6	Eating Something Spicy	:-*	Kiss
5:-)	Elvis	}-X	Kitty
:")	Embarrassed	>^,,^<	Kitty Cat
>:)	Evil	>:-1	Klingon
>-)	Evil Grin	@(*O*)@	Koala Bear
;-)	Flirty	:-D	Laughing Out Loud
:-!	Foot in Mouth	(-:	Left Hand
=-:H	Football Guy	:-{}	Lipstick
:-W	Forked Tongue	:-#	Lips Are Sealed
:^={	Frank Zappa	8:-)	Little Girl
/:-)	Frenchman with Beret	:)	Little Kid
8)	Frog	l-(	Lost Contact Lenses
:-[	Grim	1:-O	Loudmouth with Flat Top
%-)	Happy Drunk	&-1	Makes Me Cry
:-)	Happy	:-(*	Makes Me Sick
[:-)	Headphones	:-S	Makes No Sense
1^O	Hepcat	@@@@:-)	Marge Simpson
(_8^(l)	Homer Simpson	8(-:	Mickey Mouse
(_8(l)	Homer Simpson	:-{	Mustache
*^_^*	Huge Dazzling Grin	:-3	Mustache - Handlebar Type

):-( Nordic	3:*> Rudolph the Red Nose Reindeer
8-o Oh My Gawd!	:( Sad Turtle
~:-) One Hair Smiley	:-d Said with a Smile
:= Orangutan	* < :-) Santa Claus
:^) Personality	:-> Sarcastic
3:] Pet Dog	:-@ Screaming
:8) Pig	\$_-\$ Sees Money
:--) Pinnochio	+-( Shot Between the Eyes
p-( Pirate	:-v Shouting
3:[ Pitbull	~:-p Single Hair
:-/ Skeptical	
+<:-) Pope	O-) Smiling Cyclops
:-t Pouting	;)^) Smirking
+:-) Priest	:-i Smoking a Cig
X:-) Propeller Head	:-? Smoking a Pipe
=:-) Punk	:-Q Smoking While Talking
=:-( Punk Not Smiling	:-*( Softly Crying
(((((:- {= Rad Dude	:-(<  Standing Firm
:-r Raspberry	%-) Staring at Screen for Hours
:-)) Real Happy	:-O Surprised
:-C Real Unhappy	:-() Talkative
((( Robocop	:-'-( Tearful
[:] Robot	:-& Tongue Tied
@>--;-- Rose	:-a Tongue Touching Nose

{:-)	Toupee	]~)	Wearing Sunglasses
@:-)	Turban	:-"	Whistling
<:;>=	Turkey	'~)	Winking
=):-)	Uncle Sam	8<:-)	Wizard
:~!	Undecided	-=#:~) /	Wizard with Wand
(:~(	Unhappy	,~}	Wry and Winking
!:-)	Unibrow	1~0	Yawning
:~[	Vampire	:~(O)	Yelling
:~<	Walrus	=8~0	Yikes!
8~)	Wearing Contacts	\$~)	Yuppie

But, but, but...

(~o~)	Ass That's Been Around	(~!~)	Regular Ass
(~O~)	Ass That's Been Around Even More	(~E=mc2~)	Smart Ass
(~?~)	Dumb Ass	(~*~)	Sore Ass Loser
(~!~)	Fat Ass	(~!)	Tight Ass
(~.~)	Flat Ass	(~13~)	Unlucky Ass
(~x~)	Kiss My Ass	(~o^^o~)	Wise Ass
(~\$~)	Money Coming Out of the Ass		

# ONLINE SHORTHAND: COMMON EMAIL & CHAT ACRONYMS

*Brevity is of the essence everywhere on the Web. These fun symbols should help you to keep it short and sweet.*

A/S/L	Age/Sex/Location
AFAIC	As Far As I'm Concerned
AFAIK	As Far As I Know
AFK	Away From Keyboard
AISI	As I See It
AKA	Also Known As
AMBW	All My Best Wishes
ANFAWFOWS	And Now For A Word From Our Web Sponsor
ASAFP	As Soon As "Friggin" Possible
ASAP	As Soon As Possible
ATST	At The Same Time
AYSOS	Are You Stupid Or Something
B4	Before
BBIAB	Be Back In A Bit
BBIAF	Be Back In A Few
BBL	Be Back Later
BBN	Bye Bye Now
BCNU	Be Seein' You
BFD	Big F***ing Deal
BFN	Bye For Now
BHOF	Bald Headed Old Fart
BIF	Basic In Fact
BITD	Back In The Day
BM	Byte Me
BNF	Big Name Fan
BOHICA	Bend Over Here It Comes Again

BRB	Be Right Back
BT	Byte This
BTSOOM	Beats The Sh** Out Of Me
BTW	By The Way
BTWBO	Be There With Bells On
CIAO	Goodbye (in Italian)
CID	Consider It Done
CIO	Check It Out
CIS	CompuServe Information Service
CMF	Count My Fingers
Cof\$	Church of Scientology
CTC	Choking The Chicken
CUL8R	See You Later
CWYL	Chat With You Later
CYL	See You Later
DBEYR	Don't Believe Everything You Read
DDD	Direct Distance Dial
DHYB	Don't Hold Your Breath
DILLIGAD	Do I Look Like I Give A Damn
DILLIGAS	Do I Look Like I Give A Sh**
DLTM	Don't Lie To Me
DQYDJ	Don't Quit Your Day Job
DYSTSOTT	Did You See The Size Of That Thing
F2F	Face To Face
FE	Fatal Error
FTASB	Faster Than A Speeding Bullet
FTL	Faster Than Light
FUBAR	Fouled Up Beyond All Recognition
FUBB	Fouled Up Beyond Belief
FUD	(Spreading) Fear, Uncertainty, and Disinformation
FWIW	For What It's Worth
FYA	For Your Amusement
FYI	For Your Information
FYM	For Your Misinformation
GG	Good Game

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GIGO	Garbage In, Garbage Out
GIWIST	Gee, I Wish I'd Said That
GL	Good Luck
GMTA	Great Minds Think Alike
GR8	Great
GR&D	Grinning, Running, and Ducking
GRRRR	"Growling"
GTG	Got To Go
GTGB	Got To Go, Bye
GTSY	Glad To See Ya
GYPO	Get Your Pants Off
HAGO	Have A Good One
HAK	Hugs And Kisses
HH01/2K	Ha Ha, Only Half Kidding
HHOK	Ha Ha, Only Kidding
HIOOC	Help! I'm Out Of Coffee
HTH	Hope This (That) Helps
HUA	Heads Up Ace
HUYA	Head Up Your Ass
IAC	In Any Case
IAE	In Any Event
IANAC	I Am Not A Crook
IANAL	I Am Not A Lawyer
IBTD	I Beg To Differ
IC	In Character
IDKY	I Don't Know You
IDST	I Didn't Say That
IDTS	I Don't Think So
IFAB	I Found A Bug
IFU	I F***ed Up
IIWM	If It Were Me
IMHO	In My Humble Opinion
IMNSHO	In My Not So Humble Opinion
IMO	In My Opinion
INPO	In No Particular Order
IOH	I'm Outta Here

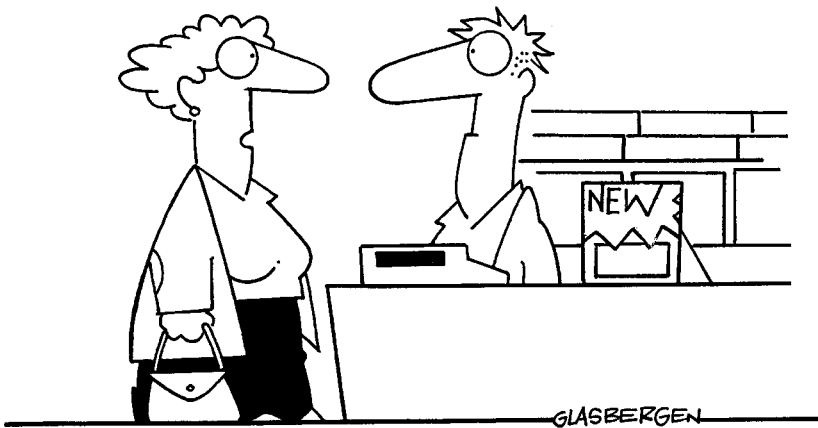
IOW	In Other Words
IRL	In Real Life
IYSS	If You Say So
J/C	Just Checking
J/K	Just Kidding!
KISS	Keep It Simple Stupid
KIT	Keep In Touch
KYPO	Keep Your Pants On
L8R	Later
LD	Long Distance
LDTTWA	Let's Do The Time Warp Again
LLTA	Lots and Lots of Thunderous Applause
LMAO	Laughing My Ass Off
LOL	Laughing Out Loud -or- Lots of Luck (Lots of Love)
LTIC	Laughing 'Til I Cry
LTNS	Long Time No See
MHOTY	My Hat's Off To You
MorF	Male Or Female?
MOTD	Message Of The Day
MOTSS	Members Of The Same Sex
MTFBWY	May The Force Be With You
NBD	No Big Deal
NBIF	No Basis In Fact
NFW	No F***ing Way
NIFOC	Nude In Front Of the Computer
NP	No Problem
NRG	Energy
NRN	No Reply Necessary
NYCFS	New York City Finger Salute
OAUS	On An Unrelated Subject
OBTW	Oh, By The Way
OIC	Oh, I see
OMG	Oh My Gosh
OMIK	Open Mouth, Insert Keyboard
ONNA	Oh No, Not Again

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OOC	Out Of Character
OOTB	Out Of The Box -or- Out Of The Blue
OT	Off Topic
OTOH	On The Other Hand
OWTTE	Or Words To That Effect
OZ	stands for "Australia"
PEBCAK	Problem Exists Between Chair and Keyboard
PITA	Pain In The Ass
PLS	Please
PMFJI	Pardon Me For Jumping In
POS	Piece Of Sh**
POV	Point Of View
RBTL	Read Between The Lines
RMLB	Read My Lips Baby
RMMM	Read My Mail Man!
ROTFL	Rolling On The Floor Laughing
ROTFLMAO	Rolling On The Floor Laughing My Ass Off
ROTM	Right On The Money
RSN	Real Soon Now
RTFM	Read The F***ing Manual
RTM	Read The Manual
SH	Sh** Happens
SITD	Still In The Dark
SNAFU	Situation Normal, All F***ed Up
SOL	Sh** Outta Luck
Sor G	Straight Or Gay?
SOSDD	Same Old Sh** Different Day
STM	Spank The Monkey
SUYF	Shut Up You Fool
SWAG	Scientific Wild Ass Guess
SWDYT	So What Do You Think?
TAH	Take A Hike
TANSTAAFL	There Ain't No Such Thing As A Free Lunch
TDTM	Talk Dirty To Me
TEOTWAWKI	The End Of The World As We Know It
TFN	Thanks for Nothin'

TIA	Thanks In Advance
TIAIL	Think I Am In Love
TIC	Tongue In Cheek
TM	Trust Me
TSR	Totally Stuck in RAM
TTFN	Ta Ta For Now
TTT	That's The Ticket -or- To The Top
TTYL	Talk To You Later
TWHAB	This Won't Hurt A Bit
TX or THX	Thanks
TYVM	Thank You Very Much
unPC	UnPolitically Correct
WAG	Wild Ass Guess
WAI	What An Idiot
WB	Welcome Back
WCA	Who Cares Anyway
WDYS	What Did You Say?
WE	Whatever
WEG	Wicked Evil Grin
WIIFM	What's In It For Me
WIT	Wordsmith In Training
WTF	What The F***
WTG	Way To Go!
WTSDS	Where The Sun Don't Shine
WYRN	What's Your Real Name?
WYS	Whatever You Say
WYSIWYG	What You See Is What You Get
WYT	Whatever You Think
YA	Yet Another
YA yaya	Yet Another Ya-Ya (as in yo-yo)
YDKM	You Don't Know Me
YGBK	You Gotta Be Kidding
YMMV	Your Mileage May Vary
YSYD	Yeah, Sure You Do
YTTT	You Telling The Truth?

# SOFTWARE



"I NEED A BETTER WORD PROCESSOR FOR MY HUSBAND.  
ONE THAT WILL CORRECT HIS SPELLING, GRAMMAR AND OPINIONS."

# HIGH POWER COMPUTER & INTERNET TIPS AND TRICKS

*Let's use our imaginations for a minute. Pretend that a wealthy individual caught you in the act of doing a good deed. The act of kindness so touched this person that she anonymously rewarded you with a brand new Ferrari. You check it out and find that you really do own the high performance driving machine. The only thing the deliveryman showed you when he dropped it off was how to start the car. You know the Ferrari is capable of extremely high speeds. It's also loaded with dozens of the latest cutting-edge automotive features - if you only knew how to use them...*

*I realize this little diversion is far-fetched, but in many ways a modern computer equipped with Windows and a few compatible software applications can be very much like a new Ferrari - a wonderful piece of equipment, but now what? You know how to start it, but how do you get it to do something useful? The following pages are loaded with useful tips and tricks to help get you up to speed. I discovered many of these little goodies over the years quite by accident. Now you don't have to. Take a little time each day and practice a few. You'll find your proficiency dramatically improving as you do.*

## General Computing Tips and Tricks

1. **Save Your Work** It's been repeated often and for good reason because it saves loads of trouble. When working on your computer save your work every 10 to 15 minutes. (Some programs remind you to save your work as you go along). But simply saving work to your hard drive isn't enough. Every day after a session, backup all files to a portable storage medium such as a zip, floppy, CD-ROM, or tape.

2. **Label Your Disks** Label all of your backed-up floppy disks, tapes and other stored information with the name of the file and the date last changed. Writing the contents on the disk's sleeve isn't enough, as these are misplaced, lost, or the wrong disk ends up in the wrong container. It saves lots of time, not having to pop in a floppy or CD-ROM and open it to see what's there.

3. **Checking Disks** When checking the contents of more than one floppy disk, simply eject one, insert the next, and hit the special function key F5. The file names of the contents of the disk will appear on your screen.

### HOT TIP

4. **Safe Keeping of Technical Manuals** Depending on how many bells and whistles you need to be happy in the Information age, you may opt for your computer to be set up with a scanner, printer, a zip or jaz drive, and perhaps even a digital camera. This way you can send pictures of the kids across the state so Aunt Peggy can see how much they've grown. Whatever you decide to add to the system, keep all of the manuals and software (called drivers) that come with each of the devices in one place. It's also wise to write down the technical support telephone numbers for each device in a log and keep it by the computer in case you need technical assistance. Nothing is more frustrating than having your system go down, and not having the resources handy to get it back on track immediately.

5. **Computer Tune-Up** If your PC seems sluggish, maybe it needs a tune-up. In the Windows operating system, there are a couple of simple programs you can run to improve performance. One is Disk Clean-up, the other is Disk Defragmenter. First, shut down all programs. Click on the Start button, go to Programs, then Accessories, then to System Tools. First, select Disk Clean-up. A message box will appear asking you what disk you want to clean. Select (C:) drive. Your computer will then locate temporary Internet files and other useless information on your hard drive and ask if you want to delete it. It will also ask you if you want to delete all of the files in the Recycle Bin. Before clicking that button, be sure you do (otherwise, why would they be in the Recycle Bin?). Once you've determined that the files are no longer needed, click away and they will be removed. Next, follow the same procedure as outlined before to get back to System Tools and click on Disk Defragmenter. Select (C:) drive. This will reorganize the data on you hard disk allowing for optimal operations. This function can take a bit of time, depending on how

long it's been since the last time the program was run. Get in the habit of tuning up your computer every three to four months – more often if you use it a lot.

6. Check Special Key Functions The mouse has to be one of the most useful computer tools ever invented, but there are times when it isn't the most convenient way to work. There are many special function keys available that sometimes offer quicker access to commands than the mouse. Trouble is, many of the keys perform different functions depending on the program running. An easy way to find out what keys work in the program you're using, is to click on File, Edit and Tools in the menu bar. Here a drop down menu will show the special key commands for the most common functions. For example, pressing Ctrl and P together sends a file to the printer, while pressing Ctrl and A selects the entire file. From here you can send it to the clipboard, copy it, paste it, or delete it.

7. Shortcuts Using shortcuts to open programs can save the time of clicking through the Start menu, finding the application you want, and calling it up. Why not place a shortcut on your desktop, and a simple double click (in Windows 98 and 2000, you can set your computer to respond to a single click) will get you up and running. Here's how you can create a shortcut to most any file or program you want to keep on your desktop. In this example we'll create a shortcut to MS Works, one of Microsoft's word processing applications.

1. From the desktop, open My Computer.
2. Assuming the program you want is on the (C:) drive, which it is, select (C:)
3. Here you'll see a group of folders. Again, we'll assume the program you want is in Program Files (again, it is). Double click Program Files.
4. You'll see all of the folders and files that make up Works. You are looking for the program icon, (an envelope, pen and calculator). *Here's a hint to finding the right icon, it usually has .EXE (stands for execute) written under it.* Right click the icon.
5. You now have a duplicate Works icon. Now, simply reduce your display window (middle button, upper right corner of the screen) and drag the newly created Works icon to your desktop by left clicking on it with your mouse cursor and holding it until its on the desktop.

6. From now on, when you want to open Works, just click the screen icon, and you're there.

The same procedure can be used to create shortcuts from folders, files and other programs. In fact, anytime you see something you'd like a shortcut to, just right click on it. If "Create Shortcut" is among the options listed in the little menu, just complete step 5. If you ever decide you want to get rid of a shortcut, just drag it to the Recycle Bin. Don't worry, by doing so you're only dumping the shortcut, not the program.

8. More Shortcuts Here is another way to create a shortcut to a new file (in Works, for example, a new file would be an untitled, clean writing surface, a database, or spreadsheet). Right click on any unoccupied space on the desktop and place the mouse pointer on New. A menu will appear offering your working applications. Clicking any of these will place a shortcut to a brand new file on your desktop.

9. Arranging Icons Assuming you have some shortcut icons on your desktop, it might be time to arrange them in some sort of logical order. It's easy to do. Right click on any unoccupied space on the desktop. In the pop up menu you'll see "Arrange icons." Place the mouse pointer on this command and an extension menu will appear offering you several options. You can arrange your shortcuts by name, type, size, date or auto arrange.

10. Safe Mode On rare occasions, it becomes necessary to run a computer in the Safe Mode, usually due to a hard disk malfunction or other undetermined hardware or software problem. Sometimes Windows will actually tell you that a hardware crash is eminent (a scary feeling by the way). The only way to rescue those files you've been meaning to backup is to start your computer in Safe Mode. I realize running the computer in Safe Mode limits your use of devices such as floppy and CD-ROM drives, however, sometimes they will work. You won't know unless you try.

1. First click Start, then Shut Down.
2. Click Restart, then OK.
3. Immediately press the Ctrl key. If this doesn't work, try pressing F8 instead of Ctrl. This should bring you to a menu selection with several choices, select Safe Mode. (It is possible your mouse won't work. Use the up and down arrow keys)

When the computer boots (it might take awhile) you can try to copy files as you would at any other time. When you're finished working in Safe Mode, you'll need to shut down the computer completely before restarting. If it won't reboot, call a qualified technician. Unless you know you'll have this book handy, go to Start, select Help, and index. Type "safe mode" without quotes, into the field, click Options, Print. This will allow you to keep printed instructions on hand in the event you need to run your computer in Safe Mode. Keep them with your other valuable computer paperwork.

## HOT TIP

**11. Create A Boot Disk** It is possible for various components of an operating system to become damaged. Often a virus is the culprit. In such cases, your computer might not boot. If this happens, you'll need a startup disk, sometimes called a boot disk, or bootable disk. New computers come with these disks, but we understand everybody didn't buy their computer new. So let's make a bootable disk. It's easy.

1. Insert a blank floppy into the floppy drive.
2. Select Start, Settings, Control Panel.
3. Open Add/Remove Programs.
4. Select Startup Disk, and click Create Disk.
5. Label appropriately, and store in a safe place.

**12. Proper PC Shutdown** There has been discussion over the years about the proper way to shut down a computer. Some say it isn't necessary to ever shut it down under normal conditions. However, there will be times you'll want to turn you computer off. Flipping the off switch while an application is running is not the proper way to shut down a computer (even if you have saved your work). The proper way to shut down a computer is as follows:

1. Save all work and shut down all open applications. If you're wondering what might still be open, glance down at the Taskbar. Any program still running will be represented by a button naming the program and possibly an icon.
2. Click the Start button and select Shut Down. A message box will appear offering several options. Choose Shut Down to turn the computer off or Restart if you want to reboot immediately.

13. **Saving Your Monitor** Despite what anyone says, your monitor should not be left on for prolonged periods unless you are using it (yes, even with the screensaver running). Punching the on/off button each time you want to shut down the monitor can put undue wear and tear on the switch. The solution is to set the monitor to shut down on its own. It's easy. Here's what you do.

1. Click Start, Settings, Control Panel.
2. Open "Power Settings" by double clicking the icon.
3. Here you'll find a dialog box offering several choices. Click the down arrow on the right side of the "Turn off Monitor" field. A drop down menu will appear with many time settings. Select one and click OK. From now on, your monitor will automatically shut down after the time you've chosen has elapsed. I've set mine at 45 minutes.

14. **Email Hotlinks** Ever get an email with a live hyperlink in it? Wonder how it got there? In most modern email programs, simply typing a URL in the message field will produce a hot link. But it can be useful to know how to make one the old fashioned way, just in case. In fact, you can use this method to post links to chat and bulletin boards, as well as email. First, find a Website or a page you'd like to send. In your Web browser, go to the address field in the upper portion of your window and click once with the mouse. You've selected (highlighted) the URL. Now go to Edit in the menu bar and select Copy. The URL is now saved in the computer's Clipboard and ready to paste to its destination. Now, go to your email program, bulletin board, or chat room, place the cursor where you want the URL and click (don't worry, navigating into and out of different programs or other documents won't disturb the saved URL). Go back to Edit, and click on Paste. The link will appear. You've just attached a hyperlink.

15. **Installing Software** These days installing most software is as easy as putting a CD-ROM into its slot and waiting for the screen to instruct you what to do next. There are a few programs however, that still need you to tell them what to do. If you encounter one, here's what to do.

1. Click Start, Settings, Control Panel.
2. Select Add/Remove Programs by double clicking the icon.
3. Click the button labeled Install. The computer will instruct you to insert the program's first disk. After you've done that, click Next

and follow the onscreen prompts. Most programs will require that you shut down the computer after new software has been installed.

**16. Uninstalling Software** Sometimes we outgrow things. Other times we simply change our minds. Whichever the case, what do we do with some of the dated or no longer useful software programs stored on the hard disk? Uninstall them. Here's how it's done.

1. Click Start, Settings, Control Panel.
2. Select, Add/Remove Programs by double clicking on the icon.
3. A dialog box will appear with a list of all of the installed software on your computer.
4. Select (highlight) the program you want to delete and press, Add/Remove. It's that simple.

**17. System Volume Control** Double clicking the small speaker icon in the lower right toolbar lets you set the balance and volume for all the sound in your computer. Here you'll find master balance and volume for Synthesis, Compact Disc Player, and Microphone. You can also use this easy method to set these items on mute.

## HOT TIP

**18. PC Protection** Plug your computer as well as the rest of your hardware devices into a good surge protector. They protect your computer from unexpected power surges caused by storms and power company mishaps. For extra protection during an electrical storm, simply unplug the entire surge protector that serves your system. Chances are, it would work just fine if tested, but do you really want to know? It might be wise to do the same thing when going on vacation. Remember to shut down your computer properly before turning it off or unplugging it.

**19. Right Clicking** There is power in the right mouse button. Take some time exploring Windows by right clicking on everything from the desktop to individual folders and files. A wide range of options is available.

**20. More Right Clicking** Right click on any file stored in a folder such as My Documents for example. This enables you to print the file, open it, create a shortcut and place it on your desktop, Quickview the file, send it to a floppy or

zip disk, add as an attachment to an email, cut, copy, rename or delete the file, or view the file's properties.

## HOT TIP

21. **Rapid Reboot** Usually after installing software or changing settings, you'll need to shut down your computer. There's a way to bypass the whole boot process. Go to Start, select Shut Down, then press the Shift key and click Restart. While still holding the Shift key, click OK. The screen should read, "Windows is now restarting." This is a nice little time saver.

22. **Virus Protection** A virus can be a simple line of code or an entire program, that once gaining entry to your computer, will re-write itself inside a program or programs, changing data, causing destruction and consuming valuable space on your hard disk. Of course some are worse than others, but they are relatively easy to avoid by installing an antivirus program. McAfee and Norton make good ones with free updates. To avoid viruses, don't open email attachments from strangers, or download anything from unfamiliar sources. If you do pick up a bug online, your updated antivirus utility should alert you and help you get rid of it fast.

23. **Using The Restore Disk** Sometimes computers act up. Not long ago a virus got into mine and wiped out my CD-ROM drive as well as damaging some important boot files (I hadn't updated the virus scan, shame on me). After trying everything under the sun to correct the problem I realized there was no choice but to use the restore disk that came with the computer. This can be a time consuming task because all of your files will need to be backed up and all of your applications will need to be re-installed. I bit the bullet and did it, and the computer is running better than ever. If you run into a problem you can't overcome, check to see if your machine came with a restore disk. Back up all files, and run the restore program (actually it's a copy of your computer's operating system along with the drivers for various hardware). This repair is usually the method of last resort.

24. **Add A Toolbar** You can create a toolbar containing the components of "My Computer" by going to the desktop, left clicking on My Computer and dragging the icon to the left, top or right margin of your screen. This immediately creates a toolbar with icons for your main and secondary drives, the Control Panel, printers and dial-up networking. To remove the toolbar from that location, right click in an unoccupied space and select close.

25. **Delete Programs** If you want to delete a program, it should be done properly. Go to Start, Settings, Control Panel, select the program and click on Add/Remove. Locating the program folder in the directory, right clicking on it and selecting Delete can leave scattered bits of the application on your hard disk taking up valuable space. Do it properly.

26. **E-ZFix** Computers don't always behave exactly as we would like them to. When encountering an error or other unexplained problem you can't solve, close all applications, shut down your computer and restart it. More often than not, rebooting will eliminate the problem.

27. **Find A Folder** There are usually several ways to accomplish the same thing in Windows. To view the folders in your hard drive you can open My Computer and click (C:). You can also click on the Start button, select Run, type in a backslash and press Enter. Yet another way to get to the (C:) directory is to right click the Start button and click on Explore.

28. **Oh No! It Crashed** If your computer freezes up (a polite way of saying crash) there are several ways to attempt to shut it down without flipping the power switch. First try pressing the Esc key. This often brings no result, so try pressing the Ctrl Alt and Delete keys together. This may ask you if you want to close the program running. You do. Select End Task. A couple of things might happen, the program will shut down, which is what you wanted. You may get a message that the program isn't responding, which isn't news, or, nothing at all will happen. If you achieve either of the last two unfruitful results, try pressing Ctrl and Esc together. This should bring up your Start menu, with the Shut Down option. Give that a try. If all of these attempts to shut down fail, you have no choice but to flip the power switch. You'll lose any unsaved work, but don't feel too bad, it happens to the best of us.

29. **View Properties** To quickly view the Properties of any object, press the Alt key and double click the object. The Properties will appear.

30. **Say Goodbye** When you delete a file in Windows, it is sent to the Recycle Bin. From here you can "empty" the bin, which eliminates the file for good, or "restore" the file, which places it back in its folder. However, if you are certain you want to get rid of a file, holding down the Shift key while deleting it bypasses the Recycle Bin and sends it to computer never-never land immediately.

31. **Set Time & Date** To set the time and date on your computer, either right click on the time and select Adjust Date/Time, or go directly to the setting by double clicking on the time.

## HOT TIP

32. **The Character Map** Windows contains an assortment of interesting and useful characters not found on your keyboard. Here you'll find the copyright symbol, the trademark symbol, the four suits found in a deck of playing cards, and many others. To access these characters, click Start, Programs, Accessories, System Tools, and finally, Character map. To use one of the symbols, click on the desired one, click Select, then Copy. The character is now on the Clipboard. From here you can minimize the program for future use or close it. Bring up the target document, place the cursor where you want the symbol, click on Edit in the menu bar, and select Paste. You should have the symbol.

33. **Naming Shortcuts** You can give a shortcut any name you want. Simply right click on the icon, select Rename, and type in the new name. There are a few that won't allow you to rename them. If right clicking on an icon doesn't allow you the option of renaming the shortcut, then you'll have to live with the name the manufacturer gave it. The Recycle Bin is one that can't be renamed.

34. **Scrolling** As we've discovered, there are usually several ways to accomplish the same function with Windows. When viewing a long page in Internet Explorer, you can scroll up and down using the scroll bar and mouse, you can use the arrow keys to position the page, *or* you can use the space bar to scroll down and Shift, spacebar to scroll up.

35. **Adding Fonts** Want to add some interesting and fun fonts to your computer? Many inexpensive clipart collections come with cool fonts that are easy to install to your permanent font folder. They can also be found on many Websites for free. Type "clipart" or "fonts" into any popular search engine and you'll find more than you know what to do with. If you choose to load them from disk, insert the Floppy disk or CD-ROM with the font collection and open it. Resize the window by clicking the middle button in the upper right corner of your screen. Now go to the desktop, double click on My Computer, and reduce this window as well. Select Control Panel and open Fonts. You should have two windows visible, the one with your system's fonts and the

one on CD-ROM or floppy. Now simply click on the ones in the CD you want, drag them to the system fonts folder and drop them in. If you get your fonts from the Web, you'll first need to download them to a folder you create (see tip 114 for easy downloading instructions). You can then resize that folder and drag and drop the fonts to the permanent system fonts folder. From then on, the new fonts will show up in all of your applications. Just click Format and Fonts to find them. It's that easy.

**36. Moving Fonts** Not everyone needs an endless number of character styles. Some people feel Windows comes with more fonts than they will ever use. You can free up a considerable amount of hard disk space by removing unneeded fonts. Notice I didn't say delete. Lets just move them to a floppy for safekeeping. You'll do everything you did in the previous tip, only instead of moving files into your computer, you'll be moving them out, by holding the Shift key while dragging and dropping them onto a floppy and storing them. Don't forget to label the floppy disk.

**37. Even More Shortcuts** You can easily create a shortcut to a document file and place it on your desktop, just like the shortcuts you use to open programs. Go to the folder where the document is kept. For example, many are kept in My Documents. First reduce the size of the folder, then locate the file and right click on it. Select Create Shortcut. Then drag the new shortcut to the desktop and drop it there. To remove it, just drag the shortcut to the Recycle Bin and drop it in. Don't worry, you won't be deleting the entire file, just the shortcut icon.

**38. Finding Files & Folders** Sometimes we forget things. If you've forgotten where you created a file, or even the name of the file, but remember the day it was created, you can probably find the file. Click the Start button, go to Find, and select Files or Folders. Click on the Date tab and enter the date or suspected date you think the document might have been created. The computer will find all documents that were created that day.

**39. Print Screen Key** The Print Screen keyboard button can come in very useful. When pressing this key the computer saves whatever is on your screen to the clipboard, not to the printer as you might expect. To print the image from the clipboard, first open the Paint program by following these steps, Start/Programs/Accessories/Paint. Once Paint is open, go to the menu bar, click Edit and select Paste. If you receive a prompt asking if you would like to

enlarge the bitmap, click yes. Now, to print the image, go to File and click on Print.

40. **Digital Coloring Book** If you're feeling artistic, you can create drawings and other neat artwork in Paint (see tip 39) and display it onscreen. To do this, you'll need to right click on the desired image and select Set as Wallpaper. From then on, your artwork will serve as your computer's wallpaper.

41. **Make It Big** Windows has a useful feature for getting a close look at your work called Magnifier. To activate the program go to Start/Programs/Accessories/Accessibility/Magnifier. With this utility you can place the mouse cursor on your work and see a magnified version in the upper section of your screen. The settings can be changed for individual preferences.

### HOT TIP

42. **About Drivers** A driver is a program that helps run a hardware device. Without them, printers, CD-ROM drives, monitors, scanners and just about every other significant piece of hardware you rely on won't work. Sometimes, after upgrading your operating system, you'll find devices that worked just fine before the upgrade no longer function. Chances are, the new operating system doesn't like the old driver. There is usually a simple solution. First, try using the software that came with the device. If it won't run, uninstall it and turn your computer back on. You'll get a message that the OS has detected a new hardware device and wants you to instruct it as to which driver to use. There will be options to insert a CD-ROM, floppy, or for the OS to search for a compatible driver. Windows includes lots of popular drivers for all kinds of devices. If you're lucky, a prompt will appear telling you that the system has located a suitable driver and you'll simply need to click Finish to be up and running. If that doesn't happen, you'll have to go the Website of the manufacturer and download the driver. Most hardware manufacturers make all of their drivers available free on the Net. Click on Downloads or Driver Updates, and be ready to enter the model number of your device. From here just follow the prompts and you'll have the latest software installed to run your equipment.

43. **Get A Better View** We've said it many times. There are many ways to accomplish the same thing in Windows. To get a full screen view in Internet Explorer there is a button labeled Full Screen in the toolbar. If it isn't there,

you can place it there by clicking on an empty space on the toolbar and adding it. If that's too much trouble, press F11 and the screen's display image will instantly go to its maximum size.

44. **Quick Disk Copy** Windows allows you to make a copy of an entire disk quickly. Simply insert the disk you want to copy, go to My Computer, right click on the floppy drive icon, and select Copy Disk. When the computer has copied the contents of the disk, it will ask for a fresh one. Remove the first, insert a new one and click OK. You've got a quick duplicate.

45. **Hard Disk Space Check** As you load new software and create files with your computer, hard disk space is used. To find out how much storage space remains on your hard disk, go to My Computer and right click on (C:). A pie chart will appear onscreen showing how much disk capacity is used and how much remains. You can do the same thing for floppies and CD-ROMs.

46. **Setting Frame Colors** If looking at drab gray window frames onscreen gets you down, why not change them to a color more to your liking? To change the color scheme of your desktop and all display windows, go to My Computer, Control Panel and click on Display. From here, click on the Appearance tab. You'll find options for a wide range of colors. Experiment. Select from the color menu and click OK. If you decide that gray isn't so bad after all, simply select Windows Standard, click OK and your display will return to its previous default settings.

47. **Remove That Disk!** Before removing a floppy disk, CD-ROM, Zip or Jaz disk, be sure to shut down the drive. Removing a disk without first closing the drive can cause a crash, as the computer will try to read all support drives before reading the permanent hard drive. An absent disk can cause a fatal error, sometimes causing system failure. Re-booting is often the only cure.

48. **Attach That File** You've just finished a letter and decide that sending it as an attachment to an email message would get it to the recipient faster than the Post Office. In the menu bar, select File and click on Send. If you are using Windows Outlook Express, this will attach the file to a new email. From here, you'll need to type in the address, place a little note in the body of the message telling the receiver about the attachment, and send it off. The recipient will get your note and be able to open the letter as an attachment.

## HOT TIP

49. **Using Send to** You can send a folder or file almost anywhere you want. Let's say you want to copy a document you created in Word called "My Schedule," to a floppy disk. First locate the folder or document by clicking My Computer and (C:). Word documents are generally stored in My Documents. Double click on My Documents. When you've located the document, right click on it, and place the cursor on Send to. You'll be given a choice of several destinations. Click on Floppy Drive (usually A:). Be sure a floppy disk is inserted in the drive before attempting to copy the file. You now have a copy of the document on a floppy as well as in the My Documents folder.

50. **Select A Font Style** You can select font size and style in most applications by clicking on Format in the menu bar. Choose Font and Style from the pop down menu. From here you have the option of selecting the size and style of the font, bold, italics, or underlined text. Additionally, you can choose subscript, superscript, or strikethrough. In many programs this is also where you can change the color of the text.

51. **Cleaning Your Desktop** New computers are loaded with desktop shortcuts. Many computer manufacturers offer several online services and special offers a user can access by clicking a desktop icon. Most of these are unnecessary. Once you've determined which you want and which you can do without, simply drag and drop the unwanted ones to the Recycle bin.

52. **Check Your IP Address** Every computer connected online is assigned an IP address. This might be considered a computer's ID number. Some are permanent, some are changed each time a user logs onto the Net. The number is assigned randomly by your ISP. There is an undocumented program in Windows named WINIPCFG.EXE that will tell you what number you've been assigned. Obviously, you've got to be online to learn what number you've been assigned. To find out your number in Windows 95 and 98, go to the Start menu and select Run. In the field box type WINIPCFG. A dialog box with your IP number will appear.

53. **E-Z Desktop Access** Have you ever been working and needed access to your desktop? If you don't want to minimize the current screen to get to the desktop, go to the Start menu, select Run, type in a period (.) in the field and hit enter. This will open a smaller window with your desktop icons.

**54. Clean Machine** Computers and related hardware love cleanliness. Here are a few suggestions that will help you to avoid a potential messy situation. Spray some Windex onto a rag and wipe your monitor clean. If you have a specially tinted screen, check with the owner's manual first. To clean input devices such as a scanner or digital camera, check the manual for the recommended procedure. The same goes for copy machines. Also, if you won't be using your computer for prolonged periods of a day or more, it might be wise to shut it down. A constantly running fan draws dust into the machine.

**55. Start Key Goodies** The Start key (also called the Windows key) has a wide range of uses in addition to bringing up the Start menu. It can be used in conjunction with several other keys to provide shortcuts. Here they are:

- Start with R opens the Run dialog box.
- Start with E opens Windows Explorer.
- Start with Ctrl plus F finds a computer.
- Start with M minimizes all open Windows.
- Start with Shift plus M maximizes minimized windows.
- Start with Tab cycles through taskbar buttons.
- Start with Pause/Break displays System Properties box.

**56. Keep A Spare** If you are like many people, you've come to depend a great deal on your computer. Keeping inexpensive spare parts on hand can save you lots of time and trouble. We're not talking about a processor or extra RAM, but a spare mouse and keyboard could come in handy. They are both relatively inexpensive items and could be useful in the event one becomes damaged at the most inopportune moment.

**57. TLC For CDs** CDs are fragile. Handle them using the edges or the center hole. If they must be placed on a surface, place them with the printing down. They will last a long time if treated with care.

**58. Defeat Wrist Pain** If you use a mouse to get around your computer screen, it can be easy to develop wrist pain. One solution is to learn how to initiate commands using the keyboard. Not for you? Try a trackball. Instead of using your wrist, your fingers do most of the work, relieving much of the discomfort associated with using a mouse.

**59. Eliminate Unwanted Backgrounds** Having access to information on the Internet is one of the obvious benefits of being online. There are times we

want to print a document for future reference. We have the option of saving all of the background images and graphics along with the text, or simply printing only the text. To set Internet Explorer to print Background or Text only, go to Tools on the menu bar and select Internet Options. Select the Advanced tab and scroll down to Printing. Here you can select or de-select the Print background colors and images option.

**60. Free Software Updates** Registered users of Microsoft software products are treated very well. You can often receive upgrades to older versions of many programs. For example, there is no need of running a dated version of Internet Explorer, simply go to **<http://www.msn.com>** (if you don't feel like typing it in, Microsoft has been kind enough to place it in your Favorites folder) and select downloads. Here you'll find dozens of freeware programs and upgrades to many of Microsoft's programs like Outlook Express (email program) and Internet Explorer.

**61. Resize Buttons** Would you like to have the Minimize, Maximize, Restore and Close buttons in the upper right corner of your screen a little larger and easier to access? It's not hard to resize them. Right click on any unused portion of your desktop, select Properties and click the Appearance tab. In the lower portion of the dialog box you'll see three fields, select the one labeled Item. Scroll through the choices until you find Caption Buttons and select it. Immediately to the right of this field is a size box. The default setting is probably at around 18. You can bump it up to 22 - 25 for very easy button access, and click OK to save the new setting.

**62. No Need To Click** Do you ever feel just a little mouse-dependent? Everything that can be accomplished with a mouse can also be done with the keyboard. To move a window around the desktop, press Alt and the space bar. A pop up menu will appear. Press M for move. A four-headed arrow will appear at the top of the window. You can now use the arrow keys to position the window. When you have it where you want it, press Enter. Who says you're mouse-dependent?

**63. No Need Continued** You can also change the size of any active window using the keyboard. Again, press Alt and the space bar. This time press the S key for size. The four-headed arrow will appear. Use the arrow keys to size the windows. Press Enter when you have it the size you like.

64. **Customized Titlebars** If you're using Windows 98 you can customize the gradient of the title bars (the uppermost colored bar displaying the title of the program, file, or application) in each window. Try it. Right click on an unused portion of the desktop, select Properties, and Appearance. In the field labeled Scheme, select Windows Standard. In the field labeled Item, select Desktop. With this done, you'll be given choices for the blending of two colors for your title bars. Once you've selected them, click Apply to save the settings.

65. **More Customizing** To further customize your title bars why not change the fonts too? Right click on an unused portion of your desktop, select Properties and click on the Appearance tab. In the field labeled Item select Active Title Bar (this won't change the gradient). You can now select one of the many fonts available with Windows. Once you've found one you like, click Apply to save the setting.

### HOT TIP

66. **Disable Call Waiting** Call waiting can play havoc with your online connection. To disable call waiting while online click the Start button and select Settings. From the pop up menu, click Control Panel. Here you'll find an icon (telephone) for your modem, double click on the icon. Click on Dialing Properties and then click, "To disable call waiting..." Type in \*70 or \*7. If that doesn't work consult your ISP for instructions.

67. **For Lefties Only** Right handed people have a lot to take for granted. That's because the world is set up for them, including the mouse for your computer. If you want to change the default button for your mouse, click Start, Settings, and click Control Panel. Double click on the Mouse icon. Here you'll find a dialog box called Mouse Properties. You can change the default button, along with the look, size, and speed of the cursor (pointer), and add trails to it while it moves. While you're here you might want to change the speed with which the computer responds to a double click.

68. **Personalize Settings** More than one person in your household using the computer? Why not customize the machine for each user? Click Start, Settings, and Control Panel. From here, double click the Passwords icon, identified by a colorful set of keys, and click the User Profiles tab. From here select, "Users can customize their own preferences and desktop setting."

Now, close all open applications and shut down the computer. When you reboot, you will be asked to enter a password. This will be the first profile. Do this as many times as you need to establish the number of profiles necessary. Each user can now set up Windows to match his/her personal tastes.

69. **Sound Effects** Perhaps you've noticed different sounds associated with common software functions. For example, when you shut down a program, you hear a particular sound effect. You can change these sounds, using a fairly wide range of selections. Click Start, Settings, and Control Panel. From here, double click the Sounds icon. You can now choose individual sounds to associate with certain functions or a sound theme. Experiment and have fun.

70. **Free Up Disk Space** If hard disk space is at a premium, you can free up some by getting rid of your Temporary Internet Files. Every time Internet Explorer takes you to a new Web page it saves a shortcut to the page in its cache. These files can occupy a considerable amount of disk space and are not needed. Go to Start, Programs, and double click on Windows Explorer. Here you'll find a group of files laid out in tree structure. Double click on Windows, and then locate the Temporary Internet Files. There's really no need to look at each one individually, as there could be thousands. Right click on the folder and click Properties. Here you can find out how much space is being used by the files in this folder. To delete the files, you'll actually need to open the folder. Once open, click Edit in the menu bar, and click Select All. Now go to File in the menu bar and click Delete. They won't be sent to the Recycle Bin, they're gone for good.

## HOT TIP

71. **Adding Destinations to "Send to"** A quick way to send a copy of a file is to right click on the file, select "Send to" and click on the desired destination. There are several default destinations in the Send to menu such as the A: drive and My Documents, but you can add as many as you want. Right click Start and click on Explore. Under Windows, find the Send to folder and open it. On the right side of your display you should see the current destinations. Let's say you wanted to add the Recycle Bin. Reduce the size of your screen by clicking the middle button in the upper right portion of your display. Find the Recycle Bin on your desktop and right click on it. Click Create Shortcut. A shortcut will be placed on your desktop. Drag it into the folder with the other Send to destinations. You can now dispose of files using the Send to command. You can do this with all accessible files and folders.

72. **Where Is It Going?** Ever wonder what is going to happen to a file you're dragging once it gets to where you're going? An arrow in the lower right hand portion of the icon means the file will become a shortcut. A plus sign means the file will be copied, and no indicator means it will be moved.

73. **Change Of Scenery** Windows allows us a wide variety of fun and sometimes even frivolous options. If you'd like to see some nice background scenery when you open a folder, it can be arranged. Open My Computer and click on (C:). Select a folder and open it. In the menu bar, click on View and choose Customize this folder. From here, select "Choose a Background Picture." The Windows wallpaper menu will appear. After selecting a pattern, follow the simple instructions to finish.

74. **Undo A Mistake** Most software applications these days are pretty forgiving. If you've made a serious mistake that you think could wipe out the last hour or so of your work, there is probably a remedy. The trick is not to do anything else until you try it. Even a mouse click could keep this from working. In the menu bar select Edit and click Undo Edit or simply Undo. An even faster way to accomplish this is to press Ctrl and Z.

75. **Quick Move** Right clicking on a folder or file and selecting Send to, will move a copy of the document to a chosen destination. But what if you want to actually move the file without copying it? Hold down the Shift key while clicking on Send to. This will move the file without making a copy.

76. **Abort Mission** Ever start an application that seems like it's taking forever to open? You might launch a program and change your mind before it finishes loading. You can stop a program from opening by holding down the Ctrl, Alt, and Delete key together. Contrary to computer folklore, this won't shut down your computer (doing it twice will though). This will bring up the Task Manager asking you if you want to End Task. Click the appropriate button and the launch will be aborted.

77. **Reality Check** Feel like you've been working for days? Lost track of the date? No calendar around? Hold the mouse pointer over the time display and the date will appear.

78. **Lost Passwords** Have you forgotten your Windows logon password? Don't have it written down anywhere? Okay let's fix it. Press Esc on the

logon dialog box. In a DOS prompt window type `dir *.PWL`. Delete the PWL file with your name in front of it. Shut down Windows. When you reboot you will have the opportunity to create a new password.

79. **Renaming Stuff** You can rename icons, files, and folders a couple of different ways. First, right click on the item and select Rename. Simply type in the new name when prompted. If that isn't simple enough, then select the item you want to rename and press F2. Type in the new name.

80. **Checking System Profiles** Ever wonder exactly what you've got inside your computer in the way of hardware and software? Microsoft has compiled all of the information specific to your system in a little program called `Msiinfo32.exe`. To take a look at what's installed on your machine, click Start, Run, type `Msiinfo32.exe` into the prompt box and click on OK. Your system information will be displayed.

81. **Setting Screensaver Launch Time** How long is your computer idle before your screen saver launches? Good question. You can easily set the time it takes before it takes over your monitor. Click Start, Settings, and click on Control Panel. Double click on Display and click the Screen Saver tab. Here you can set the number of minutes the computer is to be idle before launching the screen saver.

82. **Beginning & End** Ever find yourself scrolling through a long document to get to either the beginning or end of it? That isn't necessary. To get to the top of a file, simply press Ctrl and the Home key. To quickly get to the end, press Ctrl and the End key.

83. **E-Z Disk Formatting** These days virtually all floppy disks come formatted. A formatted disk simply means it is ready to accept and read data. Occasionally you'll run into an unformatted disk. When you try to use it, you'll get a message saying, "Disk requires formatting," or something similar. To format a floppy, insert a disk into its drive (usually A:), click My Computer, then right click on the icon for that drive and select Format. In the check box click on "Full."

84. **Delete The Commercials** Do you receive annoying little commercial messages when you start up your computer? More than one manufacturer of hardware and/or software has managed to install marketing information for

your viewing displeasure immediately after booting. To get rid of it, click Start, go to Programs and Startup. You'll probably find the culprit here. To get rid of it, right click on the name of the program and click Delete.

85. **More Scrolling** You can scroll up and down in most browsers using your mouse and the scroll bars. You can also scroll up and down with the arrow keys. To scroll down, you have an additional tool in the space bar.

86. **Tunes** Did you know that in addition to running software, your CD-ROM drive will play music CDs? It's true. You can pop in your favorite CD while working on your computer.

87. **Quick Keys** Right clicking on an object with your mouse offers a wide range of possibilities. You can accomplish the same thing with the keyboard by first selecting an object and pressing Shift and F10.

88. **Delete Recycle Bin Confirmation Prompt** Have you noticed that before you actually delete an item you are asked if you are sure you want to send it to the Recycle Bin? Some users don't need to answer this question each time they delete a file. To get rid of this prompt, go to the desktop, right click on the Recycle Bin and click Properties. Under the Global tab you'll find a check box with "Display Delete confirmation box" beside it. Uncheck it and you'll stop receiving the message.

89. **Hardware Inventory** Like to get the scoop on every last piece of hardware in your system? Click Start and Run. Type "hwinfo /ui" into the address field without the quotes. A window will appear containing detailed hardware profiles for your computer as well as all connected devices. Sorry, Windows95 and 98 only.

90. **Setting Click Speed** If you have difficulty double clicking your mouse fast enough for it to react, there are a couple of things you can do. The first is to simply click on an object once and press the Enter key. You can also change the double click speed of your mouse easily. Click Start, Settings, and Control Panel. Double click the Mouse icon. Select the Buttons tab. You can adjust the click speed and test it before confirming your setting by clicking OK.

91. **Mouse Cleaning** Ever have trouble getting your mouse to do what you want it to? It probably needs cleaning. Some mice have a convenient little turn

and lock device that allows you access to the inner workings, others have a couple of screws that will need to be removed. Open the bottom of the mouse and clear out any dust or pet hair. There are also small rollers inside that attract dirt. I use a toothpick to remove it. You can buy pressurized air in aerosol cans to blow out the dirt, but usually, an old fashioned birthday candle puff or two will do the trick to get rid of stray particles of unwanted debris.

92. **Window Alignment** Ever click on a link only to have a window appear too far to the top or right of the screen, making access to the Minimize, Maximize, Close buttons impossible? You can close the new window by right clicking on the icon that has appeared in the taskbar, and clicking Close. You can maximize the window without the button by double clicking on the title bar. But an easier way to deal with it is to simply drag the window into better view by clicking on the title bar with your mouse, and moving it a little to the left with the mouse button pressed. When you have it where you want it, release the button.

93. **Minimize Open Windows** There are times you'll have more than one window open. To minimize them all at once right click on any unoccupied section of your taskbar and click Minimize All Windows. To get them back, click Undo Minimize All.

94. **E-Z Printing** Most applications offer you two ways to send a document to your printer. One way is to click File in the menu bar and click Print. This will bring up a dialog box with some useful information about your printer. In the section labeled Print range, you'll have the option of printing the entire document by checking All, or just printing the pages of your choice by clicking the Pages box. To print a single page in the middle of a multi-page document, type the page number into both boxes under the Page option. To print pages two through six in a ten-page document, type two in the first box and six in the second. Another way to send a document to the printer is to click on the printer icon in the Toolbar. This will send the entire document directly to the printer, without the prompts.

95. **More E-Z Printing** Have you ever wanted to print just a few lines of a document or Web page? Select (highlight) the text by left clicking your mouse on it and dragging the mouse over the desired material. In the menu bar, go to File and select Print Range. You'll print just the selected text.

96. **Close A Program** To quickly close an application after saving your work, press Alt and F4. To quickly shut down your computer with no applications open, again, press Alt and F4.

### HOT TIP

97. **Optimal Operating With Smart Clipboard Use** When copying large files such as graphics to the Clipboard, don't keep them there longer than necessary. While there, they use a good deal of your computer's memory. To clear a file from the Clipboard, you can actually open the Clipboard and delete the file. To open the Clipboard, press Start, Programs, Accessories, System Tools, and click on Clipboard Viewer. To delete the contents, click Edit and Delete. A quicker way to accomplish almost the same thing is to select a single word and Copy it. That will remove the large file and replace it with the single word, freeing up memory. If you find yourself using the Clipboard a lot, why not place a shortcut for it on your desktop? Go to the Clipboard Viewer as described above, right click on the icon, and select Create Shortcut.

98. **Dragging An Object** Cutting and pasting is an easy way of moving material around a document, but for some purposes, there's an even easier way. Say you decide to move the last paragraph in a document to the middle of the page. Place your mouse cursor at the beginning of the paragraph and highlight it by holding the button while dragging the mouse over the text. Once selected, place your pointer on any part of the shaded text. The word "Drag" should appear beside your pointer. Left click the mouse, hold the button, and drag the highlighted section to the new location.

99. **E-Z Undo** Pressing Alt and the backspace key will undo your last entry.

100. **Last 15 Documents** Forgotten what documents you've opened recently? Press Start and place your pointer on Documents. The last 15 files opened will be displayed.

101. **Clever Keys** As you access commands in the menu bar you'll notice some of them have an underlined letter. To initiate the command without the mouse, press Ctrl and the letter.

102. **Date Stamp** Do you need the date and time in a document you're creating? Many word processing programs make it easy to enter them. To

automatically place the time and date into a document, click Insert and click on Date and Time. A group of date and time options will appear. Select the one you want and click Insert. In some programs, you can even have the current date and time updated at the time of the printing of the document.

## Web Tips

103. **Keep A Log** As you surf the World Wide Web you are bound to subscribe to various newsletters, bulletin boards, chat forums, or sign up for several free email accounts. Many of these services require that you register and get a user name and password. You'll need these each time you log on. Even though you can tell your computer to remember these keywords, sometimes they get erased as a result of a power failure or unexpected crash. Therefore, it is essential that you keep a log with your various user names and passwords handy. Each time you sign up for an online service simply jot down your keywords and you'll always be ready for smooth surfing.

104. **Free Email** With so many free email services offered on the World Wide Web, it might be wise to have several accounts. It is becoming more common for information gatherers to ask for your email address along with your other vital statistics such as name, address, telephone number etc. Recently I was offered 15 percent off my next purchase at one of the major book retailers just for giving them my email address. Email is often used for various promotions and solicitations just as snail mail is. To avoid having your personal email box cluttered with commercial offers, why not have one of your free email accounts bear the brunt of the promotions that are sure to come as you become more active online.

105. **Basic Search Engine** Among its many functions, the Internet has to be the world's most comprehensive library. Whenever a question comes up, get in the habit of using this wonderful resource. One of the more popular search engines should help you in your quest for knowledge. Simply type in your question or keyword and hit the send button. Chances are good you'll end up with an answer. For a list of great search engines, check page 277.

106. **Free Home Page** Many Internet Service Providers (ISPs) provide some disk space on their servers so clients can create a Web page or two. Check

with yours to see if this is an option and what you need to do to get your page up if it is.

**107. Time Tracking** It's easy to become distracted during a fun or productive online computer session. Sometimes you'll open several programs and forget about the Web while working. All the while, time is ticking away. That's not much of a problem if the arrangement you have with your ISP allows for unlimited use. But if you are being charged by the hour, precious time could be wasting.

**108. Setting Up Internet Explorer** Setting up a computer to connect to the Internet sends fear into the hearts of some people, but not those with the proper resources. Actually, setting up Microsoft Internet Explorer is as easy as following some very simple instructions. Let's walk through it.

1. Click Start, Programs, Accessories, and Communications.
2. Select Internet Connection Wizard and click. If Connection Wizard isn't there see step 12.
3. Here you'll find three options. The first two will assume your computer has a modem installed and a phone line is connected.
  - a. sign up for a new Internet Account.
  - b. transfer an existing account
  - c. connect manually or through a network.
4. Select one of these options. (Most people will choose from the first two) Click Next.
5. Enter the number your Internet Service Provider (ISP) has given you as the dial-up connection. Click Next.
6. Enter your user name and user password. You've probably agreed on a user name and password when you first contacted your ISP, if not, call them for instructions. Sometimes you can simply enter the name and password you intend to use and your ISP will make note of them when you enter all of the information.
7. Type the name of your ISP.

### ***Your Email Account***

8. Now set up an email account. You'll need to enter your name, user name, and email address. Often, but not always, it will be your user name. If you have a common user name, it's likely to already

be in use by someone else. If this is the case, choose another.

For example you might pick, `rollypolly@solidservice.com`.

9. Check with your ISP for the mail server question or try entering “mail” and the provider’s name. In our example it would be `mail.solidservice.com`.
10. Finally, enter your account name, `rollypolly`, and your password where requested. You can logon to the Internet automatically (without stopping to enter your user name and password each time) by checking the Remember password box. There should be no need to check the Secure Password Authentication box unless instructed to do so by your ISP.
11. Click Finish.
12. If the Internet Connection Wizard wasn’t on the Communication panel in Accessories, go to your desktop and right click on the Internet Explorer icon, choose Properties, click on the Connections tab, and press Setup. Then follow instructions 3 through 11.

109. **Change Your Homepage** To set, or change the Home page (the Web page that first displays when you log onto the Internet) in Internet Explorer, logon to the Web and go to the page you want to use as Home. Click Tools in the menu bar and select Internet Options. Click on Use Current. From then on, that will be the first page you see when logging on. There is always more than one way to accomplish something with Windows. If you know the URL of the page you want to set as Home, go to the desktop, right click on the Internet Explorer icon, and select Properties. This will take you to the same dialog box you found in the previous example. Now you can simply type in the URL and click OK.

110. **Connection Options** The method you use to connect to the Internet will often determine the speed of your connection. Most people use the 56Kps (kilobits per second) modem that came with their computer to connect via a telephone line. However there are a couple of alternatives to phone modems. First there’s the cable modem. This uses the same type of coaxial cable as your television and is available in many cities. It allows you to connect using an additional cable jack and will not interfere with your television. Connection speeds vary from 300Kps to 1 Mbps (megabits per second). Costs range from between \$40 to \$60 per month with a set-up charge of around \$100. Finally (for now), there’s Digital Subscriber Line (DSL) a high-speed connection available in many cities. It works with your telephone line but allows you to

use the phone while online. The monthly charge is around \$50. You'll need a DSL modem, which runs in the \$200 to \$300 range. They can be leased from most carriers for a small monthly charge. Connection speeds are as high as 1.5 Mbs. That's fast!

111. **Finding Online Freebies** There are so many free offers available on the Internet it can sometimes become overwhelming. With a few mouse clicks you can find everything from clipart and coffee, to magazines, voicemail, email, and Web pages. Why is there so much free stuff in cyberspace? See the e-commerce article on page 209. In the meantime, go to any major search engine (see page 277), type in "free offers" or simply "free stuff" and get your freebies now.

112. **No Banners** Tired of banner advertising popping up when navigating the Web? Want to do something to stop it? Several companies make software that block banner ads. Many of these programs are free. To evaluate which one is best for your needs, go to your favorite search engine, type "Block Banner Ads" in the query field, and take your pick from the many offered.

113. **Censored** The best way to keep children from straying to Websites you'd rather they didn't visit, is to monitor their use of the computer. Of course, that isn't totally practical for most parents. The alternative is to employ filtering software such as Net Nanny. When activated, this program keeps users from accessing inappropriate material. It can also deny unauthorized individuals the use of personal information.

114. **Free Software** Among the many useful free things you'll find on the Web are software programs. They're easy to download when you know how. Simply follow the instructions on the Website you're downloading from. Just before you receive the download, the computer will ask you where you want to put the file. You should have a folder where you keep all of your downloaded files ready before you start. To create a folder, on the desktop, click My Computer and select (C:). From here right click on any empty space. A menu will appear. Select New. Another menu will appear with several choices. Select Folder. Give this folder a name like "Web Downloads" or something similar. Now you've got a place to store your Web files. When the dialog box appears asking where you want to store your download, it will ask, Save As? Click on My Computer, select (C:). Here you will find your new Web Downloads folder. Select it and the program will be stored there for easy future access.

115. **IE Toolbar Goodies** To view the many shortcuts available in Internet Explorer, right click on an empty space in the toolbar and select Customize. This will bring up a menu allowing you to add or delete tools.

116. **Check Connection Speed** To check the speed of your Internet connection, place the mouse cursor over the connection icon in the Taskbar. The connection speed will be displayed. For more information, right click on the icon. This will tell you how long you've been online, the amount of data received, and a button for disconnecting.

117. **Add A Favorite** A quick way to add a Web page to your favorites file is to press the Ctrl and D keys together. If the page belongs in an existing folder, you can go back later and drag and drop it into the destination folder.

118. **Another Search Basic** Search engines can be extremely useful in finding information on the Web, but each one has its own little quirks. Before using a search engine, check out the Help section most offer. Here you can learn methods for maximizing your search with that particular engine. If you have trouble locating information on one engine, try another.

119. **Find The BOSS** Ever visit a Website and find absolutely no reference to the owner of the site. You can learn the registered owner of a domain name rather easily. You'll need to log onto the Internet and go to **http://www.networksolutions.com**. Near the top of the page on Network Solutions you'll find an icon labeled "WhoIs Lookup." Click on this icon and type in the domain name that has aroused your curiosity. The registered owner will be displayed.

120. **Check The FAQ** FAQ stands for Frequently Asked Questions. FAQs are almost standard operating equipment on most Websites, chat and bulletin boards these days. Before posting a question or emailing a busy webmaster, go to the FAQ page and read through it. Chances are, your question is posted there along with a satisfactory answer. It can be considered bad netiquette to ask redundant questions.

121. **Page With A View** The View option in Microsoft Internet Explorer offers useful and convenient assistance for your Web surfing pleasure. Inside of View, under Toolbars, you can add and remove a wide range of useful tools allowing you to scroll backward and forward to pages, easily cut and paste,

refresh the page, access email or print what's onscreen. You can look at a log of previously visited pages in History, and enlarge the page you're viewing. The pop up menu found under Explore Bar splits the screen into two windows allowing you to access MSN for a Web search of people, places, and things; it can display your Favorites folder or History as you surf; provide access to many discussion boards, and offers a computer or Web related Tip of the Day, courtesy of MSN network. Why not spend some time exploring View?

**122. Setting Browser Font Size** Internet Explorer allows you to set the size of the text you see on Web pages, from very small to very large. Go to View and select Text Size. A pop up menu will appear with a several choices for text settings. Experiment until you find one you like.

### HOT TIP

**123. No Cookies Thank You** Cookies are messages sent to your browser by some of the Websites you visit. They are designed to identify you based on information collected from previous visits and customize future content, sometimes offering you specific products and services. Some people feel this is a breach of privacy. You can easily disable cookies. In Internet Explorer go to Tools and select Internet options. Select Security, and scroll down to Cookies. From here you can choose to receive a prompt each time a cookie is launched so you can decide whether or not to accept it. Or, you can disable cookies from being stored in your browser as well as stopping cookies during each online session. Simply check the box that suites your desires.

**124. Save Results** Have you ever hit the jackpot when using a search engine? You've typed in your keyword and the results were all right on target. In fact, there is more useful information than you could review in several sessions. Why not add the "results" page to your Favorites for future use?

**125. E-Z Web Search** When using Internet Explorer 5, searching for information can be a breeze. Type a word or phrase into the address field and press Enter. You'll get a list of possible hits displayed on the left of your screen. If your search word actually points to a Web page, the browser will bring it up.

**126. More Like This?** Found a site with interesting information? Wish there were more like it? There probably are. In Internet Explorer go to Tools in the

menu bar and click on Show Related Links. You'll get a list of hyperlinks pointing to similar sites.

127. **Browser Navigating** When using Netscape Navigator as your Web browser you can press Alt and the left arrow key to go back to the previous page. Alt and the Right arrow will take you forward.

128. **Finding Plug-Ins** To find out what plug-ins came with Netscape Navigator type "about: plugins" without the quotes in the address field. A list of plug-ins included in the version you are using will be listed.

129. **Getting Around The Web** Need to change your address? Your Web address I mean. To type in a new domain name you have two options. You can single click your mouse in the address field. This will highlight (select) the current address. Now just type in the new URL. If you're more of a keyboard person, you can select the address field by pressing Alt and D.

### HOT TIP

130. **Radio Anyone?** In Internet Explorer 5 you can listen to international radio while working. Just right click on any unoccupied space on the Toolbar in the browser, and click Radio. The Microsoft Media directory will open. Click on Radio Stations, then Radio Station Guide. You can also click on Station Finder to select stations according to the band on which they broadcast such as AM, FM, etc. You'll find choices for radio broadcasts from all over the world. To exit radio mode, right click again on any unused spot on the Toolbar and deselect Radio. To remove the Media page simply hit the Back button. This is a great argument for going to MSN's Website right now and upgrading your browser.

131. **History Lesson** Forget where you've been on the Web? Sure, you found a site that was so cool you were sure you'd never forget it, but now you have. You can get back to it if you were there recently. Just click on the History button in your browser's toolbar. History not there you say? Bring it down by right clicking on the Toolbar and clicking Customize. A menu will appear showing all of Explorer's available tools. Select History and click Add. You can now access the sites you've recently visited by double clicking on them.

**132. More History** If you'd like to keep pages you've visited in the History Folder longer than 20 days (the default setting), click Tools, and Internet Options. Under the General tab you'll find History. Look for "Days to keep in history," and make the appropriate adjustments. You can also clear all of the pages from the History folder here.

**133. Search Engine Folder** If you plan to use the World Wide Web as an information resource, you'll need to get good at using search engines. Though the principles are the same, each search engine seeks out information a bit differently. Why not create a folder in Favorites containing the top search engines so you'll always have them close at hand. See page 277 for a list of the top 25 engines.

**134. Safeguarding Your Favorites** Don't know what you'd do without your Internet Explorer Favorites Folder? Why not save it? You can export a single file or the entire folder to a location on your hard drive or to disk. It's easy to do. With the browser open, click on File. From the pop down menu, click on Import and Export. The Import/Export Wizard will appear. When prompted, select Export Favorites and click Next. Your Favorites folder will be selected (if you wanted to select a single file, you'd simply click on the desired one), click Next. By default, the next prompt will offer to send the Favorites folder to the My Documents folder, stored on the (C:) Drive. If this is okay, click Next, if not select Browse. A window will appear titled Select Bookmark File. Click on the small arrow in the upper address field. This will offer you many destination options. If you want to store the folder on a zip or floppy, select the appropriate one and click Save. You've now got your Favorites backed up for safekeeping.

**135. Rush Hour** Just like the freeway system, the Information Superhighway experiences congestion. Perhaps you've noticed a decrease in navigation speed at certain times. It seems to happen in the late afternoon and early evening when many people decide to get online and surf. If you have important work to do, avoid frustration and try to keep from going online during rush hour.

**136. Simple Searching** Aside from being a fun place to hang out, the Internet is loaded with useful information. Whenever you want to find out about a new product, or locate even the most obscure information, simply go to your favorite search engine, type in a word or phrase, and chances are, you've found what you were looking for.

137. **Who's The BOSS?** Another way to find out who owns a particular domain name is to type **http://205.177.25.9/cgi-bin/whois?** into your browser's address field. This will bring you to a page where you'll need to enter the domain name. The behind-the-scenes information will be displayed.

138. **Web Routing** You can actually trace the route and identify the servers routing any Web address to your computer. First, you'll need to open a DOS window. Press the Start key, go to Programs and click on MS DOS Prompt. Next to the flashing cursor type "tracert" without the quotes and the domain name. For example, tracert **www.UserFriendlyBooks.com**. You'll need to be online to do this.

139. **Redial** Weren't able to get online on the first try? Why not set your computer to keep dialing until it does logon. Press Start, Programs, Accessories, Communications, and click on Dial-up Networking. In the menu bar click on Connections and Settings. A check box will appear. Click in "Re-dial" to activate your choices. You can choose any number of re-dial attempts between 2 and 200 where it asks, "Before giving up retry." You'll probably want to set "Between tries wait," \_\_min.\_\_sec. at zero.

140. **Connection Check** Does it seem to take forever before you get connected to the Net? To be sure you are connecting at optimal speed, try this: On your desktop double click My Computer and then double click on Dial-up Networking. Right click on your connection icon, and click Properties. From here, click on the Server Types tab. In the dialog box that appears under Advanced Options, be sure that "Log on to Network" is unchecked. If it was, that's what was slowing down your connection time.

## Email Tips

141. **Case Sensitive** Email addresses are not case sensitive, so if you want to use capital letters it's okay, your message will still get there.

142. **Email Access** Many ISPs allow you to access your email directly from their Website. To see if yours does, log onto their site and look for an email icon or a link with the name email or simply mail and click on it. From here you'll need to enter your username and password to get your mail. This comes in really handy when you're away from home, and have access to the Internet.

143. **Wingdings** To dress up and add a little fun to email and other correspondence, select **Format** in the menu bar, then **Fonts**, and scroll down to **Wingdings**. These are cool symbols that will add pizzazz to your letters. Take a look.



144. **Email Test** Have you ever had someone tell you they didn't receive an email you sent? Maybe your email account isn't properly set up. To test it you can open an email account with one of the many free email providers on the Web and send yourself a message. (MSN, Yahoo, and USAnet are just a few of the free providers of personal and business email accounts). If you get the message you're okay; if you receive a message stating something like "Undeliverable," you'll need to check your account with your ISP.

145. **Attachment Alert** Email will not introduce viruses into a computer but opening attachments to email can. Therefore, before sending attachments like they were going out of style, be sure the recipients welcome them. A simple note (via email) to ask your friends how they feel about getting attachments is common courtesy. By the same token, be careful when opening attachments. It's a good idea to know the sender. If you plan to open any email attachments, an up-to-date virus scan program should be in place.

## HOT TIP

146. **Block Undesired Email** Is there someone you'd rather not receive email from? You can easily block messages from selected senders. First select a message from the individual in question by single clicking on it in the **Inbox**. Then go to **Message** in the menu bar and select **Block Sender** from the drop down menu. A prompt will appear asking you if you want to block messages from this individual or company. Click **Yes**. Have a change of heart? Go to **Tools** and select **Message Rules**. From the pop up menu select **Blocked Senders List**. This will display a list of individuals you have blocked. To reinstate one or more, select the name by single clicking on it and press **Remove**. They are now able to send you mail again.

147. **Email Return Request** You know Outlook Express is working because of all the junk mail you've been getting, but why doesn't anyone answer you? You can request that people receiving your messages notify you when they

get your email. Go to Tools in Outlook Express, select Options and Receipts. Click in the check box requesting a Read Receipt.

148. **Spell Checker** Outlook Express, Microsoft's email program will check your spelling before you fire off a message, if you want it to. Just click on Tools in the menu bar, select Options and the Spelling tab. From here you can set the program to check for misspelled words, suggest replacements, ignore certain types of words such as those spelled in uppercase letters, words including numbers, Web addresses, and more.

149. **Your Address Book** Outlook Express allows you to keep an email address book, and you don't have to manually enter the names of all your contacts. Addresses can be automatically placed in the Address file by simply replying to an individual once. To set Outlook to do this, go to Tools, Options, and select Send. Here you'll find several options concerning your mail. Select "Automatically put people I reply to in My Address Book," along with any of the other useful options listed.

150. **Customize Email** You can customize your outgoing email by changing font size and style, and adding colorful backgrounds to messages. You can even include your business card. A great way to see how your custom mail appears is to send yourself several test messages at the free Web based email account of your choosing. Check with Yahoo or Hotmail to set up a free email account. To customize your mail go to Tools, Options, and select the Compose tab. Here you will find the Stationary Wizard. Have fun!

151. **Sending Copies** Sending out birthday invitations by email? You can get the job done without having to write to everyone on your list individually. To mail the same message to a group of people, type the email addresses into the Cc (carbon copies) field. Be sure to place a comma between them. By putting the addresses here, all the recipients will be able to see the entire list. For complete anonymity, type the names into Bcc (blind carbon copy). Recipients of the message will not know who else is getting it.

## For the Web Entrepreneur

152. **Increase Site Traffic** With the right Web host, maintaining several Websites can be relatively inexpensive. To increase traffic to your site, why not have several other Websites directing visitors to your primary site? For example, if you sell pet supplies on your primary site, you might have a separate site offering a “Pet tip of the day” along with a free newsletter for pet lovers. To receive the newsletter, a visitor would have to provide you with his email address. This is a great way to build up a customer base. Be sure that when asking for email information, you let visitors know you’ll be sending them occasional offers. Of course, you’d also have a hyperlink on the “Tips” page pointing to your primary retail Website.

153. **Free Offers** Offer something free on your site. Doing so allows you to include the words “free offer” when listing with search engines. There are many people surfing the Net looking for free stuff. You can get them to your site with the free offer, it’s up to you to interest them, and keep them coming back with useful content. What might you offer? Email, software, contest entries, consulting in your area of expertise, classified ads... Use your imagination. You don’t need to run your own contest or free email service, you can become an affiliate of a site already offering these services and provide the appropriate links.

154. **Make It Useful** If nothing else, the Internet is an information utility. You can keep visitors coming back to your site by providing useful information and keeping it regularly updated. One way to do this is by posting a daily tip on a subject in your area of expertise. Another is to produce a quality newsletter. You might consider offering breaking news stories or the weather. You can access all of these services by becoming an affiliate of a site whose primary business lies in these areas.

155. **Make It Unusual** Offer something unusual on your site to get some buzz going. Although it wasn’t quite the frosting on my cake, the movie *Blair Witch Project* received tons of publicity along with millions of Website visits with viral marketing. Viral marketing is simply buzz created through word of mouth and personal email. The hook that made Blair Witch cool was the ever-present question of the story being true. That, coupled with a bit of the macabre, tweaked people’s curiosity just enough to make the producers of the project wealthy - well, I guess that’s probably relative.

## Organize Web Favorites

Computers allow for both orderly and messy storage of data. Why not get into the habit of keeping files neat and tidy? Saving your favorite Websites is a good place to practice neatness. Discovering the World Wide Web sometimes prompts people to save dozens of favorite sites. The problem with indiscriminately saving Websites is they can clutter up your favorites folder. I peeked inside a friend's computer recently and found more than 300 Favorites stuffed in there. Most were stock market Websites stored without any rhyme or reason. My friend complained he could never easily find the page he wanted. To avoid a cumbersome Favorites folder, you'll need to organize your sites into separate folders. It's easy to do and can help keep the peace in a household with more than one computer user.

Say you like needlepoint and have found several good needlepoint Websites you like to visit. Next time you visit one, click on Favorites. A menu will appear with two selections at the top along with all of your saved sites, *Add to Favorites* and *Organize Favorites*. Select *Add to Favorites*. A dialog box will appear offering several choices. You can click OK, but that will just add another name to the Favorites folder. Instead, click *New Folder* and label it "Needlepoint." A new folder labeled Needlepoint will appear in the box (the newly created folder will be *selected* or highlighted). Then just click OK and the new Website will be kept in the Needlepoint folder.

Now, to get the rest of your Favorite needlepoint Websites into this folder, click *Organize Favorites*. You will see a dialog box showing your list of favorites along with four choices labeled, *Create Folder* (another way to do what we've just done with Needlepoint), *Rename*, *Move to Folder*, and *Delete*. In the box showing all of your favorite sites, select the first one you want to put into the Needlepoint folder. Then select *Move to Folder*. A new box will appear asking you to choose the folder you want to use. Click once on Needlepoint. Now one more of your favorite sites is in the Needlepoint folder. Continue the process until you've created folders for all of your favorites. You might consider naming a folder "Just Mom" or "Beware" depending upon the contents.

After you've gotten all your files in order, you can delete any duplicated sites from the main menu. Go back to *Organize Favorites*, select a Website from the main menu (this should now be residing in a folder) by clicking it once (it becomes highlighted), and click *Delete*. Continue this way through your favorites until you've got a neat and tidy group of cool Web destinations stored.

## Search Engine Tips

In addition to being a gigantic commercial and entertainment medium, the Internet is the World's biggest library. There is information available on every conceivable topic, making research projects a breeze. Of course, you have to be able to locate the information. Even with its limitations, the public library uses a system of cataloging named after its creator, called the Dewey Decimal System. The equivalent of the Dewey Decimal System online is the search engine. And there are thousands of them.

Search engines are great for easily locating commercial products and services, information about celebrities, news, weather, and current events. When it comes to specific academic information, however, we sometimes face a challenge. Here we'll discover a few tricks to make our searches more productive.

There are two basic types of search engines. First, the directory. Essentially, a directory is a search engine that maintains a big list or database of Web pages or documents (Web pages are nothing more than fancy documents). Listing in a directory depends on someone writing a summary of the contents of a Website and submitting that summary to the search engine. Yahoo is among the largest online directories. The other method search engines use is the crawler, spider, or bot method of locating information. This type of engine uses software that automatically crawls from one site to another via hyperlinks looking for particular words or phrases.

Based on the words you enter in a search field, either type of engine will compile a list of Websites and documents listed in the order of relevancy to your search words. The more relevant the result, the higher it is placed in the list. Each of the results provides a hyperlink to the Website or page.

### ***Keywords***

The most common way a search engine looks for documents is the keyword. The way this works is, when a Website creator or administrator submits a Web page or document to a search engine, they single out the most common words they feel a person would associate with the document. For example, if I were submitting a site called *MarvelousMakeovers.com*, (this domain name was still available Sept., 2000) a site devoted to woman's cosmetics and beauty, to the top search engines, I'd probably list descriptive words like, health, beauty, makeup, cosmetics, eyeliner, lipstick etc. Addition-

ally, if the site offered a free beauty newsletter as a promotion, I'd also use words like beauty tips, free newsletter, free subscription, etc. Finally, if the site sold cosmetics, I'd list the type of product and the manufacturer's names individually, like Elizabeth Arden, eyeliner, hand lotion, etc.

## ***Clustering***

This type of search takes a word or words and tries to relate it to other words near it or about it. Also called concept base indexing, clustering associates similar and related words to your search request. For example, if you entered "dog," an engine using this method might bring up documents containing, kennel, fleas, biscuit, puppy, show, etc.

## ***General or Advanced Search***

A general search is just that. You type in a word or a phrase and the engine returns a list of documents. If your topic is broad, like Christmas, it's likely you'll get hundreds of results to examine. For more specific information on Christmas, it's still possible to use a general search. Depending on what it was you were looking for, you might try, Christmas Recipes, Christmas Cards, or Christmas gifts. Unless you are seeking very specific information, you should usually start your search with a general search.

Advanced searching can bring us the specific information we seek. And it's become popular for most of the top search engines to offer Advanced Search Methods by simply clicking a button. Let's take a look at a couple here to get a feel for the more common ones.

## ***Finding Sea Turtles***

Say you were looking for information on Galapagos Island Sea Turtles. First, type into the search field, Sea Turtles (this would be a general search). The first few returns would be general information about sea turtles, but as you scroll down the list, it's likely you'll find results about different species of sea turtles and sea turtles of varying regions.

If this didn't turn up what you were looking for, you could try typing in Galapagos "Sea Turtles," placing quotations around the words Sea Turtles.

This tells the engine that your primary interest is sea turtles. In searching HotBot, I typed Galapagos “Sea Turtles” and it returned three links to Galapagos Sea Turtles. But say you tried this and found your results heavily leaning to documents about Galapagos tourism, or nature cruises, without any reference to sea turtles. You might then type, - Galapagos, then “Sea Turtles.” The negative sign theoretically takes the focus off of Galapagos, and places it on turtles. If you were turning up everything but Galapagos, you would try + Galapagos, hopefully bringing the focus more to that location.

Utilizing search engines to their fullest is more an art than a science. Each engine has slightly different parameters it uses when searching. We’ve talked about a couple of generic methods for fine-tuning a search. However, the best way to refine a search is by going to the “Advanced Search” section of a search engine (many of the top engines have this option available) and following the easy instructions. Here, you can focus your search using tools such as date, time, results must contain the word, must not contain the word, etc. Remember, there are thousands of search engines out there, some very specific. If you are interested in the Civil War, there are probably several search engines specializing in information about it. How would you find them? I’d go to one of the biggies and type into the address field, “Civil War search engines.” First, without the quotes. Happy hunting!

***The following is a list of the top 25 search engines in no particular order.***

<a href="http://www.Yahoo.com">www.Yahoo.com</a>	<a href="http://www.InfoSpace.com">www.InfoSpace.com</a>
<a href="http://www.Goto.com">www.Goto.com</a>	<a href="http://www.NationalDirectory.com">www.NationalDirectory.com</a>
<a href="http://www.AltaVista.com">www.AltaVista.com</a>	<a href="http://www.DirectHit.com">www.DirectHit.com</a>
<a href="http://www.LookSmart.com">www.LookSmart.com</a>	<a href="http://www.Searcholopis.com">www.Searcholopis.com</a>
<a href="http://www.Lycos.com">www.Lycos.com</a>	<a href="http://www.About.com">www.About.com</a>
<a href="http://www.Answers.com">www.Answers.com</a>	<a href="http://www.Chubba.com">www.Chubba.com</a>
<a href="http://www.HotBot.com">www.HotBot.com</a>	<a href="http://www.MetaCrawler.com">www.MetaCrawler.com</a>
<a href="http://www.Go.com">www.Go.com</a>	<a href="http://www.Google.com">www.Google.com</a>
<a href="http://www.Excite.com">www.Excite.com</a>	<a href="http://www.Ask.com">www.Ask.com</a>
<a href="http://www.Snap.com">www.Snap.com</a>	<a href="http://www.ScrubTheWeb.com">www.ScrubTheWeb.com</a>
<a href="http://www.AOL.com">www.AOL.com</a>	<a href="http://www.Search.com">www.Search.com</a>
<a href="http://www.WhatUSeek.com">www.WhatUSeek.com</a>	<a href="http://www.Dogpile.com">www.Dogpile.com</a>
<a href="http://www.DejaNews.com">www.DejaNews.com</a>	

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## Search Engine Glossary

**algorithm** a search process as well as a data storage method using a formula or set of steps that have specific parameters. Algorithms vary for each search engine, exact parameters for use are not made known to the public, and are subject to continuous change.

**Boolean search** a search that expands or limits the number and variety of documents found. This is accomplished with the use of words such as And, Or, and Not.

**concept search** refers to a search for information based on a relation to the search word, keyword, or phrase, and not the specific search word itself.

**crawler** similar to spider, software that seeks information using hyperlinks to search millions of documents online. see spider.

**de-listing** the removal of a document from a search engine for a wide range of reasons.

**direct hit** a system used by select search engines to determine a user's requests and the relevancy of the results. This is accomplished by monitoring the returns selected, and the time spent viewing the resulting documents.

**directory** a database that maintains an index of Web documents.

**false drop** a document returned from a search engine that is not relevant to the query.

**full text index** refers to an index cataloging every word contained in a document including stop words such as a, an, and, the, to, etc.

**fuzzy search** a search locating matches for words that might only be word-fragments or misspelled words.

**hidden text** text on a Web page that is invisible to the human eye but can be detected by search engine spiders. This is accomplished by making the text the same color as the page background. The use of hidden text is sometimes used for spamdexing. see spamdexing.

**index** also referred to as a catalog. A database of documents created by a search engine's software.

**keyword search** refers to a search for information relating to a particular word or phrase.

**meta tag** HTML information that describes the contents of a Web page. Meta tags include important keywords designed to be found by search engine software.

**optimization** ongoing changes made to Web pages to improve search engine position. One way to optimize a page would be the clever use of meta tags.

**page popularity** the measurement of the total number of hyperlinks pointing to a particular Web page. Some search engines determine a page's placement according to this standard.

**phrase search** a search for information that contains the exact phrase or sentence as determined by the user.

**precision** the ratio of documents maintained by a search engine to the number located, according to the keyword or phrase used to find them. The larger the database of documents, the greater the precision.

**query** a request for information from a search engine by a user.

**query-by-example** also called "find similar," a search where a user directs a search engine to locate information that is similar to previously referenced material. Many search engines provide links offering users the option to look at "more like this" pages.

**relevancy** refers to the precision with which a search engine located the desired information, as determined by the user.

**search engine** in reality, the software used to search and return matches to search words and phrases. Methods vary, but the primary means of data retrieval are the spider or crawler, and the index or catalog. The term is often associated with a particular Website specializing in locating information.

**spamdexing** the creation or alteration of a document to deceive a search engine. The purpose of spamdexing is to gain a higher ranking in a database.

**spider** a program that searches for information online using the millions of existing hyperlinks to “crawl” over documents related to the search.

**stemming** refers to a search that considers the root of a word. For example, a search for the word “stemming” would also include the word stem.

**stop words** articles, conjunctions, prepositions, and words that would otherwise have little relevancy to the true keyword. Stop words are included in a full text search. Stop words would include a, an, and, as, the, etc.

**submission service** a business that will submit Web pages to various search engines. This can be done automatically using robot software, or manually. There are fee-for-service submission services as well as those performing the work free.

**thesaurus** a database of synonyms used by a search engine to assist in matching keywords to documents.

## Time-Saving Special Key Functions

### Mouse Substitution Combos

Start Menu	Ctrl + Esc
Shift focus to first menu	F10
Left mouse button	Keypad # 5
Right mouse button	Shift + F10
Minimize a window	Alt + Spacebar + N
Close any menu	Esc
Minimize all windows	Ctrl + Esc, then Esc, then Alt + M

### Control Key Quickies

Copy	Ctrl + C
Cut	Ctrl + X
Paste	Ctrl + V
Undo	Ctrl + Z

### Start (Windows) Key Shortcuts

Run dialog box	Start + R
Windows Explorer	Start + E
Minimize all windows	Start + M
Undo Minimize all	Shift + Start + M

Find dialog box	Start + F
Find Computer dialog box	Ctrl + Start + F
System Properties window	Start + Pause/Break
Cycle through tasks	Start + Tab
Windows Help	Start + F1

### **Windows Keyboard Basics**

Switch to menu mode	F10
Close current application	Alt + F4
Close current MDI window	Ctrl + F4
Open the system menu of an active window	Alt + Spacebar
Minimize the active window	Alt + Spacebar + N
Maximize the active window	Alt + Spacebar + X
Restore the active window	Alt + Spacebar + R
Close the active window	Alt + Spacebar + C
Content menu	Shift + F10
Content menu for selected items	Shift + F10
Refresh	F5
Start menu	Ctrl + Esc
Properties dialog box	Alt + Enter
Copy a file	Ctrl + drag a file
Create a shortcut	Ctrl + shift + drag a file

Cycle forward through programs	Alt + Tab
Cycle back through programs	Alt + Shift + Tab
Run dialog box	Ctrl + Esc
Undo	Ctrl + Z
Close current application in MDI mode	Ctrl + F4
Open system menu of a MDI window	Alt + - (dash)
Minimize all windows (first, select taskbar)	Alt + M
Select a menu item	Alt + underlined letter
Cycle through open programs on taskbar	Alt + Esc
Cycle through open programs in reverse	Alt + Shift + F4

### **Windows Explorer Basic Keystrokes**

Display combo box	F4
Refresh	F5
Tab between panes	F6
Move to parent folder	Backspace
Select all	Ctrl + A
Undo	Ctrl + Z
Go to dialog box	Ctrl + G
Expand collapsed selection	Right arrow
Collapse expanded selection	Left arrow

**Accessibility Option Keystrokes**

The following are basic keystrokes for computers with Accessibility Options enabled.

Turn Stickey keys On/Off	Press Shift 5 times
Turn Filter keys On/Off	Hold Shift for 8 seconds
Turn Toggle keys On/Off	Hold Num Lock for 5 seconds
Turn Mouse keys On/Off (left)	Alt + Left shift + Num Lock
Turn High Contrast On/Off (left)	Alt + Left shift + Print Scrn

**Windows Dialog Box Keystrokes**

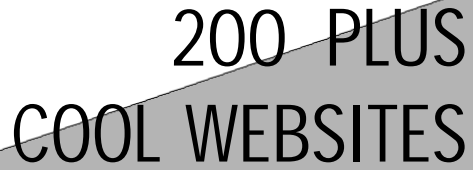
Help	F1
Cancel current task	Esc
Click a highlighted object	Enter
Select/Clear a checkbox	Spacebar
Click a highlighted option	Spacebar
Click forward through options	Tab
Click back through options	Shift + Tab
Cycle forward through tabs	Ctrl + Tab
Cycle back through tabs	Ctrl + Shift + Tab
Open selected folder one level up	Backspace
Open Save in or Look in	F4
Refresh dialog box	F5

## Common DOS & Windows File Extensions

.asc	ASCII text file
.bak, .bk	Backup copy of a file
.bas	BASIC program file
.bat	DOS Batch file
.bmp	Bitmap
.c	C program file
.com	Command file (see .exe)
.cpp	C++ program file
.doc	Document file
.dll	Dynamic link library
.eps	Vector graphic file
.exe	Executable file
.gif	Bitmap graphics file
.hlp	Help file
.htm, .html	Hypertext Markup Language
.ico	Icon file
.ini	Initialization file
.java	Java program file
.jpeg	Bitmap graphics file
.log	Installation record file
.mid	MIDI file
.pcx	Bitmap graphics file
.pif	Program information file
.ps	PostScript file
.sys	Operating system component file
.tif, tiff	Bitmap graphics file
.ttf	True Type font
.tmp	Temporary file
.txt	ASCII text file
.wav	Sound wave file
.wp, .wp5, .wp6	WordPerfect document file
.wri	Document file
.xls	Excel worksheet file
.zip	Compressed file

## Metric Prefixes

Prefix	Abbreviation	Value
yotta-		x1,000,000,000,000,000,000,000,000
zetta-		x1,000,000,000,000,000,000,000,000
exa-		x1,000,000,000,000,000,000,000
peta-		x1,000,000,000,000,000,000
tera-	(T)	x1,000,000,000,000
giga-	(G)	x1,000,000,000
mega-	(M)	x1,000,000
kilo-	(K)	x1,000
hecta-		x100
deca-		x10
deci-	(d)	,10
centi-	(c)	,100
milli-	(m)	,1,000
micro-	(μ)	,1,000,000
nano-	(n)	÷1,000,000,000
pico-	(p)	÷1,000,000,000,000
femto-	(f)	÷1,000,000,000,000,000
atto-	(a)	,1,000,000,000,000,000,000



## 200 PLUS COOL WEBSITES

*Everyone has a slightly different opinion of what “cool” means. When it comes to Websites, cool may refer to many things. Do sites with great animation and graphics qualify? Yep. What about sites with great content and useful information? Yep again. How about sites offering innovative products and services? Of course. And cool wouldn’t really be cool without lots of free stuff. Fact is, we’ve scoured the Web in search of the best of the best. We’ve got fun sites for kids, kids at heart, and sites for serious-minded folks too. Our list wouldn’t be complete without entertainment, sports, unusual and weird, funny, and even sad. There’s something here for everyone, so sit back with a cool drink or a cup of coffee, take a look around, and enjoy yourself.*

### Something For Everyone

1. **www.NationalGeographic.com** You’ve seen the magazine for years. It’s noted for in-depth features on mysterious and far-off places. The National Geographic Website has everything you’ll find in the magazine and more. There’s something here for everyone with a section for kids, interactive feature articles, a directory of great live events, adventure and exploration, and of course, all of the wonderful photography that has made National Geographic famous. If you enjoy the magazine, you’ll love meeting other people who share your enthusiasm in their online forum. Miss an important feature? Be sure to check out the archives.
2. **http://www.Kokobono.com** Strange fiction or eternal legend? The Legend of Kokobono has recently brought many questions to light. Who were the Soon and more importantly, who preceded them? Is it possible that specially prepared plants and simple seawater contain mystical powers? What is the

Universal power of Shee? Exactly where did Kolano come from and what influence did he have on the people of his day? Kokobono has been called “the Forrest Gump of all eternity.” Visit Kokobono.com and learn why.

## WAY COOL SITE

3. **<http://www.Keenagers.com>** Bringing the Best of the Web to Seniors! Do you like trivia, games, Bible Study, the Lottery? Interested in chatting online with you contemporaries, learning more about health, money, your horoscope? You can find it all at Keenagers.com. Need to brush up on your computer skills? Take free classes online and learn how to download programs, post photos online, create a Website, compose email, use a search engine, shop online and more. Find out what’s going on in your town using City Guides & Directory listings. Check out Keenagers.com for your own free email account. This site has something for everyone.

4. **<http://www.SpeedyClick.com>** Auctions, barter, games, chat, SpeedyClick has all of these and more. This is an interactive site with something for the whole family. Feel lucky? Enter one of the many contests featured here. Want to try your hand at a game? Check out Speedy Lotto, Frog hunt, Best Excuses or Blackjack. Feel like chewing the fat with other visitors? Head on over to the message board and see what’s going on. Feeling lucky, nervous, happy? Check your horoscope. While you’re hanging out, play celebrity phone tag. This is where you get to put the words into the dialog bubble of your favorite celeb. Oh yeah, there’s a special section for Women only. This site spells FUN!

5. **<http://www.Poetry.com>** Feeling a bit introspective? Need some quiet time to collect your thoughts? If you love poetry, you’ll want to check this one. Take some time and read each of the 100 greatest poems ever written. Send personalized e-postcards to friends, post your own poetry, get your poems published, or enter a poetry contest. Interested in hobnobbing with other poets? Check the calendar of events. Learn how you can get your words on personalized products. Poetry.com talks to the poet in all of us.

6. **<http://www.eTour.com>** eTour is a free, personalized service that guides you directly to great Websites that match your interests and hobbies. How does it work? You tell eTour about your interests, and the site editors find the best Websites matched to those interests, and bring them to your screen, one at a time. In a nutshell, you sign up, sit back, and see the sites. If you don’t

have the time to search out your own Web goodies, let the pros at eTours do all the work. There's nothing to download, so sign up today.

7. **<http://www.ObsoleteComputerMuseum.org>** This is a must-visit site for electronic nostalgia buffs. Ever wonder what the first laptop looked like? Take a look on this site. By the way, we learned that the first laptop came with it's own built-in word processor, had 32K of RAM, a 300 baud internal modem, and would run for 20 hours on four AA batteries. Interesting? The operator of this cool site collects old computer hardware and might be able to help with your questions about dated equipment. Some vintage electronic hardware can be valuable, so if you've got a digital dinosaur sitting out in the garage, you might want to visit [ObsoleteComputerMuseum.org](http://www.ObsoleteComputerMuseum.org) before dumping it.

### WAY COOL SITE

8. **<http://www.DigitalBlasphemy.com>** We all know what wallpaper is, right? That stuff your Mom used to spend so long gluing to the bathroom wall. Could be, but we're talking about the image your computer screen displays when it's resting. Your computer's operating system probably came with a nice assortment of stock images. Trouble is, everybody else has the same ones you do. There are also lots of fun and interesting wallpaper graphics available on the Net. But [DigitalBlasphemy.com](http://www.DigitalBlasphemy.com) goes far beyond just fun and interesting. They offer a great selection of mystifying wallpaper images. When people see what you've got on your screen, they will ask you where you got it. Hope you'll be kind enough to pass the word along.

9. **<http://www.CyberStory.com>** Ever get tired of the constant barrage of bad news? Why is it so many people want to focus on the negative? Well, you can escape for a little while by visiting this little piece of online tranquility. [CyberStory.com](http://www.CyberStory.com) is an award winning, family oriented Website devoted to the health, happiness and spiritual well being of everyone on this planet. Inside you will find inspirational, heartwarming and uplifting real-life examples of kindness, unselfishness and how one person can make a positive difference in someone's life. The theme on this site is unmistakably positive. Read about simple acts of kindness, people making a difference, good Samaritans, and more. Let [CyberStory.com](http://www.CyberStory.com) be your Oasis.

10. **<http://www.Monster.com>** Recently graduate from college? Looking for a career change? Thinking of joining the French Foreign Legion? Why not

look at all of the possibilities? Career matchmaker, Monster.com is appropriately named with more than 1700 pages of job listings (more than 400,000 at press time), career advice, featured employers, a chat forum, and more. Monster.com is your connection in the US and abroad for every conceivable type of work, from management executive and technology, to military and entertainment. Email your resume to prospective employers by linking to Resume Zapper. Monster.com offers a wealth of resources for both employers and those seeking employment of virtually every type.

11. **<http://www.AllPets.com>** Pets are an important part of our lives. It's been proved that caring for a loved animal can help to bring peace and tranquility into otherwise stressed lives. So isn't it only fair we return some of the unquestioned love our pets give us? AllPets.com is a wonderful place to shop for your favorite critter. The site offers a Petcyclopedia, feature articles on your favorite animals, and expert advice. Whether your pet happens to be a cat, dog, fish, bird, horse, reptile or an exotic animal, there's something for you at AllPets.com. Apprehensive about an upcoming surgery your pet is facing? Rest easy by watching similar procedures live. There's something for every pet lover here.

12. **<http://www.DirectCoupons.com>** Like to shop? Like to pay full price for your purchases? Seems like a silly question, especially when the Internet has so many knockout offers floating around. DirectCoupons.com is one of those sites that help you to get the best value for your dollars. They search the Internet to find the best deals on everything from soup to nuts and pass the savings on to their subscribers in the form of coupons. There's no membership fee and the coupons come to you conveniently through your email. They don't stop at coupons though. You'll find recipes as well as links to Websites offering lots of things free. One of the many advantages of signing up to receive coupons from DirectCoupons is, they never share your personal information with any other company. This should help cut down on unwelcome junkmail.

13. **<http://www.inx.net/horoscope>** Ever wonder exactly where your moon was, or where it's heading? Many people claim that there's nothing to all that horoscope stuff, yet these are often the same people who immediately turn to the Living section to check theirs. HoroscopeZone at [Inx.net/horoscope/](http://Inx.net/horoscope/) is simple and to the point. Here you'll find links to each of the 12 astrological signs along with a simple reading for the day. No hype, no extras.

14. **<http://www.Astrology.com>** Do the stars really influence love, health, business, and play? Many believe so. At Astrology.com learn how the stars might be affecting your life. This comprehensive compilation of information delves deep into horoscopes and their relationship to all aspects of your life. Learn about astrological charting, Karma, Chinese astrology, Feng Shui, how to use astrotools, the moon, motherhood, and much more. Facing a pressing issue? Ask the Oracle. Astrology.com offers your daily horoscope via email, a cool newsletter, and free reports. Visit the gift shop for printed reports, jewelry, bookmarks, T-shirts and more. There's so much to explore on this site, you'd better pack a lunch.

15. **[www.iBeauty.com](http://www.iBeauty.com)** As the song says, You're only pretty as you feel. iBeauty has the resources to help you achieve your absolute best. Learn about skin care, hair, hands and feet, bath and body, beauty accessories and tools, and much more. Got a question about fragrances for men? iBeauty.com probably has an answer. One particularly valuable feature of this site is the "Ask the Experts" section. Here, experts on dermatology, cosmetic dentistry, plastic surgery, hair, podiatry, and orthopedics answer visitor questions in the field of their expertise. Another great section is "Ask Shirley." Visitors to the site can email questions about beauty, skin care, hair, and more, and receive detailed answers, often with links offering tips and suggestions from the leading experts. Of course, you'll want to do a little shopping before leaving to take advantage of some of the great deals on featured health and beauty products.

16. **<http://www.AskClaudia.com>** Every day, the New Age movement seems to pick up more momentum. If you're looking for spiritual direction, visiting this site should be high on your list of things to do. The woman behind AskClaudia.com is a gifted and caring psychic healer. Unlike many psychics, Claudia tells clients the truth, rather than what they want to hear. If you're interested in learning more about alternative healing, spiritual counseling, Feng Shui, emotional healing, weight loss or any number of spiritual techniques affecting your personal life, AskClaudia.com has answers. Claudia has received awards such as the Divinity in Action Award, The Lotus Light Award, The Universal Mandala, and many others. This is a unique and interesting site that could be just what you've been seeking.

17. **<http://www.BlisseZine.com>** Going to the chapel? Gonna get married? Don't make a move without first checking BlissEzine.com. If you're planning

a wedding you probably know how many tiny details need your attention. This site is designed to help. What about the flowers? Use their Floral Chart. Wondering what to say for your toast? Try the Wedding Toast Generator. Worried about the ever-increasing expenses? Take a look at the Wedding Budget Planner. It's simple. BlissEzine has thought of everything. Log on and get some great ideas that will help make that special day even more special. Whatever it is you need to plan your wedding, from food to fashion, you'll find it at this wonderful site.

18. **<http://www.EmilyPost.com>** Does societal progress and advancing technology erase the important ideals we've learned in the past? Not for most of us. In 1922, Emily Post created the original and definitive book on etiquette. She then became the first and last word on social grace and good conduct. More than 75 years later, etiquette is still essential to daily life, and Emily Post remains the most quoted authority. Not to be left in history, the standards of good manners can be found on EmilyPost.com. Have a question on etiquette? How about netiquette? Check out the site. Interested in receiving an etiquette lesson from one of Emily's family members? Check out the Seminar calendar. On EmilyPost.com, you'll also find books, articles and information on the "proper" way to do just about everything.

19. **<http://www.eHobbies.com>** Is your spouse bugging you about all the time you've been spending in front of the computer? Maybe you need a hobby. No, *another* kind of hobby. How about rocketry or trains? You'll find them at eHobbies.com. Feel like your head is in the clouds? Then maybe astronomy or birding is for you. In addition to all of the gear you could ever need for any hobby, this site offers comprehensive articles on all of your favorite activities. They've got their own little search engine to make information on your hobby easy to locate. Don't forget to visit their Events schedule to find out about activities for your favorite pastime.

20. **<http://www.AgeNet.com>** It's probably no secret, seasoned citizens spend a good deal of time on the Net. AgeNet.com is an online information and referral network designed to bridge the distance between aging parents and adult children by providing information about products and services that are important to enhancing the quality of life of older adults and their families. Topic areas include: Determining Social Security Benefits, Aerobics of the Mind, Geriatric Medication Assessment, Mourning and Living, and Care Manager Terms. Additionally, there's information on finances, insurance, legal matters, surfing the Net and a whole lot more.

21. **<http://www.TotalSwing.com>** Did you know that the first broadcast of the Dinah Shore show took place on NBC radio August 6, 1939? This is just one of the factoids offered on TotalSwing.com called “This Week in Swing History.” If Swing is your thing, this site is an absolute “Must Visit.” They’ve got music trivia, old photos, swing band information, links to current bands, concert schedules, you name it. Remember the Bill Elliot Swing Orchestra? How about King Pleasure and the Biscuit Boys? Shouldn’t be too hard, both are active swing bands now. Find out where they’re playing along with everything else you’ve ever want to know about Swing.

22. **<http://www.Mapblast.com>** Ever wonder how many trees have been saved from a life of paper productdom by the Internet? This site has done its part by eliminating the need for those large cumbersome maps that were just about impossible to fold. Mapblast.com can provide you with a map of an individual block in New York City or a country road in Silverton Texas. This site can help you locate almost anything. In addition to producing virtually any map you can imagine, they can help you to locate people, businesses, amusement parks, police stations, libraries, ski resorts, and much more.

23. **<http://www.ExploreScience.com>** Where do stars com from? How far is the earth from the sun? How does the television display pictures? Why do helium balloons float? If you’ve ever been faced with questions like these and couldn’t come up with the answer, ExploreScience.com could be your salvation. You’ll enjoy exploring the mysteries of optics, mechanics, astronomy, life sciences, and many other scientific disciplines in this progressive learning environment. It’s not all academics though. There are scientific games too. Design a snowflake, test your response to various types of input, and explore the wonders of black holes on this very cool Website.

24. **<http://www.MagicTricks.com>** Were you lucky enough to get to hang out at the local magic shop as a kid? No, well now’s your chance to make up for lost time. Like to learn levitation or card tricks? Like to know the most dangerous magic trick ever? Find out about Houdini? Like to learn to make money disappear? Oh, you’ve got that one down already? Well, for the others, you’ll want to visit MagicTricks.com. In addition to tons of magic tricks and other assorted goodies, they’ve got a magic museum, useful articles on magic, a cool magic glossary, magic trivia and lots more. If you’ve ever felt that special fascination watching a magician pull a rabbit out of a hat, check out this great site.

## WAY COOL SITE

25. **<http://www.Camscape.com>** Ever wonder what's going on in Geneva Switzerland, Paris, or Puerta Vallarta, Mexico? Wonder no more. This extraordinary site will show you live pictures of more than 2500 locations worldwide. It's done with Web cams. These are simply video cameras set strategically around the globe transmitting live pictures to Camscape.com. Here's an idea, make a note of the many locations sporting the Web cams, and next time you or a family member takes a trip to one, pose for the camera. You can be seen by anybody accessing the site at the time. What a kick.

26. **<http://www.wowa.org>** Did you know that teachers and students get massive discounts on computer software? It's true. This site specializes in providing students, teachers, and accredited learning institutions with high quality software at the lowest discounted price anywhere. WOVA.org carries complete lines of software products from Microsoft, Adobe, Corel, Macromedia, Autodesk, Borland and many other publishers who have such academic plans. Not a teacher or student? Feeling left out? Don't. They also carry other non-academic retail software products including learning and training books, videos, and interactive multimedia CD-ROMs.

27. **<http://www.180096hotel.com>** Are you a do-it-yourself kind of person? If you plan on going out of town and want to get a great price on your hotel stay, you're going to want to check this site. HotelDiscount! has daily specials on many products and services. For example, would you like to get \$30 back on gasoline purchases? They feature a "City of the Day" with deep discounts on room rates. They also have special deals on group bookings, automobile rentals, and airplane tickets. Before booking that next hotel room, do yourself a favor and check with this money saving site.

28. **<http://www.WhitePages.com>** Trying to find an old friend or a new business? The Internet has many resources available to help. You might want to begin your search with this useful site. WhitePages.com can help you find people, telephone numbers, zip codes, Websites, businesses, make maps, and more. If you think that old friend might have left the country, no problem. Check out the International Directory. You won't find flashy graphics or cute animation on this site, just a nuts n' bolts people, places and things locator.

29. **<http://www.Winexplorer.com>** Are you a lover of the finer things? Is wine one of them? You're going to love this site. Whether you've been a wine

enthusiast for years or have only recently discovered vintage grapes, Winexplorer has got something for you. Find out about wine tasting tours and where to get wine country maps. Learn about weight loss techniques using wine. Discover how you can get your very own wine label. The site also hosts funny cartoons, a wine classified ad section, health, fitness, and diet articles and a great deal more. Enjoy the wine country lifestyle and visit Winexplorer.com.

30. **<http://www.Guild.com>** Do you love to while away the hours working on ceramics or photography? If your idea of fun is arts and crafts, then you'll want to check out Guild.com. Whether you work with wood, prints and drawings, metal, glass, straw, canvas, fabric, or any number of artistic mediums, Guild.com has something for you. At this beautifully laid-out site you can find art galleries, special exhibits, and your favorite artist. They've got a special section featuring home furnishings, a great gift shop, and links to all of your favorite books. Art not your thing? Okay, but you might consider getting a gift certificate for the artistic member of the family.

31. **<http://www.AnglerWorld.com>** "You should have seen the one that got away." If you've ever spoken those words in earnest, then the folks at AnglerWorld.com understand you. This is a great site for the fishing buff. Are you into salt water or surf fishing? They've got you covered. Rather seek out those huge bass or wily salmon? No problem. This is a great place to network with other fishermen. They support message boards so you can discuss fishing gear, your favorite fishing hole, boats and motors, fishing strategies and more. Looking for a boat? You'll want to stop by the "Boats for Sale" section. Whatever your fishing passion might be from tuna to trout, you owe it to yourself to investigate AnglerWorld.com.

32. **<http://golf.about.com>** It wasn't easy to choose a cool golf site because there were several great ones. For an overall abundance of information however, About Golf beat them all. There is so much information about golf on this site, you probably won't know where to start. The main section, called "In the Spotlight," features current golf news, but that's just the beginning. You'll want to look at the "Subjects" section to find out more about college golf, entertainment, equipment, fantasy golf, handicaps, golf history and other golf-related topics too numerous to list. This site has message boards, chat, golf books and videos, photographs, and lots more. Whatever your level of golf skill, you'll find something at About Golf.

33. **<http://SkiCentral.com>** If you've ever experienced the rush and exhilaration of speeding down a snow covered mountain on skis, it's something you'll not soon forget. SkiCentral.com is devoted to people who love that special feeling. On this comprehensive site you'll find information on ski resorts, snowboarding, all types of equipment, racing, techniques, and more. Wondering what conditions are like at your favorite resort? Check out the snowcam for a view of more than 200 popular skiing destinations. Whether it's trip planning, skiing organizations, car racks, or anything ski related, give this site a visit. Oh, if you'd like to set your computer's wallpaper to a nice snow scene, check out the more than 1000 skiing desktop and wallpaper themes.

34. **<http://www.DivorceSource.com>** It isn't a very happy topic, yet it is a popular one. If there's no working out differences between married folks, the logical step to take is usually divorce. DivorceSource.com offers a divorce attorney directory organized by state, information on divorce laws, a "people finder" service, articles, chat, and divorce information planning. Not getting a divorce, just interested in the topic? Stop by the Divorce store and browse the book section. You'll be surprised to learn that they not only sell books on the subject, they rent them as well. Only you know if you need to visit DivorceSource.com, but if you do, it's a great resource.

35. **<http://www.eFront.com>** Ever become so wrapped up in what you were doing you've lost track of the day? If sitting behind the computer is keeping you out of touch with current events, you'll want to visit eFront.com. This stylish site has everything from mainstream feature news stories to the latest movie reviews and everything in between. Need to know what the stock market did today? They've got the closing numbers right there. Interested in the top five grossing movies of the week? They've got that too. If the news isn't enough, they've got a neat little search engine as well as links to free stuff, coupons, webcams and more. Find out what's going on at eFront.com.

36. **<http://www.ToughManContest.com>** If fisticuffs sends your blood racing, you're going to like what you find on this site. This is amateur boxing at its best. ToughManContest.com conducts boxing events in 44 states and abroad. The bouts have all of the showmanship and drama of a professional wrestling match, but are real. To qualify, both men and women duke it out in 3 one-minute rounds to determine who goes to the finals. Contestants wear gloves, headgear, and receive a physical before entering the ring. The con-

cept for the Tough Man contest was taken from the movie “Tough Enough” starring Dennis Quaid and Pam Grier. To see photos of recent events and learn more, log on. No Wimps!

37. **<http://www.AtkinsCenter.com>** It’s no secret that Americans are among the most overweight people on the planet. If you’d like to take off a few pounds, or a bunch, you need to check out this Website. The entire premise of the Dr. Atkins weight loss plan is that we consume far too many carbohydrates. The diet is broken into three phases, the induction phase, the ongoing weight loss phase, and the maintenance phase. The great thing about it is, on the Atkins diet you don’t ever have to be hungry. When you find out some of the foods you’re allowed to eat you’ll wonder if it’s a diet they’re talking about or a feast.

### WAY COOL SITE

38. **<http://www.nasa.gov>** NASA is deeply committed to spreading the unique knowledge that flows from its aeronautics and space research. The people at the NASA Website do a wonderful job of proving that statement. The site offers a cool newsletter, a television schedule of upcoming events, information about NASA’s educational resources, information on how to do business with NASA and a whole lot more. The site also hosts affiliate NASA Websites profiling special projects such as Women’s History and the Galileo space missions. If you want to keep current with the space program this is your resource.

39. **<http://www.Ancestry.com>** Have you ever given any thought to tracing your ancestry? It can become a daunting effort without the proper tools. One might call the Internet the world’s largest database. The problem is, how do you locate the specific information you’re after? At Ancestry.com you’ll have access to over 2500 individual databases and 600 million records. You can search for those long lost relations using census records, social security numbers, death records, military files, newspapers and periodicals, and more. The Website offers a comprehensive free service with the option to upgrade to their premium plan for a small charge. What a great service.

40. **<http://www.Mcafee.com>** If you leave yourself unprotected, it’s not a matter of “if” but a matter of when. We’re talking about a crash of your system due to a virus. If you think it can’t happen, chances are you’re going

to have to learn the hard way. Of course, all of the associated grief can easily be avoided by using one of the leading antivirus programs available anywhere. McAfee.com offers the most up-to-date virus protection with free updates for a full year. The Website is loaded with information on what bugs are out there, and how to avoid them, along with tons of useful information about computers and software. Don't be caught unprepared.

## WAY COOL SITE

41. **<http://www.Helponthe.net>** Ladies and gentlemen, having access to this single Website is probably worth the price of 10 User Friendly Guides. Have you ever wanted to reach through the telephone wires and strangle the so-called technical support person on the line? If so, visiting this site is a must. HelpOnThe.net is a site where anyone can go for computer or software problems. Here you'll find a group of individuals who offer technical advice to all comers in a message board forum, but help may also come from virtually any visitor. They maintain an extensive archive so you can check to see if your question has been answered in the past. Bravo!

42. **<http://ye.entreworld.org>** Would you like to see your teenager develop a healthy interest in entrepreneurship? This is a great site for such endeavors. Y&E is the magazine for Teen Entrepreneurs. They offer a quiz for teens to test their entrepreneurial potential, as well as business surveys and quizzes, e-resources and more. Find out what the hottest business prospects are for teens in the new millennium, where to find start-up capital for business, and how to rate your traits for success. This is also a great site for adults selling products in the teen market.

43. **<http://www.JuniorAchievement.com>** One of the most educational and uplifting non-profit organizations in the country, JuniorAchievement.com helps young people to understand the capitalistic system. High school students form their own companies, decide on the products and services they'll offer, issue and sell common stock in the company, and carry on the business of their enterprise while meeting once a week throughout the school year. The official JA Website offers useful information for participants in the program from sponsors to the kids. If you'd like to see today's kids involved in character building projects, then JuniorAchievement.com is an enterprise deserving your support.

44. **<http://www.hunter.net/~hunter/quest00.htm>** Think you know your Bible? You might be surprised. Bible Quizzes makes learning the Bible fun. Test your knowledge of the Good Book against other visitors by comparing scores. Take the current quiz or check out the archive. You can stay on track because each quiz has a theme. If you like the quizzes, you can further sharpen your wits with the Biblical crosswords puzzles. Relax to uplifting music provided by the site while you work the quizzes.

45. **<http://www.OnlineTitanicMuseum.com>** The excitement surrounding the 1997 movie Titanic might have died down, but the mystery and wonder of the “unsinkable” passenger ship that went down in 1912 remains. At OnlineTitanicMuseum.com you’ll look at photographs of rare items recovered from the wreck as well as pictures of the ship before its unfortunate maiden voyage. See underwater footage taken by the team that discovered the ship, movie items, photos of the ship that rescued the Titanic survivors, and much more. The site offers both historical information as well as an eerie link to the past.

## WAY COOL SITE

46. **<http://www.TheCyberMom.com>** Welcome to TheCyberMom.com. This site is modeled after a 10 room home. As you make your way from room to room, you’re welcome to leave questions and comments. And who knows, the next time you visit, you might find that they’ve taken you up on an idea or two. This site offers homemaking tips, recipes, expert advice on a number of interesting topics, career, work, day care information, and much more. Be sure to sign the guestbook, it’ll qualify you to win a CyberMom T-shirt. This site has something for the whole family.

47. **[http://www.brillig.com/debt\\_clock](http://www.brillig.com/debt_clock)** As if there wasn’t already enough unappealing news to make a body queasy. A visit to this site can be an eye opening experience. Here you’ll find the Outstanding Public Debt as of the moment you log on. It’s going up every second, so if you want to get updates during your visit, just click your refresh button. Had enough runaway spending? There’s a link on this page for you to contact Congress to let them know how you feel along with dozens of other associated stories.

48. **<http://www.Dollpage.com>** Have you heard the news? Mrs. Beasley is back. In case you’re wondering, Mrs. Beasley was Buffy’s doll from the

1960s TV show *Family Affair* and she's recently been re-introduced to the world. Dollpage.com is loaded with interesting news as well as a Fun Stuff section, a page devoted to Doll Talk, a chat room especially for doll lovers, articles and interviews from your favorite doll experts, a bookstore, and information on how to spruce up an ailing Barbie. There's also a directory so you can check on doll shows coming to your area.

49. **<http://www.GlobalGourmet.com>** This multiple award winning site offers gourmet food features from around the world. We especially like *I Love Chocolate* by Stephanie Zonis. In addition to being an expert on the subject, she features the Chocolate Find of the month along with recipes for the heavenly stuff. You'll also enjoy Kate's Global Kitchen, Cookbook Profiles, Global Destinations, featuring culinary masterpieces from around the world, International recipes, Just Good Food...for thought, and a whole lot more.

50. **<http://www.NewsOfTheWeird.com>** Is the truth really stranger than fiction? Imagine showing up to your trial arraignment on DUI charges with a blood alcohol level twice the legal limit? An animal psychologist in Arizona says that she can telepathically communicate with animals and resolve most pet - owner conflicts. Her skills are highly praised by clients. These are just a couple of the many stories that are, in fact, stranger than fiction. NewsOfTheWeird.com is the longest running feature of its kind. This site can provide you with hours of entertainment.

51. **<http://www.duke.edu/~crh4/kv/>** Kurt Vonnegut is one of America's national treasures. His work pokes fun at our society, our obsession with ourselves, as well as our zest for both kindness and cruelty. This collection of outtakes from the life and times of one of America's greatest contemporary authors is a Vonnegut fan's delight. You'll find a goldmine of goodies here including excerpts from his many books and essays, interviews, comments by the author on his alter ego Kilgore Trout, and much more. Hats off to Chris Huber, the site's creator.

52. **<http://www.DiscountGames.com>** If you're into games, check out this abbreviated list of stuff offered by DiscountGames.com then ask yourself why you'd deal with any other game site. Roll playing games and accessories, military, fantasy, and science fiction games, T-shirts, pins and other apparel, miniatures and game systems, paint brushes and tools, collectable card games, video and board games, DiscountGames magazine, forum, chat, Ask Us, gamer tools, online catalog, and Worldwide delivery at up to 30 percent off.

53. **<http://www.Disobey.com>** If your approach to life incorporates a healthy dose of cynicism, you're going to like what you see at Disobey.com. You'll find a collection of links to documents and pages that, in many cases, tell it exactly like it is. Perhaps you'll enjoy the subjective nature of art appreciation, commentary on fortune cookies, the Horror section, Low Bandwidth, or Net Slaves. Our favorite was Ghost Sites, a compilation of Websites that are in serious need of updating. Most of the pages allow visitor input, so you can let the folks at Disobey.com know how you feel. This collection of ezines and pages is sure to evoke a wry chuckle or two.

54. **<http://www.TwoMinuteWarning.com>** If you love football, you need to visit this one. TwoMinuteWarning.com is the site for Football statistics. The site covers NFL teams and provides drive chart numbers, play-by-play ratings, down-by-down statistics, rushing and team ranks. They also take a close look at the players. Find out about your favorite quarterback, running back, wide receiver, and tight end. They also have the Stat of the Day and do a great job with it. They take a visitor's question and go into great detail in answering it. Whatever you need to know about an NFL team or player, you'll probably find here.

55. **<http://www.EvilScience.net>** Unfortunately not all scientific discoveries are used to advance the human race. At EvilScience.com you'll get a look at the dark side of many scientific discoveries. In a sort of strange way, their look at nuclear testing, biological warfare, Nazi war experiments, the occult in science, and much, much more has a vaguely humorous element to it. There are lots of articles to read, along with some superb graphics and animation.

### WAY COOL SITE

56. **<http://www.qtm.net/~geibdan/framemst.html>** Welcome to UFO Folklore! This site is an enormous collection of information about UFOs. You can start off with a look at some recent photographs of flying saucers, meet a few aliens, spend some time in the alien abduction chamber, learn a bit about ancient UFOs, or report a sighting. And you'll only be getting started. There are sections on alien mutilation, Roswell, Project Bluebook, military cover-ups, a cool video archive, real men in black, and tons more. If UFOs are your thing, and you haven't been to this site, put the book down and get going!

57. **<http://www.neosoft.com/~davo/livedead>** Ever wonder what your childhood movie hero was up to? Maybe a better question would be, is that

person still alive? This site will help you to find out. Who's Dead and Who's Alive lists actors and actresses, musical performers, athletes and sports personalities, and political figures. There's a section listing famous people who have recently passed on and one for celebrity birthdays. When you've got to know, you've got to know.

58. **<http://www.CivilWar.com>** Three million Americans fought and more than 600,000 died in the Civil War. Scholars debate whether the war was fought over state's rights or the abolition of slavery. This is a great place to learn about the War of the States and form your own opinion. The site contains sections on the events leading up to the war, the war's timeline, the battles, the music and places, documents, and of course, the men and women who waged war on one another. This is a very well done site with great photographs and a cool bookstore.

## WAY COOL SITE

59. **<http://www.Elderweb.com>** This award winning site is the oldest and largest eldercare sourcebook on the Web. It is a research site for professionals and family members, with thousands of on-site and off-site articles about eldercare and long term care, including legal, financial, medical, housing, policy, research and statistics. Take advantage of the Eldercare Locator, the Body and Soul, Regional Directory, and Finance and Law sections. They also offer a wonderful Coming Events section and a comprehensive Archives.

60. **<http://ScienceMaster.com>** ScienceMaster.com produces and distributes high quality science programs. Their goal is to provide the best science resources for teachers, parents, hobbyists, and life-long learners. The ScienceMaster Web pages include links to researched sites, lesson plans, activities, and project ideas. Bookmark or link them from your computer or Web page to have quick access to the top science sites on the Internet. Through their Website and products, they demonstrate their commitment to meeting the needs of home, educational, and professional users of scientific resource sites and software.

61. **<http://www.Discovery.com>** It's hard to find the words to describe this superb site but we'll try. Ancient history, space, science, travel, expeditions, adventure, weather, astronomy, dinosaurs, fossils, live cams, health, animals and pets, school, lifestyles, kids searches, fun, games, conversations, personalized discovery, gifts, guides, news, did we mention fun? You can coordinate

your Web visits with Discovery television. Perhaps the best all around educational Website out there! This one's a keeper.

62. **<http://RealBeer.com>** Ah, beer. Everything you could ever want to know about beer, brewpubs, microbreweries, home brewing and the beer industry is on this site. There are more than 150,000 pages about beer, searchable brewery and pub databases, beer festivals and homebrew event calendars and news about beer. The links selection on this great site can make this your one-stop beer information center. Find out about the newest breweries and events by signing up for the monthly emailer.

63. **<http://www.DiaryProject.com>** The Diary Project is a site where teens can share their innermost secrets and feelings with honesty, openness and connectedness - anonymously. It's a place for celebrating victories, sharing insights and inspiring others to do the same. The site provides an impartial audience that can acknowledge and understand a teenager's feelings. There are thousands of entries in 24 categories posted on the site. Visitors can express themselves freely on topics such as body image, tolerance, substance use, school, family, violence and many others.

64. **<http://zagat.com>** Wondering where you should dine tonight? What's that? You're in Tokyo? Not a problem. Zagat.com provides accurate reviews for more than 20,000 restaurants all based on your opinion. You can browse your favorite city by neighborhood, cuisine, or alphabetically. Or, use their search engine to locate a restaurant by name. They'll let you know if a restaurant is cigar-friendly, has valet parking, and what credit cards they accept. Best of all, you can vote on a restaurant you've visited here or abroad.

65. **<http://College-Cams.com>** College-cams.com is the National Directory of University Web Cameras, and for good reason. What you'll find on this site are individuals devoted to Web cams. Have you got a bit of peeping Tom in you? Take a look at campus cams, apartment cams, the virtual dorm, and live dorm room cams. Look at live pictures of a 19 year old guy from North England and a 15 year old's Web cam site about his life. You can also learn how to build a Web cam site, get a free Web cam kit and link to the top 25 Web cam sites in the world.

66. **<http://www.Fandom.com/HarryPotter>** What's hot? Harry Potter, of course! Log on to The Wonderful World of Harry Potter and get access to the

Hogwarts Bulletin Board, FanArt, FanFiction, book covers, articles, and find out what's new with Harry. Experts say that the Harry Potter phenomenon is good because these great books are helping to renew an interest in reading among school-age children. While you're visiting, check out a few of the Harry Potter objects like Rowena's Eagle Pendant and an official spell book. This site, by the way, is run totally by fans.

67. **<http://www.WhiteHouse.gov>** What would a collection of cool Websites be without including the White House in Washington DC? Regardless of who's living there, the White House has a certain prestige that Americans owe it to themselves to investigate. There are photographs of the President and the First Lady, the Vice President, a section profiling the progress of the current administration, pictures of the Oval Office, the briefing room, press releases, instructions on how to contact the President, and much, much more.

68. **<http://WhoisHe.com> & <http://WhoisShe.com>** Been spending a lot of time online? The Internet can be a wonderful place to meet people with similar interests as you. But do you know who you're really talking to? Without mincing words, this site will do a background investigation on anybody. Unlike most of our free listings, there is a modest charge for this service. Secure a background check on a potential mate, employee, nanny, or anyone. WhoIsHe.com has been written up in dozens of publications such as USA Today and The Chicago Tribune. If you're in need of this type of service, take a look.

69. **<http://www.DogBreedInfo.com>** Thinking of getting a dog? This site is designed to make it easy. Whether it's finding that perfect dog that fits your lifestyle, that bit of information you need, or if you just love dogs, you'll love browsing through the many breeds listed. Choosing a dog shouldn't be taken lightly. There are many breeds with different personalities and needs. This site is packed with information on breeds from all groups in an easy to follow format. New breeds are added regularly. From detailed breed information, and care articles, to amazing dog photos, DogBreedInfo.com has it all.

70. **<http://www.Japanorama.com>** Taking a trip to Japan anytime soon? Perhaps you simply have a healthy interest in Japan. Either way, you'll want to check out this site. Japanorama.com supplies Japan-related products and information to Japanophiles throughout the world. On this site you'll find language software, Pokeman information, Japanews, search engines, names in

Japanese, books, anime, DVDs, videos, electronics, software and much more. Find out what an English word looks like in Japanese. While you're there you can even download free illustrated electronic books. This site is loaded with cool stuff.

71. **<http://Yogasite.com>** Yoga is a psycho-physical discipline with roots going back about 5000 years. Today, most Yoga practices in the West focus on the physical posture called "asanas," breathing exercises called "pranayama," and meditation. Practicing Yoga has been known to help people with afflictions ranging from hypertension to attention deficit disorder. YogaSites.com provides an extensive teacher directory, Yoga postures, retreats, Yoga styles, a question and answer section, Yoga therapy news, a list of Yoga organizations and news groups, and much more.

72. **<http://www.selu.com/bio/PrimateGallery/main.html>** Do you have an interest in primates? The Primate Gallery lists all 234 living species of primates, duly noting the many that are endangered or threatened, and features a detailed write-up on a species about every month. This site has won numerous awards for its outstanding content. These comments were made when the site won the highly regarded ZIA Reviewed Site Award. "Of the 100's of thousands of sites reviewed by our editors only the top 2% are given the ZIA Reviewed Site Award!" This one is a real treat.

73. **<http://www.NerdWorld.com>** Do you have any idea as to the difference between a nerd, a geek and a dweeb? Well we don't either. It seems they are all consumed by technical things, and so is this great Website. NerdWorld.com was founded in 1995 and sports the Nerd of the Week, Nerdly News, Web Discussions, Chat Machine, Joe Calendar, Nerd Dating, Nerd Favorites, Technical News, Nerd World Classic, Sciences, Entertainment, Shopping, and much more. Don't let the name fool you. NerdWorld is hot.

74. **<http://www.SuperModel.com>** Hey, what kind of cool Website list would this be without some beautiful people? Isn't the Web full of hot photos of bikini babes and stuff? Sure it is, but this is a family production. This is your chance to meet every one of today's top models. At SuperModel.com you can see their photographs, read bios and interviews, receive a free newsletter, visit the supermodel shop, and if you're lucky, get an autographed picture of your favorite. At last peek, the site was featuring Frederique, Cindy Crawford, Naomi Campbell, Tyra Banks, Michael Bergin, Mark Stevens, Mrs. United States, and many more.

75. **<http://www.CelticCrow.com>** What do you think of when you hear the word “witch?” Chances are, it has something to do with the Halloween image we became accustomed to when as kids. There’s a whole lot more to witches than that. The Witches’ League for Public Awareness is a proactive educational network dedicated to correcting misinformation about Witches and Witchcraft. The work of the League springs from a shared vision of a world free from all religious persecution. The League was founded in Salem, Massachusetts, in May 1986, by Rev. Laurie Cabot H.P.s. Stop by and find out what real modern day witches are up to.

### WAY COOL SITE

76. **<http://www.ChickenSoup.com>** Few books in America have enjoyed the success that the Chicken Soup for the Soul series have. The uplifting and poignant nature of the stories in these wonderful books have touched many of us deeply. We think ChickenSoup.com will do the same. The site provides a generous sampling of the great stories in the books. They also provide news clips, a section for kids and teens, a schedule of the authors upcoming seminars and speaking engagements, gifts and products, and the opportunity to sign up for a daily dose of chicken soup via email. Oh yes, if you want the authors to consider your story for an upcoming book, you can submit it here.

77. **<http://www.invention.com/inventions>** Would you like to bring a wonderful new product, game, or toy to the world? You say you don’t have such a thing. No problem. Invention.com is the site of Patent Attorney Michael Kroll. Here you’ll find a small portion of the 900+ patents obtained by his inventor clients, and they’re all available for sale or licensing. Categories cover automotive, aircraft, construction and home improvement, beauty, food and beverage, games and toys, medical, health, sports and recreation and many more. Even if you’re not looking to market a new product, you’ll find some very interesting new gizmos here waiting to be introduced to the world.

78. **<http://www.PositivePress.com>** It’s probably not a secret that bad news and sensational stories get attention. If you’re tired of all the negative hype in the mainstream media, take a look at PositivePress.com. They feature the day’s news from a positive perspective. There’s the Leading Story of the Day, Health, Science and Technology, Light and Humorous News, Historical Perspectives, stories, books and essays. For you Website operators, find out how you can get the Positive Quote of the Day posted on your site.

79. **<http://www.uReach.com>** uReach offers a great bundle of free services for the person on the go. With this cool plan you are given a uNumber, which is a toll free telephone number. With it, people can leave you voice mail and send you faxes that you can access via the Web or on the phone. With Ureach you can also send email and faxes from the Web as well as listen to email messages over the telephone. The basic Ureach service offers 30 minutes of phone time each month while Web access is unlimited and entirely free. Additional phone time can be purchased for between 8 to 10 cents per minute. Why not check out both the basic service as well as the enhanced plan?

80. **[www.Travel-Etc.com](http://www.Travel-Etc.com)** One of the most popular myths to ever make it in the world is, “You can’t have your cake and eat it too.” Well, it *is actually possible* to get the best of both worlds, and this company proves it. Experience both the convenience of booking your travel and associated services online while having the benefit of real people to help you. In fact, this company so wants to please, that you’ll need to take a look at their unbelievable guarantee. Get the lowest fare on your trip or,...well, go to the site and see for yourself. They even have a live Web cam set up in their headquarters so you can watch them work.

81. **<http://www.CosmicDiscounts.com>** People have come to expect great deals shopping on the Web and they certainly won’t be disappointed using this site. CosmicDiscounts has scoured the Web in search of the absolute best deals on everything from travel and credit cards to computers and software. And they don’t just make hollow claims like so many of the other self-proclaimed discount Websites. CosmicDiscounts guarantees their prices. If you buy from them and find the item for less within 48 hours, CosmicDiscounts will send you on vacation to one of three resort towns free! Restrictions may apply. Visit CosmicDiscounts.com for the best deal on the Web when shopping.

## Freebies

82. **<http://www.Pagoo.com>** If there’s one thing just about everyone likes, it’s free stuff. If you’re like the rest of us, you’re going to love this site. Pagoo offers unlimited FREE long distance phone calls while online. If that isn’t enough, how about, free call forwarding while your offline? Want more? Try free voicemail and Caller ID. This won’t last forever. It’s available during

Pagoo's Preview Release. Don't be late for this one. No credit card required, and no changes to your current phone service. Hurry and sign up!

83. **<http://www.Dialpad.com>** One great thing about the Web is choice. Dialpad offers a wide selection of online telephone services. And like so many Internet businesses, they too know the magic word. Free! You'll need to sign up and get free, unlimited, local and long-distance calls to anyone in the USA. Enjoy the convenience of calling without disconnecting from the Internet with no credit card, complicated download, or installation to get started.

84. **<http://www.TechEmail.com>** Been getting a little more than your fair share of spam lately? Wish you had an email account that could relieve you of some of the load? Look no more. Choose a name from one of the following: [yourname@Techemail.com](mailto:yourname@Techemail.com), [PCgeek.net](http://PCgeek.net), [PCtechnician.net](http://PCtechnician.net), or [TechieGuy.com](http://TechieGuy.com). More cool email names are being added all the time. Many products and services available for free on the Net require a simple email address. In exchange for the free stuff, the sponsor wants to send you offers of every kind. That's how the game is played. Open an account or two with [Techemail.com](http://Techemail.com) and direct some of this mail to your email hideaway.

85. **<http://www.FreeHomePage.com>** Been thinking of having your own Website? Don't want the expenses associated with creating and running a site? What if you could do the entire project and have it hosted for free? You can. [FreeHomePage.com](http://FreeHomePage.com) allows you 25 personal Web pages, an easy Web builder, access to clipart and music and 6MB of globally accessible private email free. And that's without annoying banner ads. It's all very easy. Just sign in and receive your password. You'll then have access to all of the previously mentioned tools and more. Want to try your hand at a Web based business? [FreeHomePage.com](http://FreeHomePage.com) offers free business hosting as well. What have you got to lose? Check them out.

86. **<http://FreeISP.xoom.com>** Want Internet access without the monthly bill? Check out [FreeISP.xoom.com](http://FreeISP.xoom.com). They offer free national dial-up connections at 56K in most areas. There's nothing to buy, and no CD or software to download. With your [FreeISP.Xoom.com](http://FreeISP.Xoom.com) connection you also get a free email account you can access from anywhere in the world. You'll need to become a Xoom member. Once a member, your free Internet connection is one of the many benefits. Free Internet service providers are great for people who travel because logging onto the Net is easy wherever you happen to be. Even if you've already got an ISP, it's always good to have a backup. Why wait?

87. **<http://cards.SayHowdy.com>** Been glued to your computer too long? Thinking of that special someone? Let them know how you feel with a special message. Cyber Soup's Say Howdy cards have got every occasion covered. They offer email messages for Birthdays, Holidays, Thinking of You, Weddings Anniversaries, Graduations, and many more occasions. Can't remember exactly when the next holiday is rolling around? Cards.SayHowdy.com has you covered. Log onto their site and take a look at the calendar of upcoming holidays. Looking for a message just a little different? Check out their tattoo art section for some interesting clips. It only takes a moment to send off an email card, yet it can mean so much.

88. **<http://www.WorldVillage.com>** It's been said that families don't spend enough time together. This site can help. WorldVillage.com has enough family-oriented activities to keep everybody entertained. Ever thought of building a family Website? You can build one at WorldVillage.com for free! They'll even provide the tools. This is the place to get a free email account, educational downloads and games, trivia, bingo, free stuff, clipart, newsletters, postcards, and much more. Interested in family life? Take a look at the "Family Site of the Day." If you can't find something neat to do on this very cool Website, better check your pulse.

89. **<http://www.FreeCenter.com>** The Internet is supposed to be the place where free stuff simply grows on trees. It's true. Never before have people had the opportunity to take advantage of so many free offers. How do they do it? Who cares? They want to give the stuff away, so let's oblige 'em. At FreeCenter.com take advantage of free entertainment, advice, CDs, contests, email accounts, magazines, Internet access, fonts, MIDI music, money, Net pagers, voicemail, software and lots more. If Web commerce is your passion, they've got goodies for you too. Try chat rooms, hit counters, forms, graphics, guestbooks, promotions Java, and well, tons more.

90. **<http://FreeISP.lycos.com>** Need another email account? How about some free software? While you're at it, how about a free music player, messenger service, some games, and a free Internet connection as well? These are some of the benefits you'll receive when you sign up for the Lycos free ISP service. You'll get 56K connections in most locations and International access. AOL users can save up to \$12 per month with a free Lycos account. The service requires a version of Internet Explorer 4.0 or better, and is now Mac compatible. You'll need some special software for this bundle of free-

bies. It's an easy download, or you can order a CD. Everyone agrees the Internet is cool, but free Internet...

91. **<http://www.galttech.com/ssheaven.shtml>** Would you like to see a picture of Denzel Washington or Pamela Anderson every time your computer was inactive for awhile? Then you'll want to take a look at the Celebrity Photos section at Screen Saver Heaven. Maybe nature shots are more your style, or cartoons. Whatever you can think of for your screen saver, you can probably find at this site. You can choose from more than 2500 images - the most on the Net. In addition to some very cool screen savers you'll also find links to shareware, MP3 files, games and a whole lot more. So whether it's dancing beanie babies or Leonardo Di Caprio, you'll want to check out this site.

## WAY COOL SITE

92. **<http://www.LissaExplains.com>** Thinking of going into the Web design business? You may do well to take a lesson or two from Lissa. If you don't mind taking instruction from a 13 year-old girl, you just might learn a lot. LissaExplains.com is a site devoted to teaching HTML to kids, but it's much more than that. In addition to lessons on HTML, frames, tables, CSS, Java and much more, Lissa has demonstrated that a simple idea can generate a whole bunch of success. How do we know? LissaExplains.com is getting 500,000 hits a month!

93. **<http://www.topica.com/tipworld/index.html>** Tired of all the junk email? Would you like to receive email that will help you in your job, hobby or profession? This site offers 20 categories containing information you can use. It's a simple concept. You simply check off the boxes next to the type of information you want to receive and an interesting newsletter will be mailed to you periodically. Topics include investing, sports, gardening, a wide variety of Internet related categories, graphic design, music, software, and many more. Isn't it time you started receiving information that *you* choose?

94. **<http://www.FreeLotto.com>** Do you like to play the lottery in your state? It can get expensive after awhile. FreeLotto.com just might have a solution for you. You can play four different games on this site for free! There is \$11,000,000 in prizes available every day. There's the FreeLotto classic \$1,000,000 prize, the FreeLotto \$50,000 luxury car giveaway, the FreeLotto

FastCash \$10,000 prize, and the FreeLotto Superbucks \$10,000,000 guaranteed cash annuity. You might not win every day, but how can you lose when it's free to play?

95. **<http://www.tuCows.com>** It doesn't matter what operating system you're running. tuCows.com has free software for you. This is the premiere Website for freeware, shareware, games, music, screensavers and tons more. You could literally spend weeks exploring all the stuff on this site and still not cover everything. And when you did actually finish, they'd have added more. Whether you're new to computers or a seasoned pro, you need to visit this comprehensive site.

### WAY COOL SITE

96. **<http://www.FreakyFreddies.com>** Like free stuff? Then pay attention. FreakyFreddies.com has baby freebies, banner freebies, beauty freebies, book freebies, business freebies, calendar freebies, catalog freebies US, catalog freebies, International catalog freebies, CD freebies, chat freebies, classified freebies, clothes freebies, computer freebies, contest freebies, coupons, email, hey, we're only up to the letter E. You get the idea. While you're there check out the Top 50 Free samples and all of the other neat offers. Oh, did I mention they have freebies?

97. **<http://www.PCpitstop.com>** PCpitstop.com can help you get your PC in top form - running fast, stable and secure. PC Pitstop runs diagnostics on your PC to identify things that might help improve performance. The process is fully automated, private and safe. And it's all done online. After the diagnostics run, they'll give you tips for improving all kinds of things. Best of all, the service is free! This site also offers to check your system for harmful viruses, your Internet connection speed, and a section on how your computer works. What will they think of next?

98. **<http://www.CallWave.com>** Afraid you'll miss an important telephone call while surfing the Web? You've got a couple of options. You can get an additional line installed or you can download CallWave in about a minute. The free software offered by this unique site lets you know if someone is calling you while online. It identifies the caller and takes a message as well. CallWave.com uses "virtual phone line" technology that enables a single Internet connection to replace multiple dedicated phone lines. If you're tired of missing important calls while on the Net, check this out.

99. **<http://www.FreeMerchant.com>** Can you say free? Try free business Web hosting, free merchant gateway, free secure cart, free store builder, free auction tools, free traffic logs, free member discounts and free technical support. This is virtually a turnkey Web business operation you can start for free. FreeMerchant only makes money when you do. Set up a Web store selling your products and let them help.

100. **<http://www.eGroups.com>** Is there a group of people you'd like to share special messages or email with? If so, you'll want to check eGroups.com. eGroups is a free email group service that allows you to easily create and join email groups. Email groups offer a convenient way to connect with others who share the same interests and ideas. Email groups allow you to send email messages to a group of people using just one email address. This is a great service that will allow you to free up space in your personal email account.

101. **<http://www.Visitalk.com>** The future is here. Ever since I first heard of the concept of the videophone as a kid I've waited for it to become reality. Visitalk.com brings it to you. And guess what? It's free. With an inexpensive video hookup you can turn your computer into an ultra-modern communications terminal. Talk with other Visitalk users and see them at the same time. The service also includes simple free long distance phone calls from PC to PC. Check out this sight and get signed up now.

102. **<http://www.NeoPlanet.com>** Want to beef up your Web browser? This might be for you. NeoPlanet is a browser that lets you personalize Microsoft's Internet Explorer by adding replaceable interfaces (skins) and configurable content channels. It's fun, functional, and a wonderful addition to your desktop. Best of all - it's absolutely free of charge. You can choose and download from an extensive library of skins for wood-grain looks, futuristic motifs, and more. Although it exacts a small price in performance, this is simply one of the slickest-looking programs you'll ever see on a computer.

103. **<http://www.BabyPressConference.com>** BabyPressConference.com is a free innovative online service that combines the latest audio and video computer technology with the global access of the Internet to let proud new parents reach out to family members and friends anywhere in the world. BabyPressConference.com gives parents-to-be the opportunity to share their experiences during pregnancy through a private online Website community of family members and friends. And after the baby is born, the proud new par-

ents can show off their little one to everyone they've invited through a private netcast.

104. **<http://www.Shockwave.com>** Shockwave.com has become more of a movement than simply the source for a cool Web browser plug-in. Shockwave.com brings you the best entertainment experiences on the Web. The Shockwave Player displays destination Web contents such as high-performance multi-user games, interactive product simulation, online entertainment, and training applications. As a member of the community you'll have access to a cool newsletter all about Shockwave entertainment, contests, sweepstakes and prizes. Best of all, you'll get to download the Player.

105. **<http://AnimationFactory.com>** Like to build a really great Website using all of the latest tricks? Cool animation is one of them. Animation happens to be the specialty of AnimationFactory.com. They offer more than 30,000 original animations and designs for use on Web pages, email and presentations. The site has a Help section explaining how to download and place all of their material. The images offered on AnimationFactory.com are free to use for personal projects. There is a small licensing fee for commercial projects. This site literally offers thousands of great animated images.

## Web Essentials

106. **<http://www.indo.com/distance>** Like interesting trivia? Need to settle an argument? Planning a trip? Sometimes the simplest Websites are the best, and the most useful too. Log onto Indo.com/distance to instantly find out the distance between any two cities in the United States. This simple Web page allows you to type your destinations into simple address fields and instantly returns the distance as the crow flies. Need highway mileage? The site also provides links to maps to help with trip plans. While you're there don't forget to visit the hosting page for a wonderful slice of the continent of India.

107. **<http://ActiveMostWanted.com>** Ever wonder what the nation's bad guys are up to? Wonder no longer. ActiveMostWanted.com maintains links to all of the major law enforcement agencies seeking fugitives. You can find out who is on the FBI's 10 Most Wanted list. There are large rewards for information leading to the arrest of most of the criminals you'll find on this site. In addition to the FBI's fugitive list, there are lists for the DEA, Secret Service,

US Customs, the US Marshall, the State Department's Anti-Terrorism unit and more. If you've got information on a fugitive, check out this site.

108. **<http://www.Vitalrec.com>** Ever lose one of those important documents like a birth certificate or marriage license and not had the foggiest notion as to where to go for a duplicate? This site can help you. At Vitalrec.com you can search a comprehensive database for documents that includes all 50 states as well as Puerto Rico, the Virgin Islands, Guam and more. If your search is going to take you into international territory, there are links on this site to get you pointed in the right direction. They also offer help in genealogy searches, adoption, finding lost or missing people and ancestor searches. This is one of the more useful Websites you'll find on the Web.

109. **<http://www.PRweb.com>** Do you have a product, service, or business you'd like to let everyone know about? When you pay to get the word out about your business, it's called advertising. When you present it to the world as news, it's called publicity. At PRweb.com you can shout about your company from the digital mountaintop. In addition to ad services, affiliate programs, search engine submission services, banner exchanges, and a wide range of online forums all designed to help promote your business, this site has all the resources you'll need to learn how to effectively get the word out in media other than the Internet. While you're there, take advantage of their clipping service and free email.

110. **<http://Decoder.americom.com>** This site has saved me lots of time and some expense as well. Ever been stuck for an area code? You know the long distance city you're trying to reach, but the area code has recently been changed and you don't have the slightest idea as to the new one. This very practical site allows you to simply enter the pertinent information such as city, state, country etc. and within seconds you've got the area code. You'll want to Bookmark this one.

111. **<http://www.TreasureNet.com>** Ever had a hankerin' to just up and take off on a search for buried or sunken treasure? Well don't. At least not until you've taken a close look at this great Website. At TreasureNet.com you'll find information on treasure searching techniques, along with tips on the recovery and preservation of recovered riches. Need a metal detector or any other gear for your search? Find the best deal at this popular site. They also offer historical photographs, a forum, chat, and free literature.

112. **<http://www.JunkScience.com>** Have you ever wondered if there were people sitting in clandestine laboratories scattered over the country just cooking up “scientific” discoveries with no other purpose but to chill you to the bone? If so, you’ll like this one. JunkScience.com’s motto is “all the junk that’s fit to debunk.” Here you’ll find a different perspective about everything from global warming and pesticides to genetically altered nonsense and gas additives. Junk science is used by a wide range of special interests to advance their various agendas. This is a well-done, extensive collection of material that is sure to raise a question or two.

113. **<http://www.TrafficStation.com>** Wondering what the ride home from the office will be like? Take the guesswork out of it with TrafficStation.com. Simply select one of the 28 cities offered on the site and click. You’ll immediately be shown a map of the major thoroughfares with a legend telling you what areas to avoid. This is realtime information. You can also get automatic traffic updates sent to your pager or cell phone while traveling. This has got to be one of the most useful Websites in cyberspace.

114. **<http://www.iPing.com>** Can’t recall where it was you put your Mega Memory tapes? Well, iPing.com can’t help you there, but if it’s a birthday, anniversary, or another important date you’ll need to be reminded about, they can help with that. You’ll need to sign up and get a username and password to get started with this free service. Then it’s as simple as letting iPing.com know about those special dates. They’ll notify you by telephone, cell phone, or pager. They also offer services like Mr. Dollar, which is an hourly financial update from the Wall Street Journal, Mr. Dose, Ms. FollowUp, and several other cool services.

115. **<https://www.ZipLip.com>** If you are concerned with privacy, you’ll want to take note of this special service. ZipLip.com offers users free secure email accounts. What this means is, users can send and receive Web-based email with complete and total privacy. First, your email is scrambled so no one can read it. Next, the service can password-protect your correspondence so only password holders can access it, and finally, after the message has been read, it is electronically “shredded,” leaving no record of the transmission. All this is free. For a small charge, the site offers additional services such as online data storage, and secure large file transfer.

116. **<http://www.RideSeek.net>** Need a ride from Boston to say, South Dakota? How can the Web help with that? Glad you asked. RideSeek.com is

the premiere ride sharing board on the Web and it's simple to use. Whether you're in need of transportation or are willing to take someone along with you, you simply log onto the site and post your intentions. Transportation isn't just limited to the US though, you can share travel anywhere in the world. To take advantage of this great service, check the site for all the details.

117. **<http://www.USADemocracy.com>** Like to know what our representatives in Washington DC are up to? Log on to USADemocracy.com and find out. The site provides plain language summaries of bills before Congress, along with common sense interpretations for voters. Additionally, USAdemocracy.com is a free, nonpartisan, legislative email and voting service where you can cast your vote on pieces of legislation and monitor the voting records of your elected representatives. If you've been meaning to become more active in the legislative process, here's your chance.

118. **<http://www.Home-School.com>** Considering homeschooling your children? Don't know where to start? Home-School.com is the most comprehensive resource on the Web on the topic. Sponsored by the publisher of Practical Homeschooling Magazine, this site offers resources on homeschooling articles, organizations, events, forums and more. Find products for all curriculum subjects in more than two dozen categories at the Homeschool Mall. There is far too much on this great site to do all of the wonderful tools justice here, so stop by and have a look.

119. **<http://www.Junkbusters.com>** Are you sick and tired of the endless telemarketing calls at all hours? What about junkmail and spam? This sight might offer a simple solution to the problem. Junkbusters.com is a massive collection of links that will help stop the endless junk. They also provide resources that help you to guard your privacy. Whether it be spam, phone solicitations, or junk snail mail, let Junkbusters help you put the abuse to a halt now. It's as easy as logging on and clicking on the links you need.

120. **<http://www.RocketCash.com>** Would you like to be able to shop online without having to use a credit card? You'll want to check out RocketCash.com. This is pretty simple actually. You sign up for an account, then send in whatever amount of money you'd like in the form of a check or money order. From there, you shop with selected merchants and RocketCash debits your account for your purchases. You can even add to you account using a debit or credit card. Online shopping just got a little easier.

121. **<http://www.Britannica.com>** For years Encyclopaedia Britannica has been the standard by which other encyclopedias were judged. Well, Britannica.com maintains the same high standards. The site offers news, markets, sports, weather and a free email account simply for signing up. As cool as those services are, there's more. You can access the entire Encyclopaedia Britannica from the site. Research has just become a breeze. They also have a cool store with tons of educational items.

122. **<http://www.WackyUses.com>** When first investigating this site we weren't sure if they were serious, but soon learned that this was one of the most useful and informative of any of the Websites we've listed. WackyUses.com lists hundreds of alternative uses for everyday products. For example, did you know that you could polish chrome with crumpled up Reynolds Wrap? Or that you could use Alberto's VO5 hair conditioner as a foot softener? This site lists tons of wacky uses for lots of common household products. They also have a What's New and a Weird Facts section. This site is great fun and very useful.

### WAY COOL SITE

123. **<http://www.HowStuffWorks.com>** Even though we get into our cars and drive just about every day, how often do we ever think about how the car gets us here and there? Almost never, until we need to. HowStuffWorks.com explains the workings of all types of devices, machinery, and electronic gear. They've got a Question of the Day section, along with a Link, Book, and Gadget of the day section, each with an extensive archive. Among the top ten articles posted on the site are How Web Pages Work, How Cell Phones Work, and how CDs work. This is definitely another site you'll want to Book-mark.

124. **<http://www.PhoneSpell.org>** We've all dialed 800 numbers that cleverly spelled the name of a person or business. For example, I have a friend whose last four digits of his phone number spell ON TV. Too bad he's in the travel business. If you want to see if your home or business phone number spells something cool, just log onto PhoneSpell.org, type your telephone number into the message box and click Submit. While you're there you can find out how you can earn \$5 just for visiting the site.

125. **<http://WinFiles.com>** Even with the best books out there to guide you along, Windows can still be a confusing operating system. WinFiles.com can

help you in a pinch. This award-winning site provides information and links to finding Windows compatible hardware, software, technical support, software reviews, tricks, tips and fixes, Windows drivers, shareware and Virtual servers. If you're running any version of Windows, this site belongs in your Bookmark file.

## WAY COOL SITE

126. **<http://www.Calculator.com>** Want to know how long it will take you to become a millionaire? How about the routing from your favorite Website's server to your computer? These are just a couple of calculations you'll be able to make on the very useful Calculator.com Website. They offer a wide variety of calculating tools to figure values in engineering, design, cooking, computing, manufacturing, sports, health, and many others. If you happen to be on the brainy side and have developed a special calculator, they'd like to hear from you.

127. **<http://www.eComplaints.com>** Had an unpleasant experience dealing with a company lately? Who hasn't right? Now you can do something about it. eComplaints.com will publish your complaint on their Website, making other consumers aware of what you've experienced, then forward the complaint to the company. You can read the complaints of others and find out what the company has done to remedy the problem. They also have neat a consumer and business information section that will help you to escalate your complaint in the event you aren't satisfied with the way it was initially handled.

128. **<http://www.NetworkSolutions.com>** Anyone doing business on the Internet eventually comes into contact with NetworkSolutions.com. They are the primary Domain Name registration folks. Their Website is also a great tool. You can go there to check on domain names that are still available. Wondering exactly what entity or individual has registered your favorite site? You can go to the WhoIs section, type in the domain name, and within seconds of clicking your mouse, the information is yours. They also offer businesses that have used them or their affiliates to register domains a listing in their Dot Com Directory.

129. **<http://www.BusinessInsight.org>** Thinking of going into business? A successful business venture is usually one that has been well planned. BusinessInsight.org is a wonderful resource for business planning. From your all-important mission statement, marketing plan and product pricing, to cash

flow statements and balance sheets, this site offers information you'd probably never think to include in your plan. They outline points you'll want to cover in your business and marketing plan as well as explaining how to conduct effective product analysis. Whether you're just starting in business or a seasoned pro, this site has something for you.

130. **<http://www.EscapeArtist.com>** Thinking of getting out of Dodge? You'll need some help. And EscapeArtist.com can fill the bill. This site offers sections titled Living Overseas, Offshore Investing, Country Destination Profiles, Magazine on Living Overseas, Expatriates Reference Pages, and a special section called Also Also Also. A few of the topics covered on this comprehensive site include, Tax Havens, Stock Markets of the World, Free Trade Zones, Overseas Jobs, Unique Lifestyles and many more. Be sure to take a look at the Offshore Investment Guide and get a private email address while you're there.

## WAY COOL SITE

131. **<http://TheWizardofOdds.com>** Would you like to know exactly what your odds were on any casino game before you lay your hard earned money out? This site is loaded with valuable information useful to all gamers. Thinking of a friendly game of bingo tonight? Check the site first. How about the slots? The folks at WizardofOdds.com will explain in plain language exactly how they work and your odds of hitting a jackpot. Want to know what game you'll have the best luck with in any casino? Check the site. They've got tons of statistical information on every conceivable game of chance and some cool interactive games you can play for fun.

132. **<http://www.TheList.com>** Still not online? That's okay. When you're ready, get to a friend's computer or the library and check out TheList.com. You'll find almost 10,000 ISPs and Web hosts listed. You can search by area code or country. While you're on the site, take a look at some of their cool features like Internet News, Internet Investing, Technology, E-commerce Marketing, Wireless Internet, Downloads, and Internet Resources. This is simply a great Website for all things Internet.

133. **<http://www.Olen.com/food>** Ever wonder about the nutritional value of the stuff you're getting from fast food restaurants? Are you sure you want to know? If so, you'll want to visit this useful site. You won't find fancy animation or graphics here, just a resource for determining the sodium, fat,

carbohydrates, etc. in the food from all of your favorite fast food joints. You'll find easy instructions for getting the most from the site, along with links for books and other products related to nutrition.

## Fun Stuff

### WAY COOL SITE

134. **<http://www.AlienDance.com>** Does cool animation and unusual music catch your attention? You'll want to gather the family together and enjoy this site along with their associated sites. If you like what you see at aliendance.com, be sure to check out ArmadilloDance, CowDance, Fishydance, LeprechaunDance, LizardDance, PenguinDance, PikachuDance, RodentDance, SnailDance, and StickmanDance. There's nothing like watching cute little aquatic critters dance and sing to pick you up after a tiring day. If you're a fan of the Macarena, don't miss the lizard dance. Don't forget to add the familiar www. and .com after each of the domain names. Have fun!

135. **<http://www.Puzzles.com>** Are you someone who enjoys a challenge? Then this is for you. At Puzzles.com, you'll find mazes and mysteries, hot Java puzzles, baffler and logic questions, and much more. You'll spend hours here sharpening your mind. Experience the Frogs and Toads brainteaser puzzle, the Unexpected Hanging, Peg Solitaire, build classic figures with Tangrams, the Diabolical Electronic Puzzle game, and Lights On. If the site isn't enough to keep you busy, make sure you stop by the puzzle shop for some unique and interesting gifts. Not interested in shopping? Visit the freebies page. Whether you're a serious puzzle enthusiast or just curious, check out one of the best sites on the Web for your puzzle needs.

136. **<http://www.CharliesAngels.com>** Miss the 1970's? Experience a little bit of one of the most popular television shows of the decade with CharliesAngels.com. Who was your favorite angel? Ever wonder what she's up to these days? Find out here. CharliesAngels.com is a site operated solely by fans of the TV show. See how much you know about the Angels and complete the Charlie's Angels crossword puzzle. This is a fun site where visitors get a glimpse at 70s nostalgia as well as the opportunity to purchase period memorabilia from other hit shows like, The Brady Bunch, The Partridge Family, Starsky and Hutch and more.

137. **<http://www.Avault.com>** Like computer games? You'll love Avault (Adrenalin Vault). Download demos for the latest and greatest games like NASCAR Heat, Stupid Invaders, Airfix Dogfighter, Age of the Empire II: The Conquerors and others. Read the latest reviews on new games, visit the Cheats, Hints, and Tips page for hard-to-find pointers. Visit the forum for discussions on features, articles, downloads, cheats and more. Looking for something you don't see on the site? Email Avault.com, they're happy to help. Would you like to make games your vocation? Check out the job opportunities section.

138. **<http://www.Amused.com>** There is so much to explore on this site it's tough to know where to begin. Like interactive puzzles and games? They've got 'em, they're great. Like stupid stuff? Got it. The site is loaded with jokes, a personality test, stuff for teens, contests, columns and words of wisdom, tons of free stuff, links to "sites that do stuff" the famous dancing naked fat guy cartoon, and lots more. Have you ever experienced virtual caffeine? How about virtual milk? Would you like to? Do you know why parrots get beaten up in bars? You can find out at Amused.com. This is, by far, one of the most comprehensive and well-done fun places on the Web. Oh yes, while you're there find out how they really make chocolate-covered bunnies, you might be surprised.

## WAY COOL SITE

139. **<http://www.Absurd.org>** Don't let the name fool you, this Website is a Java wonderland. This page has dozens of links for you to experience some of the wildest graphics and animation the Web has to offer. It all starts when logging onto the site with a few little dialog boxes and gets more interesting from there. Ever wonder what it would be like to see an x-ray of a human head with your subject sitting right in front of you? Wonder no more. For some extremely unusual visual effects, visit Absurd.org.

140. **<http://NuttySites.com/lovecalc>** Want to have a little fun playing digital cupid? Test the love calculator. It's easy. Just enter your name and the name of your lover (or the person you wish were your lover) into the selection boxes and click the "Calculate" Button. Compatibility ratings range from, "Don't even think about it," to "A match made in heaven." Who knows, playing a silly little game like this on a date could be the icebreaker you've been hoping for. At any rate, it's fun.

141. **<http://www.WhaTrain.com/javatest/sun/SUN.HTM>** Java applets are small programs that run within other programs, like a Web browser. Some fabulous animation can be accomplished with Java. This site is proof of that. Discover the possibilities of Java with more than 25 interactive applications ranging from a simple game of tic tac toe, or a bar chart, to wireframe images you can manipulate with your mouse and the hilarious bouncing heads. Be careful, the time can fly while visiting this site.

### WAY COOL SITE

142. **<http://www.Virtual-Design.com>** This interactive site is very cool. Virtual Design is a computer systems consulting company specializing in custom software product development. When you get to the homepage click “Online Demos,” and you’ll be directed to several ingenious interactive games. One is a voodoo doll you can actually, well, check it out. You’ll also enjoy “Zen meditation,” the “Virtual Salon,” and “Sting.” For those of us who go back a few years and can recall the first-ever video game, Pong, there is a special treat. You’ll love Virtual Design’s variation of this all time classic. Oh yeah, they even let you email your voodoo doll to a friend, or...just check it out!

143. **<http://www.KissThisGuy.com>** Ever wonder what the guy or gal in that old rock tune was really saying? “There’s a bathroom on the right.” “Scuse me while I kiss this guy.” Messed up lyrics from popular songs by Credence Clearwater Revival, Jimmy Hendrix and more than 1700 others are what make this Website cool. This is quite the amusing compilation of misunderstood song lyrics and very comprehensive. Look up your favorites by artist or song. If you have one, you can submit it. Maybe you’re above all of the foolishness. As Robert Palmer would say, “Gonna have to face it, you’re a nuclear stud.”

144. **<http://www.Joke-Of-The-Day.com>** Didja hear the one about... That’s how you’ll be starting conversations after spending time at Joke-of-the-day.com. Or maybe you’ve had trouble remembering jokes. Here’s your chance to get it straight before stumbling around trying to repeat the last funny story you’ve heard. There are lots of categories to tickle your funnybone on this cool site. Their approach to horoscopes is different, and well, funny. Check out the links to political humor, college humor, as well as sports, farm, and teen funnies. And you can visit the joke archives so you don’t miss a single funny story. They also offer a free service, emailing you the joke of the day in a wide range of categories.

145. **<http://www.TheWeirdSite.com>** Do you sometimes feel a little out of place? Has anyone ever referred to you as, “weird?” Don’t be too concerned, there’s help out there in cyberspace. TheWeirdSite.com just might be your link to reality. You can subscribe to the Weird Site e-zine and get updated on the latest weird Websites, bizarre facts, and funny quotes. Still can’t relate? Use this unusual site to locate weird books, weird news, weird facts, videos, and lots more. A recent weird Website of the month was The Excuses Page. We can all use a good excuse every now and then, wouldn’t you agree? TheWeirdSite.com is all in good fun, so take a look, you’ll feel better.

146. **<http://www.UnitedMedia.com/comics/ripleys>** Would you believe that 200 billion gallons of water fall on the earth each year? Would you believe that a pet tortoise named Chester returned home after being lost for 35 years? These are just a couple of the interesting tidbits you might find on the Ripley’s Believe it or Not Website. It’s no surprise that Ripley’s has had one of the longest running comic strips in history. Learn more about the history of this famous feature along with a month’s archives worth of features, as the Net helps carry on a tradition that has been around since 1918. Believe it or not!

147. **<http://www.trudang.com/autopsy/autopsy.html>** Are we alone? What I mean is, are we alone in the universe? The question can be traced back to Biblical times. If you like to investigate the possibilities of extra terrestrial life you will want to see what this site has to offer. It’s loaded with material about the highly publicized alien autopsy that allegedly took place and was captured on film in 1947. The emergence of this film featured on a Fox television special in 1995, raised lots of questions, perhaps the most commonly asked, is this real? Everyone who saw the actual footage had an opinion. The story received coverage in the mainstream media, with a feature story in Time magazine. If you’re just a little curious, you’ll want to see this.

148. **<http://www.PassThisOn.com>** In the mood for a little fun? The great thing about PassThisOn.com is that after you experience one of their silly or sentimental pages, you can immediately click on a link that will allow you to email the page to a friend. You can take the Internet Eye Test, or learn exactly how to get a ticket from a traffic cop. Find out about Your Magic Fortune and find out what it must be “About the Milk.” Many of the pages on this site offer really cool music and graphics. If you’re in need of some cheering up or a little fun, check out PassThisOn.com.

149. **<http://www.5sigma.com/joseph/inan/>** Like unusual stuff? This site is maintained by a guy named Joseph. Rather than try to explain what it is he does, I'll quote a line from his home page. "One of my more recent mini-hobbies seems to be shooting things in front of a Handycam with a high-speed shutter, then making JPEGs and QuickTime movies out of the results." That's right, this guy takes all kinds of things and shoots them. You actually have to see some of the videos to really appreciate what he's doing. Personally, we didn't think much of the idea until we saw some of the clips.

150. **<http://www.MediaFarm.no/forsoksgard/kukaster.asp>** Got a little time to kill? Ever seen a flying cow? You can on this fun site. The flying cow is a game you play using your mouse and the onscreen animation. You get points for tossing a cow the farthest. Sound silly? Wait until you've spent three hours with the silly thing trying to outdo some of the high scores posted on the site by other visitors. Hey, not everything has to be serious, does it?

151. **<http://www.NonProfit.net/hoax/hoax.html>** It's amazing how weird and unusual stories and folklore take hold in society. It seems that people love to repeat strange stuff. Well that's what "Don't Repeat That Hoax" is all about. Will Microsoft really pay you \$5000 for simply answering an email message? Do snakes really eat unattended babies at fast food restaurants? Is Proctor & Gamble secretly run by Satanists? These are all email messages that have frantically made the rounds in the US and abroad raising lots of questions. Some of these tales are really a kick.

152. **<http://www.IllusionWorks.com>** Like optical illusions and brainteasers? You're going to love this site. It would be possible to spend days enjoying the entertaining material on IllusionWorks.com. You might start off with the Impossible Staircase. It's your job to determine the high and low points on this three-dimensional rectangular structure. Once you get that one figured out you'll want to proceed to the Triangular Staircase and then the Impossible Trident. From there you can check out the Breathing Square, the Wagon Wheel of Illusion, the Hidden Bird, Floating Boxes and many more. This is one for the whole family.

153. **<http://www.GilligansIsle.com>** Ever wonder how the professor was able to make a radio transmitter from sea shells and coconuts? And why was it that despite their best efforts, the Castaways could never get off the island? GilligansIsle.com probably doesn't have answers to these questions but the

fans that publish this cool site can help you to take a trip down memory lane, or should I say memory lagoon? On this very well done site you'll hear more than 20 different renditions of the theme song, experience tons of memorabilia, and take notice of the show's strange similarities to the hit TV show, *Survivor*.

154. **<http://www.ToyMuseum.com>** The Jolly Green Giant, Spuds MacKenzie, Poppin Fresh, Charlie Tuna, the Keebler Elves, and just about any other animated icon from advertising history you can think of is on display at ToyMuseum.com. When you've found a character you like, click on the image and you'll learn his official name, the company he represents, and when he was introduced to the public. The setup for this site is a museum you enter by clicking on the front door. From here you choose which gallery you want to visit. You can sign the guest book, visit the bookstore or spend some time at Collector's Corner. All in all, very clever.

155. **<http://www.Movie-Mistakes.com>** Are you a stickler for accurate details? Then you might want to stop by Movie-Mistakes.com. On this site visitors submit inconsistencies they've uncovered in the movies. For example, in the *Titanic*, there is a scene where a woman, fearing the worst, says goodbye to her children. Later she is shown getting into a life raft with the kids. There are more than 5000 entries on almost 1200 movies. In addition to the snafus, there are movie reviews, news, and a link to their sister site for TV boo boos.

156. **<http://www.BadFads.com>** Ever wonder what happened to smile buttons, pet rocks, coon skin caps, and mood rings? Chances are, all of these things and more are on display at the BadFads.com museum. This interesting and fun site looks at more than 80 different fads that have swept the country over the past 100 years or so. They do a great job of documenting when the fad got started, who was responsible for getting it going, how long it was popular, and when it fell from grace. So whether it's streaking, swallowing goldfish, or flagpole sitting, you can learn more about it here.

157. **<http://www.FamousBirthdays.com>** Ever wonder what celebrities share your birthday? Log on to FamousBirthdays.com to find out. While you're there you can look up the birthday of just about anyone you'd like. They have a section called All About You, Just for Kids, Birthday Quotes and Jokes, birthday coupons, a free birthday reminder service, and a birthday trivia quiz. While you're there why not post a message to your favorite star? Who knows what might happen?

## WAY COOL SITE

158. <http://www.BadFads.com/collectiblesframe.html> Would you like to test your short-term memory and have fun at the same time? You'll want to play the Claudia Schiffer Memory game then. It's a simple game based on the old TV game show Concentration. You'll need to match photos of the beautiful model into pairs by "turning over" cards. There are 18 to choose from. The object is to match up the photos in as few tries as possible. See if you can qualify for the surprise prize.

159. <http://www.NewGrounds.com/assassin/pokemon/index.html> First it was Teenage Mutant Ninja Turtles, then Power Rangers. Now, it's Pokeman. If you've had more than your fair share of this craze, you've got to visit the Pokeman Assassin Website. If you choose to accept the mission, you'll be given some tools and a great responsibility. Nothing more needs to be said.

160. <http://www.ThisIsTrue.com> The truth is stranger than fiction because fiction has to make sense. A man sued his doctor because he survived his cancer longer than the doctor predicted. Two robbers were in the process of their crime when one changed his mind and arrested the other. A woman had her husband's ashes made into an egg timer when he died so he could still "help" in the kitchen. These are just a few samples of what you'll get on the ThisIsTrue.com Website.

161. <http://www.Wordsmith.org/anagram> Want to have some fun with words? Try playing with anagrams. Don't know what an anagram is? An anagram is a word or phrase formed by reordering the letters of another word or phrase, such as stop to post. The site has several sections such as Topical Anagrams, Personal Anagrams, Hall of Fame, and Odds n' Ends. Try these on for size, and then visit the site for lots more. Elvis=Lives. Dormitory=Dirty Room. Butterfly=Flutter by.

162. <http://www.TheSpark.com> This highly irreverent site has a little of everything. There are contests, advice for job seekers, the pick-up line generator, free email accounts and a free newsletter. All of these cool features pale by comparison to the "Test" section. Take the Death test, the Wealth test, the Are you a Slut test, the Love test, the Pregnancy test and several others. After answering some simple questions, the Death test will tell you the exact day of your demise. The questions are pretty tongue in cheek and all in fun.

163. **<http://SolitaireCentral.com>** This site is all about the game of solitaire. There are hundreds of variations of the age-old card game and more are being invented all the time. Solitaire might seem like a time waster but is actually great mental exercise. SolitaireCentral.com offers games like Midnight Oil, 21 Solitaire, Poker Solitaire, Chinese Solitaire, Pyramid Deluxe and many more all available for your easy downloading pleasure. Stop by and sharpen up your wits.

164. **<http://Members.aol.com/tbwih/>** Ready to chuckle? Then log onto this site and read the Adventures of the Boy with Immovable Hair. Actually this amusing site is a collection of short adventures illustrated with ASCII art. These descriptive words are taken from the splash page: It's zany, It's wacky, It's funny, It's offbeat, It's crazy, It's both humorous and humourous, It's a cartoon, It's a comic strip, It's a complete waste of your time...It's a block of text written for the sole purpose of getting hits from search engines. We agree with all of the above statements except the one about being a waste of time. The site is hilarious.

165. **<http://www.DumbLaws.com>** Did you know that in the State of California it's against the law for a woman to drive in a housecoat? It's also against the law in that state to shoot at any animal except a whale from a moving car. Think those are weird? In New York you'll need a license to hang clothes on a clothesline. Think we're joking? Stop by DumbLaws.com. and check out your home state to find out what silly law you might be violating. They also have cartoons, reader comments, and discussion boards. Oh yeah, if you live in the state of Washington and are thinking about painting polka dots on the American flag, better think again.

166. **<http://home.intranet.org/~rkwong/sh.html>** When you got it, flaunt it, boy. Just try to stay alive. Always carry a pencil. When you spend \$200, make sure it's a chinchilla instead of a rat. Don't give up on us, baby. If you keep raining on the witch doctor's parade, he's gonna turn you into a frog. Just a few of the profound statements uttered by a couple of 70s TV stars you'll find at the "Everything I Ever Needed To Know I Learned From Starsky and Hutch" Website. This funny collection links to the S&H main page where you'll find everything you ever wanted to know about the crime fighting team and the hit 70s show.

167. **<http://www.CoolArchive.com>** Like to learn a little about graphics and Web design? This is an incredible resource for the aspiring designer as well as the seasoned veteran. They have more than 950 font styles available for downloading free! Not enough? Create a logo instantly with their logo generator. That's right, just enter the name of your company (or simply your name) and get a cool logo in seconds. This is your one-stop resource for clipart, arrows, buttons, sounds, animation, bullets, backgrounds, you name it. Still not impressed? Check out the 16 programs you can download free. They also offer help for aspiring and experienced Web designers. They offer free search engine submission, help with meta tags, URL re-direction and much, much more.

### WAY COOL SITE

168. **<http://www.ScaryBaby.com>** Ever see a baby confirming your suspicions that aliens were mating with humans? If you haven't, then you'll want to visit this hilarious site. No folks, this isn't a collection of hideous baby photos, but one of babies made to look so with special photography and weird photo captions. You're going to split your sides laughing at baby Vinnie Chilpers, baby Charlie, Johnny the Fang, and especially baby Sid. The site was highly praised by USA Today as well as !Yahoo Internet Life Magazine. It's all in good fun so have a look.

## Kids Stuff

169. **<http://www.AtoZkidsStuff.com>** There's something for everyone on the Web and kids are no exception. AtoZkidsStuff.com is a Website designed with the pre-school to school-aged child in mind. Health and safety issues are important here as the site features articles and news on recalled products, tips on avoiding bullies, violence on TV, Growing up on the Bright Side, reading, and more. Kids can also create and send digital postcards to friends. There's a section with suggested activities for special days, rainy days, freebies for kids, and fun activities. Do your kids like to play with sculpting dough? Afraid they'll eat some? You'll love the recipe for Peanut Butter Playdough. Help your kids learn what a useful tool the computer can be. This informative and fun site can help.

## WAY COOL SITE

170. **<http://www.Mildan.com>** Mildan is a fuzzy bear and the host for this young people's site. If the following descriptive words interest you, check out Mildan.com. Learn, explore, fun, games, days out, kids, friends, animals, bears, food, history, science, math, teaching, parents, search, information, children, jokes, stories, kids goodies, kids packs, stickers, resource center for kids, mildan's mates, kids club, technology, geography, mail boards, safe for kids. Mildan leaves paw prints all over this "way cool" site. To get from one fun page to another, just click on a paw print. Any questions?

171. **<http://www.Scatty.com>** Like almost everyone, kids too enjoy a good joke. There are lots of Websites out there claiming to be for kids, yet the content would make even the most jaded Washington politician blush. If kids aren't shown productive resources on the Web, they'll be more likely to go exploring and end up finding Websites you'd rather they didn't. At Scatty.com, there's no need to worry about the content. This site is loaded with jokes that are suitable for the entire family. Like knock knock jokes? They got em. Like monster stories? They got em. How about jokes about animals, sports, and doctors? You'll find them all at Scatty.com. If you get bored with jokes, check out the games page for some of the old time classics gone digital.

172. **<http://Sunsite.berkeley.edu/KidsClick!>** The main search engines return documents and information geared to the adult audience. But kids have needs too. KidsClick! was created by a group of librarians at the Ramapo Catskill LibrarySystem, as a logical step in addressing concerns about the role of public libraries in guiding their young users to valuable and age appropriate Websites. Kids can search the Web on topics like facts and current events, weird and mysterious, health and well-being, entertainment, the arts, sports and recreation and much more. This well planned site also offers searches by individual letters of the alphabet. If your child needs to do some studying or research, this is the place.

173. **<http://School.discovery.com/homeworkhelp/bjpinchbeck>** Before the Internet, kids needing help with homework had to trudge on down to the library to wade through volumes of reference books. Not any more, thanks to B.J. Pinchbeck's Homework Helper. This very cool site is set up with more than 625 links offering information on just about everything on the planet, and a lot of stuff not on the planet for that matter. It's not all work though. There's a Brain Booster section, clipart, a puzzle maker, a dictionary and lots more.

174. **<http://www.Yucky.com>** Ever wonder why vomit is green? Or why you burp. These are just a couple of questions you'll find answers to on the yuckiest site on the Internet. This site for kids of all ages offers Club Yucky, Bug World, and Yucky News, just to name a few of the yucky features. Got a gross question? You can ask Wendell the Worm, he's probably got an answer. But you might not like it cause it's going to be, well, yucky.

175. **<http://www.SwitcherooZoo.com>** Like to know what an elephant would look like with the head of a buffalo and the legs of a zebra? You can find out at SwitcherooZoo.com. This goofy site lets you play doctor, switching the head, legs, and tails of nine different animals. There is more to this site than just animal parts transplantation though. In addition to the fun stuff, there are surprise appearances by 40 other animals making for more than 6500 possible animal combinations. So next time you head for the zoo, make it Switcheroozoo.com.

176. **<http://www.WeeklyReader.com>** In my early days there wasn't much I liked about school. It seemed to interfere with everything I considered important. There were a couple of exceptions though. One was recess, the other was My Weekly Reader. Here we are nearly 40 years later and the grade school reading gem is still alive and well. WeeklyReader.com is a wonderful Web publication for kids with a weekly poll, current events, a science trivia section, contests, puzzles and lots more. Oh yeah, there's also a section for parents and teachers.

177. **<http://www.NorthPole.com>** Where does Santa Claus live? The North Pole of course. And in cyberspace he lives at NorthPole.com. Stop by with the kids and visit Santa's Secret Village, the Toy Shop, and Santa's Workshop, a very special place. In the Workshop you'll find 16 wonderfully illustrated stories all about Santa, the Elves and some very lucky visitors. Don't forget to visit the Reindeer Barn and gift shop before you leave, but you won't be leaving all that soon I expect.

178. **<http://www.MadSci.org>** Why does friction increase with velocity? What would one see in two closely spaced opposite mirrors? How can I test how clean the air is? These are just a few of the more than 12,000 questions residing in the archives of MadSci.org. The Mad Scientist network is a collective cranium of scientists answering your questions. For good measure they provide a variety of oddities and other ends as well. You can ask a real scientist any question, use their search engine, visit Mad Labs and have a little fun,

or access the MadSci Library to help you locate resources on the Web. This is a great site for research and homework.

## Entertainment

179. **<http://www.ShowbizData.com>** Looking for all the inside news on the movie business? This isn't the stuff you'll see on the front page of the Living Section of your local newspaper. Showbizdata.com is your news source for the movie industry. The site lists the top grossing movies, new video releases, a hot show business events calendar, a really hot "movie" search engine, and industry job openings. Wondering if you should bother seeing that latest flick you're hearing so much about? Check out ShowbizData's extensive movie review and rating section. If you'd like to dig really deep into the Hollywood scene, they also offer a subscriber service.

180. **<http://www.TheSmokingGun.com>** Have you ever watched a news report or read the newspaper and wonder what *really* happened? If you have one of those inquiring minds that want to know, you've got to visit this site. The best in offbeat and satirical news trivia is what you'll find here. If it's current events you're after, TheSmokingGun.com will give you a different spin on what's happening. Perhaps the best feature on this not ready for prime time news outlet is the archive. Find out about Jerry Seinfeld's garage, or take a look at Jimi Hendrix's arrest record. For unusual news tidbits, TheSmokingGun.com is the place to be.

181. **<http://www.MysteryNet.com>** It's dusk. Three shadowy figures cautiously make their way along the wall of a tall, dark and spooky building heading for...? It's anyone's guess where they're going. Such was the subject of a photo contest featured on mysterynet.com. But there are more than photo contests at this mysterious site. Enjoy solving mysteries? Dead Man's Curve, Belligerent Bigamist, and Dumb Dr. Dunn are just a few of the mysteries you might have solved had you been a recent visitor. But you still have a chance as the stories are periodically updated. This is a great site to keep the serious mystery fan in the know, with links and articles featuring the great mystery writers from Agatha Christie to Nancy Drew.

182. **<http://www.bMonster.com>** Remember the old black & white monster movies? Classics like The Creature from the Black Lagoon, and The Thing,

were two of the more notable ones. bMonster.com has made a study of the low-budget monster movie. They offer extensive summaries and comments on many old horror, science fiction, and cult movies. Wondering about that flick that scared you half to death back in 1961? Look it up in their search directory. Interesting facts about the producers, directors and players in these forgotten flicks, makes this a site you could spend hours visiting.

183. **<http://www.EnterCasino.com>** Feeling lucky? Don't feel like making a trip to your favorite resort town for some casino action? No problem, you can play from your computer. Poker, roulette, slots, and blackjack are just some of the familiar casino games you can enjoy from your home. EnterCasino.com accepts your major credit card, so you can start right after signing in and a simple download. If casino action is your kind of fun, check out EnterCasino.com. Who knows, it might be your lucky day.

184. **<http://www.WebPagesThatSuck.com>** You've been looking at some of the best Websites on the Net, now how about taking a little time to check out some not so hot sites. WebPagesThatSuck.com, searches the World Wide Web to bring you only the very worst. There's the Daily sucker and the famous Sucky pages section. The operator of the site doesn't just pick on bad sites indiscriminately, there are sub-standards to be met. Sucky pages are judged for poor content, graphics, content and style. Most everyone knows that large files slow the loading of Web pages. Check out the 47.8K whopper that WPTS has tracked down. If you plan on putting up a site of your own, you'll want to check out this site to find out what not to do.

## WAY COOL SITE

185. **[www.GameZone.com](http://www.GameZone.com)** Whether you are looking for that quick escape game on your coffee break or you are a hard core PC gamer with a need to know the latest about the hottest games on the market, GameZone Online has what you are looking for. Cheats, reviews, patches, demos, online games, contests, news, and virtually infinite gaming information all organized in one objective and easy to navigate gamer's utopia! As The PC Gamer Connection! we help gamers connect to exactly what they are looking for every time.

186. **<http://www.AdamSandler.com>** Who's your favorite funny guy? Robin Williams, Jim Carey? Bill Clinton? The antics of Adam Sandler have gotten more than a few laughs in the past few years. If you're a fan of this very funny man, check out his official Website. You'll find lots of information on all

of his hit movies and more. Did you know the comic also wrote and recorded music? Find out all you need to know about Adam such as upcoming movie projects and release dates, new music and more on this funny and informative site.

187. **<http://Marketing.cbs.com/lateshow/topten>** We've said it many times. The Internet is the place to go to find information of all kinds. On this site you'll find last night's David Letterman's Top 10. Want more than last night's list? Go to the archive. Here you'll find Dave's Top 10 dating back to 1993. You're sure to get a chuckle as you read the Top 10 Questions On The Los Alamos Security Application. How about Invisible Guy Pick-up Lines or Rat Complaints about New York City? The site also features Dave's Online Clubhouse, the Late Show Store, and of course, comedy.

188. **<http://www.bbhq.com>** Were you born between the years 1946 and 1964? Maybe you're right on the line in either direction. If so, you're a baby boomer. What does that mean? At Baby Boomer Head Quarters, a lot. The site has an extensive music section with features like Who Sang That Song, Ask the DJ, the Music Library, and the Boomer Top 10. There's a section on the 60's with a sixties quiz, boomer stats, Woodstock, and "When I was a kid." Check out the 70's for the 70's Story, the 70's Quiz and much more.

189. **<http://www.RapDict.org>** If you've ever had trouble trying to figure out what a rap singer was saying, you're not alone. But knowing what's being said still doesn't mean you'll understand the true meaning of the words. Why? Because rappers have a language of their own. This site can help. RapDict.org does a great job of profiling the genre. In addition to the rap dictionary, there are album suggestions, a section on rap artists, a wish list, and a selection of books all related to rap, the artists and fans.

190. **<http://www.GetBack.org>** The music of the Beatles helped to define the direction of pop culture as well as the shape society took in the second half of the last century. GetBack.org serves as a record of the many fine details of the evolution of the group. The site offers numerous articles, photographs, interviews and sound clips of the fab four during all phases of their popularity. There are personal profiles of each of the boys, including information on Pete Best and Stu Sutcliffe, Beatles who didn't quite make it. There are personal stories, humor, little-known facts about their music, songwriting and much more.

191. **<http://www.Elvis-Presley.com>** To paraphrase John Lennon, “Without Elvis, there’d be nothing.” John was talking about rock n roll of course. Elvis-Presley.com is a living memorial to the King of Rock n roll. Stop by the site and get a virtual tour of the Heartbreak Hotel, Graceland, or Elvis’ Memphis restaurant. The Website is offered in five different languages. Don’t forget to get your free newsletter, Elvis screensaver and an e-card for your friends. There’s also a section with Elvis trivia and a great gift shop.

## WAY COOL SITE

192. **<http://www.ThreeStooges.com>** Maybe it’s a guy thing, but I never grow tired of the Three Stooges. ThreeStooges.com is their official Website. The section titled Filmography breaks the Stoooge shorts into several categories, according to different players such as Curley, Shemp, and Curley Joe. Titles and dates for each flick are given along with some great photos. The site also has a cool auction section, a Stooges fan club, a free newsletter, live chat and more. Be sure to stop by the store to pick up some classic Stooges DVDs.

193. **<http://ClintEastwood.net>** As Dirty Harry once said, “A man’s got to know his limitations.” Looking at the career of Clint Eastwood, one might think the actor, director, producer has had few. This site chronicles the life and times of Eastwood with his films, a bulletin board, his musical recordings, film music, tons of photographs, video clips from The Dead Pool, Dirty Harry, The Good the Bad and the Ugly, DVDs, posters and lots more. Any real Eastwood fan would stop by for a look. Feelin’ lucky?

194. **<http://www.BackStreetBoys.com>** There’s no doubt about it. They’re hot. Get in touch with your favorite Back Street Boy at BackStreetBoys.com. Here you can find out the latest news, investigate their tour diary, check out Millennium TV, and ask the guys a question by email. There are photos and bios on AJ, Brian, Howie D, Kevin, and of course, Nick. Hear clips of their music, find out about concerts, shop, and subscribe to their newsletter to keep up with all the latest.

195. **<http://www.SteelyDan.com>** No static at all. Steely Dan is back, bigger and better than ever. It’s like they never left. On SteelyDan.com you can read about Donald Fagen and Walter Becker’s early beginnings as contract songwriters and their climb to fame starting in 1972 with the release of “Can’t

Buy a Thrill,” their groundbreaking first album. Find out about various band members of the past, check out their tour schedule, read reviews of their music both past and present, get the lyrics to all of their songs, leave a message, and more. The music of Steely Dan transcends time.

## e-Business & Finance

196. **<http://www.WebBizCentral.com>** Making money in e-commerce depends on several key factors. Perhaps the most important of these is site traffic. There are many unique and interesting ways to drive visitors to a site. And more visitors spells sales. WebBizCentral.com provides all of the tools necessary for turning virtually any Website into a money machine. Whether it’s search engine submission, copywriting, marketing and promotion, or tracking visitors, this company can help. Are you violating the primary law of e-commerce? Visit WebBizCentral and sign up for a free Website evaluation. It’s free. Every day you delay is costing you money.

197. **<http://www.ComicExchange.com>** The more variety a Website offers, the more likely it is to attract new visitors as well as keeping previous visitors coming back. For you aspiring webmasters out there, take a look at ComicExchange.com. They offer a wide range of comics from more than 40 cartoonists from all over the world. You get a daily cartoon for your home page in exchange for allowing them to place a banner ad on your site. They also offer opportunities for cartoonists as well as a great exchange deal on banner advertising.

198. **<http://www.HumanClick.com>** Have you got a commercial Website? Thinking of getting one to promote your present business or start a new one? HumanClick.com is a service you’ll want to investigate. They offer a free, realtime interactive chat program so you can easily communicate with customers visiting your site. When a visitor has a question about something, she simply clicks on the HumanClick icon and you are immediately notified. From there you can chat with her, answering questions and concerns. Cool.

199. **<http://www.x.com>** Thinking of selling Grandmas famous homemade strawberry preserves online? Good idea. How are you going to accept payment? You could use a secure e-commerce payment system along with a merchant account. That would certainly get the job done, but it can be spendy.

PayPal is an inexpensive alternative. Log onto the site, select “Open a Business Account,” fill out a short form, and you’ll be accepting payments online in no time. This is also a great service for making payments online.

200. **<http://www.Individual.com>** It’s no secret, there are literally hundreds of financial newspapers, magazines, news services and, of course, Websites. It can be a daunting experience wading through all of them looking for material of interest to you. Individual.com changes all of that. Becoming a member allows you to customize your financial news and have it delivered to your email each morning. You’ll have access to thousands of industry topic areas, more than 40 worldwide sources, news and press releases from more than 15,000 companies and much more. Specialization is in. Check this site out.

201. **<http://www.Bloomberg.com>** Bloomberg has been called the Cadillac of financial news services. Perhaps it’s time you find out why. If you’re interested in learning about the financial markets or in breaking news on your particular investment, doesn’t it make sense to go directly to the source? Bloomberg.com is *the* source for financial information. From mutual funds and stocks to precious metals and market trends, Bloomberg covers it all. Of course it makes sense to have access to as much information as you can possibly absorb, and this service should make the top of your list.

## WAY COOL SITE

202. **<http://FreeRealtime.com>** Stock quotes are available on a multitude of sites on the Web. The problem with most of them is they are delayed quotes. On FreeRealTime.com you’ll get free live quotes - not delayed. And you can customize your portfolio by adding all of your favorites to a special list. The site provides you with Research tools like Company Profiles, and Harry Aloof’s stock picks. You’ll also find Current Headlines, US markets, the day’s most active stocks, Stock Talk message boards, the IPO center, a useful glossary, free email, and much more.

203. **<http://www.Kitco.com>** Does your interest lie in all that glitters? We know those things aren’t always gold. They could also be silver or platinum. Kitco.com is your one-stop Web resource for gold and precious metals. You can get live quotes on your favorite bullion along with News, Stories, information on jewelry, and more. Wondering about the value of those old gold or silver coins of yours? Kitco.com can help. Want to trace the price of gold

over the past 25 years? Check the Historical Charts and Data Section. Kitco.com is the most useful site for precious metals we've discovered on the Web.

204. **<http://www.BigCharts.com>** The problem with most of the free stock charting on the Web is the difficulty you often have distinguishing details in the charts. You won't have this problem with BigCharts.com. This site offers you detailed charts that you can actually read. You can call up charts from all of the major stock exchanges as well as many of the electronic bulletin board stocks. Whether you are looking for a five-year chart, a five-day chart, or a five-minute chart, you'll get it here. Want indicators and candlestick charts? They've got them, and everything on this site is free.

205. **<http://www.EarningsWhispers.com>** There's an old saying on Wall Street, "Buy on rumor, sell on news." It's common to see the price of a stock run before the announcement of news such as earnings. On EarningsWhispers.com you can find out what Wall Street is saying about the anticipated earnings of a wide range of companies. This is a very powerful investment tool. If you want, the site will email you the whisper numbers on the companies of your choice. In addition to earnings whispers the site offers excellent research information, earnings warnings as they become available, Community and Discussion groups, an earnings calendar and a lot more. Bookmark this one.

206. **<http://quote.cboe.com>** Thinking of trying your hand in the options market? Options can be a bit risky but very rewarding. You're going to need all of the tools you can to make money in this exciting market. CBOE.com is one of the tools you'll want in your war chest. They offer a wide range of resources such as Trader's Tools, Education, an options calculator, an expiration date calendar, Stock Split and Merger dates, Delayed option quotes, company research, a glossary, links to books, classes and much more.

207. **<http://www.MorningStar.com>** Do you find investing in individual stocks just a little nerve rattling? You might want to check out MorningStar.com. They are the leading providers of mutual fund, stock and variable-insurance investment information you'll find anywhere. On this site you can create a personalized portfolio, get quotes on stocks and mutual funds, research a wide variety of investments as well as getting advice on your 401K. And they've got a section that will let you know about upcoming investment events in your

area. Use their IRA calculator, compare funds, research a broker and much more. MorningStar.com is a very comprehensive collection of investment tools.

208. **<http://www.RagingBull.com>** Perhaps you fancy yourself a momentum trader, or would like to become one. You'll want to become familiar with this great Website. RagingBull.com offers comprehensive research on SEC filings, a Trading Center, Personal Boards, personalized portfolios, downloads, and free email. But perhaps the most valuable of all of their great tools are the message boards. They provide a feature where they post their 10 most active message boards of the day. An active message board is often a clue to an active stock. Active stocks move both up and down dramatically creating investment opportunity. Get it?

209. **<http://finance.Yahoo.com>** !Yahoo is one of the most respected names on the Web, and !Yahoo finance is a wonderful site to organize your investment plan of attack. With !Yahoo's personalized portfolio you can track stock splits and earnings dates, mutual funds, world markets, upgrades and downgrades, search SEC filings, get the latest interest and banking rates, and we haven't even scratched the surface. !Yahoo also offers "The Investment Challenge." This is a contest where entrants get \$100,000 in fantasy money each month to invest. The individual with the best record for the month wins \$5000. The second and third place players win \$3000 and \$2000 respectively. !Yahoo also has the most active of all the stock message boards on the Web.

*About the Author*

Charles Steed has a diverse range of professional experience extending from real estate and investments, to business and Internet marketing. As personal computers exploded into mainstream American life, he noticed that too many of the books written about them were of a highly technical nature. With an uncommon knack for explaining complex ideas, he set out to write a book for people that could be easily understood in one simple reading, without the need for even more computer books to help explain the first. We are confident that *The User Friendly Guide to Internet & Computer Terms* has accomplished this goal.

Charles lives on a small ranch in the Puget Sound area of the state of Washington. He is actively involved in managing rental real estate, gives seminars on investments, finance, Web marketing, and manages several dynamic Websites. He is available as a consultant for copywriting, Web design, Web hosting and Internet marketing. To contact him by email, drop a note to “webmaster” at **<http://www.WebBizCentral.com>**, or call 1-800-598-7996.

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