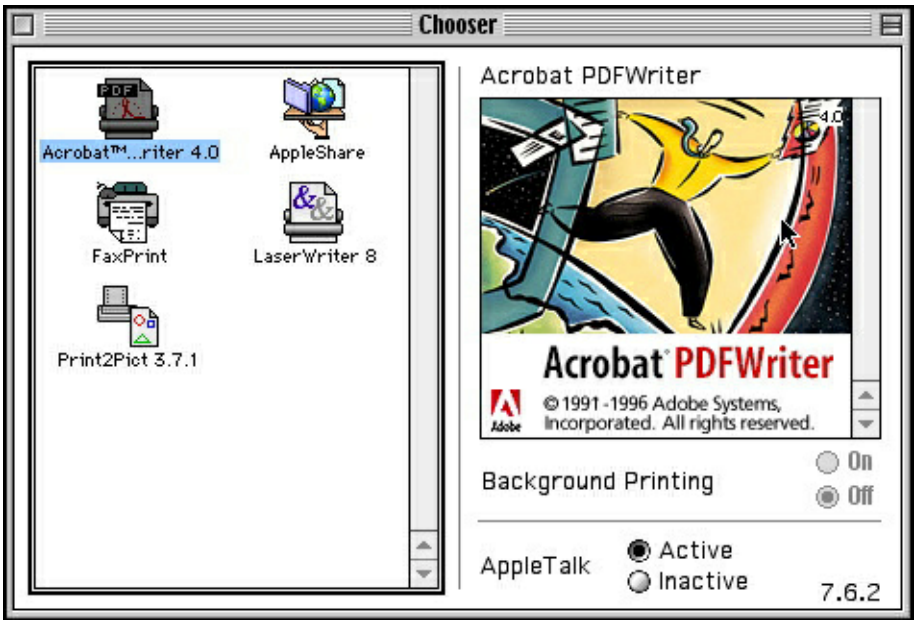
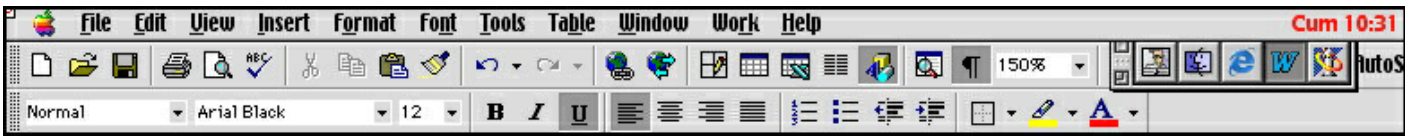
Computer Terminology



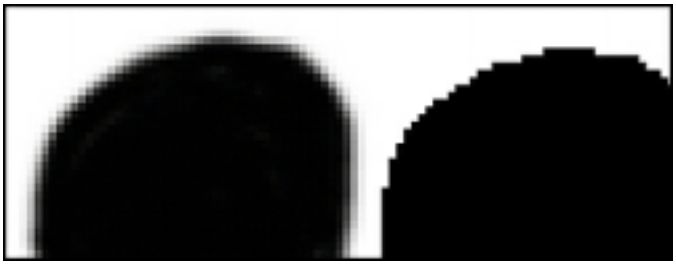
ACROBAT. Product from Adobe Systems, Inc. which converts text documents, word for word, image for image, into fully-searchable electronic documents. The electronic document, with the exact look and feel of the original but with added hyperlinks, is stored in PDF (Portable Document Format). The PDF document can be viewed and printed with the free Adobe Acrobat Reader. The conversion process involves printing, from any word processor or application package, to an Adobe PDF Writer printer driver, rather than printing to a physical printer. The driver stops and asks where you wish to store the PDF document. Links, table of contents and other easy-to-create features are done with Adobe's Acrobat Exchange. A wonderful alternative to HTML.

ALIGNMENT. The positioning of a body of text. Text can be positioned to the left, right, or center of a page. For the best, consistent alignment, web graphic designers use tables and embedded tables.



ANIMATION, PATH. The animation software lets you specify a beginning position and an ending position, then calculates the positions in between.

ANIMATION. Drawn motion files, either in 2D or 3D. The method of creation for 2D and 3D animation is the same. You just put together a series if images after another and play them at once at a specific frame rate. 3D animation requires complex 3D rendering software, while 2D animations can be created with a simple image processing / illustration software and a very basic animator (that can be downloaded from the internet). 2D animations can either be in bitmap format (like GIF animations) or in vector format (like Flash animations).



ANTI-ALIASING. Process used to remove jagged edges in computerized graphics. Smoothing or blending the transition of pixels in an image.

Basically, Anti-Aliasing is a way to use color information to make up for a lack of screen resolution. What the Anti-Aliasing algorithms do is to simulate higher resolution by using color information to trick our eye into seeing a smoother line or edge than the screen can physically allow.

The computer creates a line by drawing pixels (square dots — short for picture elements)— for each few pixels we draw to the side, we must move down one pixel — this causing a step. Anti-aliasing strategically blurs the line (adding color information), to make the line look “smoother” (less jaggie). The more anti-aliasing we add to an image, the more the image gets “blurrier”, however, the line also looks slightly smoother.

We are using the gray colors to create false resolution and soften the jaggies. Even though there is no 1/2 pixel between one row of pixels and the row below it, by using a color in between the two high contrasting pixels we can fool the eye into creating one and smoothing the line. The brain sees the fuzzy detail and fills in the missing information for us. The opposite of “Anti-Aliasing” is called Dithering.

A	1	0	0	0	0	0	1
B	1	0	0	0	0	1	0
C	1	0	0	0	0	1	1
D	1	0	0	0	1	0	0
E	1	0	0	0	1	0	1
F	1	0	0	0	1	1	0
G	1	0	0	0	1	1	1
H	1	0	0	1	0	0	0
I	1	0	0	1	0	0	1
J	1	0	0	1	0	1	0
K	1	0	0	1	0	1	1
L	1	0	0	1	1	0	0
M	1	0	0	1	1	0	1
N	1	0	0	1	1	1	0
O	1	0	0	1	1	1	1
P	1	0	1	0	0	0	0
Q	1	0	1	0	0	0	1
R	1	0	1	0	0	1	0
S	1	0	1	0	0	1	1
T	1	0	1	0	1	0	0
U	1	0	1	0	1	0	1
V	1	0	1	0	1	1	0
W	1	0	1	0	1	1	1
X	1	0	1	1	0	0	0
Y	1	0	1	1	0	0	1
Z	1	0	1	1	0	1	0

ASCII (American Standard Code for Information Interchange) used for text exchange over the internet. A very popular standard method of encoding alphanumeric characters into 7 or 8 binary bits. Otherwise known as “plain text”. ASCII is a standard method

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0	NUL	SOH	STX	ETX	EOT	ENQ	ACK	BEL	BS	HT	LF	VT	FF	CR	SO	SI
1	DLE	DC1	DC2	DC3	DC4	NAK	SYN	ETB	CAN	EM	SUB	ESC	FS	GS	RS	US
2	SPC	!	"	#	$	%	&	'	(	)	*	+	,	-	.	/
3	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
4	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
6	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
7	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	DEL

of describing text characters. “Text-only” files can be read by just about any computer application. It cannot accommodate formatting such as bold, underlined or italic characters. ASCII consists of 128 unique strings of ones and zeros. Each sequence represents a letter of the English alphabet, an Arabic numeral, an assortment of punctuation marks and symbols, or a function such as a carriage return.

AUTHORING SOFTWARE. Programs used to create full, multimedia productions, such as simulations and tutorials. Although most of these programs have some point-and-click features to simplify development, most require some knowledge of programming language concepts. Popular authoring software packages include Asymetrix ToolBook, Microsoft Visual Basic, Macromedia Director and Authorware.

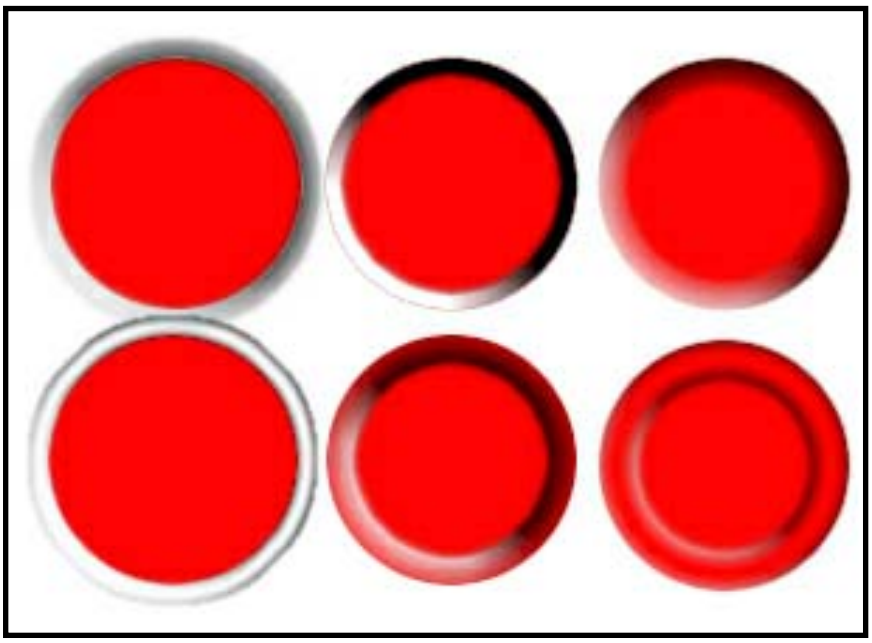
At the “lower” end, presentation software, like Microsoft PowerPoint, provide simpler ways to put multimedia into presentations. HyperStudio, sits somewhere in the middle: It provides more interactive capabilities than presentation software, but cannot do all that a fully-robust authoring package can do.

Typical authoring systems:
- Macromedia’s Authorware Professional (Mac & Windows)
- AimTech’s IconAuthor (Windows)
- Asymetrix’s Multimedia Toolbook (Windows)
- Apple’s Hypercard (Mac)
- Allegiant Technology’s SuperCard (Mac & Windows)
- Allen Communications’ Quest
- Robert Wagner HyperStudio (Mac & Windows)
- Microsoft Visual Basic (Windows)

BAUD. Unit of signaling speed. The speed in baud is the number of discrete conditions or events per second. If each event represents only one bit condition, baud rate equals bits per second (bps).

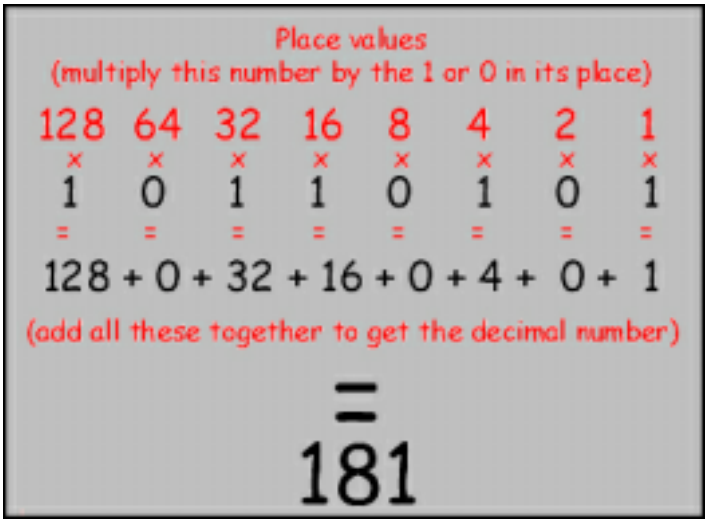
BBS (BULLETIN BOARD SYSTEM). An electronic bulletin board where users can leave messages, download / upload files. Many BBSs are on a membership basis.

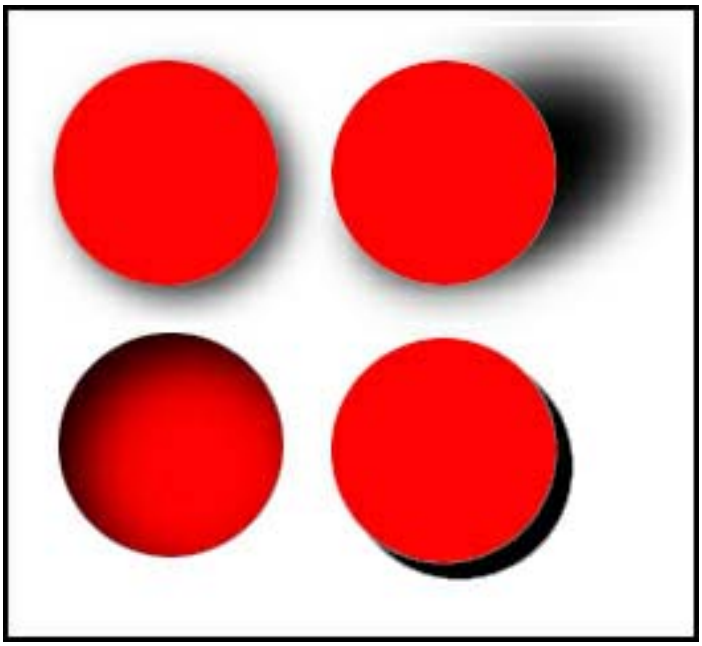
BETA. A pre-release, often buggy, version of software. Frequently available for downloading on the Web to have experienced computer users test the software and report bugs to be eliminated on the newer versions.



BEVEL. Adding a beveled effect to a graphic image gives the image a raised appearance by applying highlight colors and shadow colors to the inside and outside edges.

BINARY FILE. a file that can only be read with special software, such as word processors or image viewers. Binary files contain special, embedded codes (i.e. program commands) that create bold or underlined text, for example. Text files, on the other hand, contain no embedded codes.





CODEC. Program/device that COmpresses/DECompresses digital video. Cinepak and Indeo (Intel) are examples of CODECs. The basic functionality is to enable the transmission of various audio, video and data signals over digital telephone networks. In general terms, an audio/video codec embodies the following functionality:

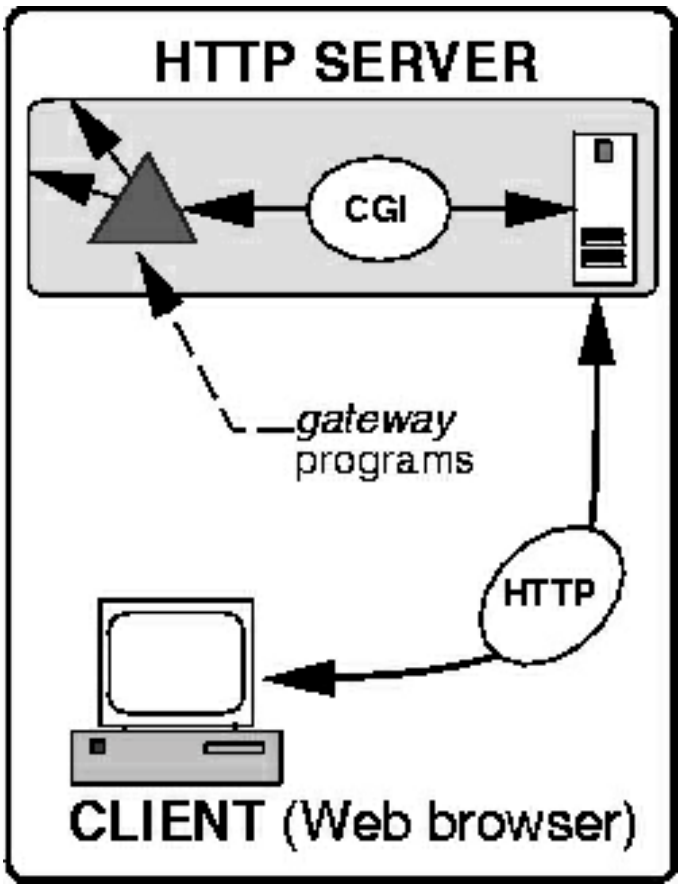
BIT (binary digit). The smallest amount of information which may be stored in a computer. A combination of bits can indicate an alphabetic character, a numeric digit, or perform signaling, switching or other functions.

BPS (bits per second). A measure for the number of binary digits (bits) transmitted in a second. A measure of data transmission speed.

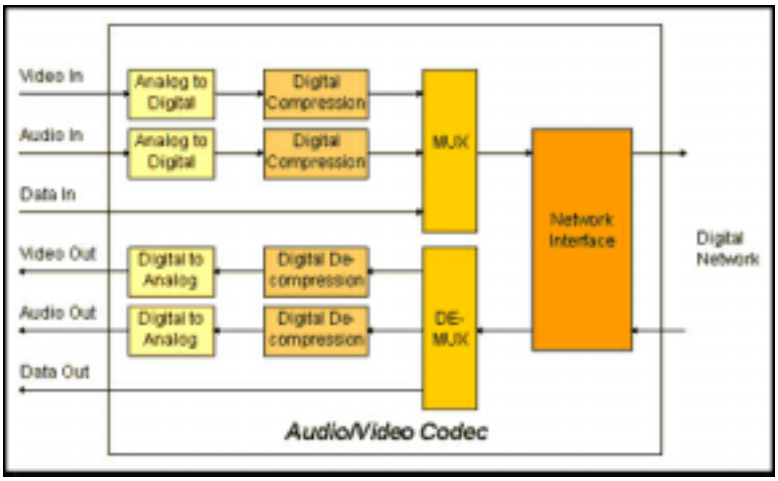
BYTE. 8 bits of information. 8 bits equal one byte. 1 Kilobyte (Kb) is 1024 bytes, 1 Megabyte (Mb) is 1024 Kb, 1 Gigabyte (Gb) is 1024 Mb, and 1 Terabyte (Tb) is 1024 Gb.

CAST SHADOW. Similar to a drop shadow with added emphasis on perspective. Cast shadows can be rotated, stretched, and skewed to create a realistic 3-D effect.

CGI (Common Gateway Interface). Programming function calls that typically perform interactive Web actions. For example, forms are implemented using CGI.



A codec is comprised of two basic processing elements: a compressor (or encoder) and a decompressor (or decoder).



Let's look at the compressor side. A standard video signal coming from cameras or tape players is first digitized into a 135 Mbps feed. Since this rather high bandwidth is difficult to transport economically, one must first compress it down to a more manageable bit rate. While many compression techniques exist, most codecs on the market rely on either Delta Pulse Code Modulation (DPCM) or Discrete-Cosine-Transform (DCT) algorithms. Some compressors achieve very high compression ratios, up to 200:1. Others compress as little as 5:1, but maintain very high picture quality.

The same process is applied to audio signals, which are first digitized, and compressed as well. The compressed digital video data is then multiplexed with the compressed audio data and, in some cases, external digital data. The resulting data stream is then formatted according to a given network interface standard, and connected to the network.

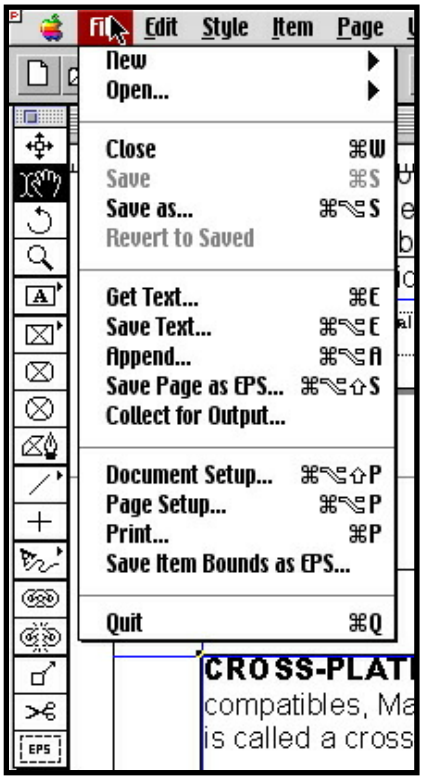
The decompressor side reverses the process. It demultiplexes the original, compressed digital video, audio and data streams, and feeds the resulting signals to the respective decompressors. The decompressed signals are then converted back to their original, analog form.

COLOR CAST. A color cast changes the hue (color) of a selected part of an image while keeping the saturation and brightness intact. Viewing an image with a color cast can be similar to viewing it through colored lenses on eyeglasses. A commonly known color cast (in graphic design) is a duotone.

COMPRESSION, FILE. Process for reducing file size, often called "zipping" or "archiving". The resulting, compressed file can be from a single, large file or can contain several files that have been squeezed into a single file. The many-to-one compression makes file group identification, copying, and transporting faster and easier. Some image file formats have built-in compression procedures and these cannot be further compressed by file compressors. ARJ, RAR, ZIP are examples of compressors on the Windows platform together with DiskDoubler and Stuffit Deluxe on Macs. In addition to making file size smaller, most of the compression programs can split files into a number of specified amount of file size (for instance 1.4 Mb in order to fit a large file on a number of disks). Some attachments bigger than 3-4 Mb cannot be transferred on the net, it helps to split these files and send them separately attached to individual messages.

COOKIE. A cookie is a message given to a web browser (such as Netscape or Explorer) by a web server. The purpose of cookies is to identify website users/visitors and possibly prepare customized web pages for them. Browsers give you the option of not receiving cookies. There are helper applications also that prevent spreading of your personal information around the web.

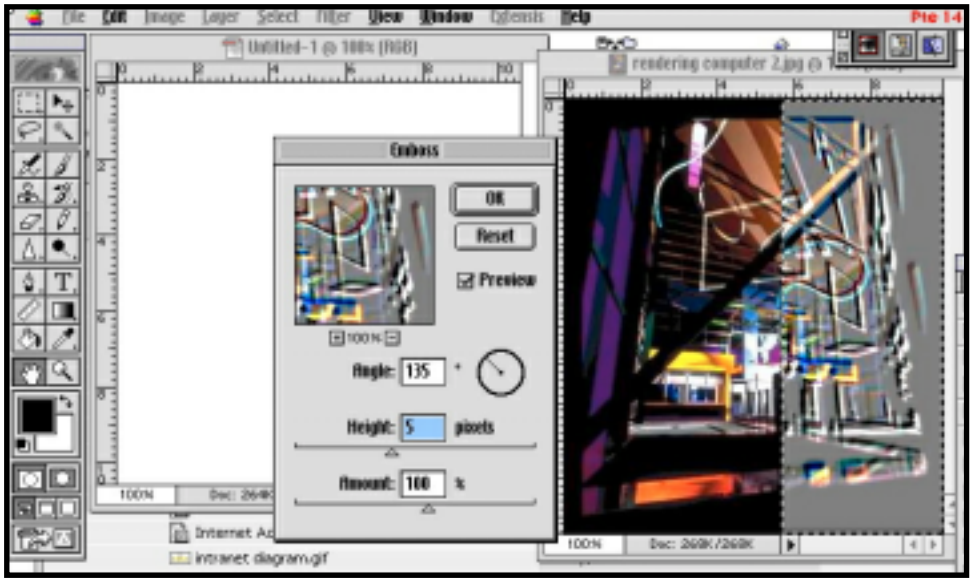
CROSS-PLATFORM. Files usable/executable with different operating systems (IBM compatibles, Macintosh, etc.). A CD-ROM that works both on IBM compatibles and Macintoshes is called a cross-platform CD-ROM.



DIMMED COMMAND. A command that cannot be used in the current situation; it is displayed in gray instead of black. Also called disabled command.

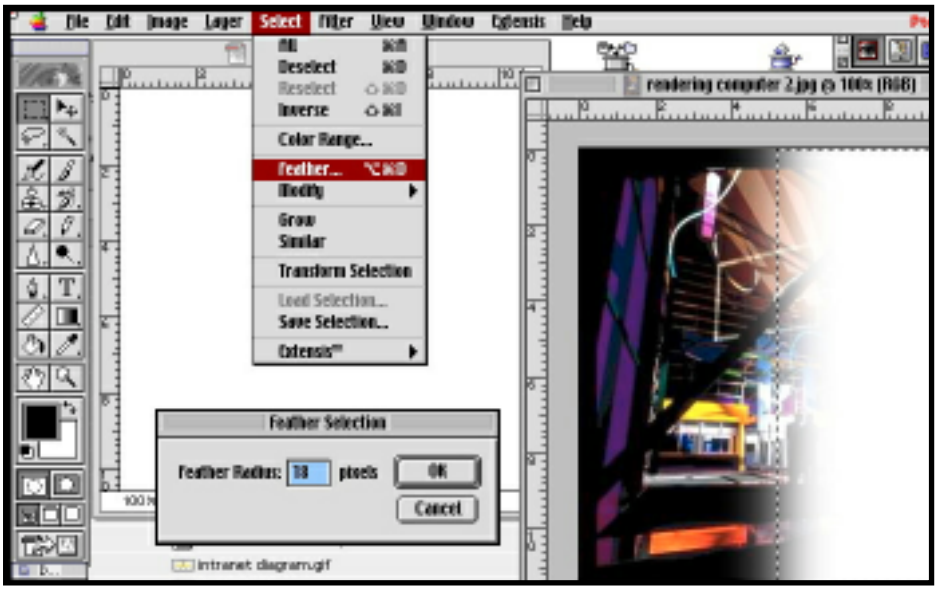
DROP SHADOW. A drop shadow gives an image depth by creating a shading offset behind a selected image.

EMBOSS. Embossing a graphic image adds dimension to it by making the image appear as if it were carved as a projection from a flat background.



EMULATOR. A program which behaves like another program by virtue of being an exact copy. An example is SoftWindows, which is a Windows emulator for Macs, in other words, it allows PC software work on Macintosh. Emulated operating systems work slower than they usually do.

E-ZINE. Stands for electronic magazine and is a name for a website which is modeled after a print magazine or for a magazine that is only available online or through e-mail.

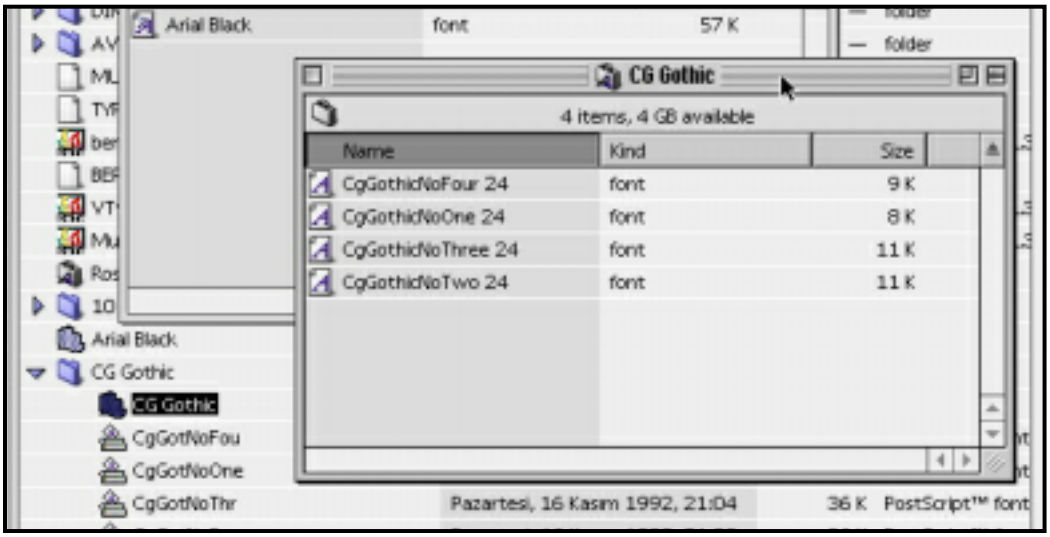


FEATHERING. Feathering the edge of a graphic image gradually dissipates the edge, making the edge look blurry.

FAQ (Frequently Asked Questions). A list of frequently asked questions and answers about a given topic, very common in newsgroups and web servers. FAQ lists are published in order to eliminate wasted time to be spent on answering common questions that users ask all the time. Experienced users usually do not take a look at such lists, since these lists address moderate users.

FIREWALL. A security system to protect a networked server or computer from intentional or accidental damage or unauthorized access; implemented by either hardware (a dedicated gateway machine) or software (defensive coding). Off-campus computers using a cable modem or other "always on" connection can also benefit from firewall software such as ZoneAlarm (free) or Norton Internet Security 2000. Firewall is a security mechanism that allows limited access to your site from the Internet, allowing approved traffic in and out according to a thought-out plan.

FONTS, TRUE-TYPE. Window's built-in "outline" font technology. It works by taking a mathematical description of a font's outline and using it to "paint in" on-the-fly screen and printer representations. The printed appearance is true to the displayed appearance, hence "true-type". True-type fonts are stored in two files, with the extensions .TTF and .FOT.



FONTS, POST-SCRIPT. A page description language (PDL) developed by Adobe Systems. PostScript is primarily a language for printing documents on laser printers, but it can be adapted to produce images on other types of devices. PostScript is the standard for desktop publishing because it is supported by imagesetters, the very high-resolution printers used by service bureaus to produce camera-ready copy.

PostScript is an object-oriented language, meaning that it treats images, including fonts, as collections of geometrical objects rather than as bit maps. PostScript fonts are called outline fonts because the outline of each character is defined. They are also called scalable fonts because their size can be changed with PostScript commands. Given a single typeface definition, a PostScript printer can thus produce a multitude of fonts. In contrast, many non-PostScript printers represent fonts with bit maps. To print a bit-mapped typeface with different sizes, these printers require a complete set of bit maps for each size.

The principal advantage of object-oriented (vector) graphics over bit-mapped graphics is that object-oriented images take advantage of high-resolution output devices whereas bit-mapped images do not. A PostScript drawing looks much better when printed on a 600-dpi printer than on a 300-dpi printer. A bit-mapped image looks the same on both printers.

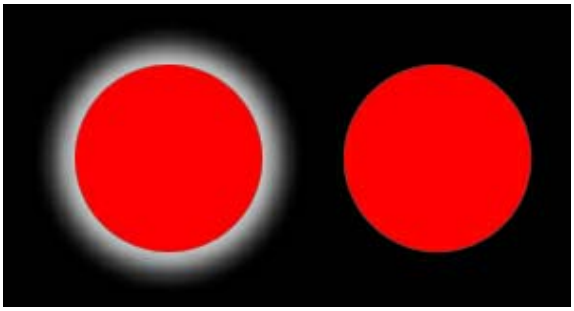
Every PostScript printer contains a built-in interpreter that executes PostScript instructions. If your laser printer does not come with PostScript support, you may be able to purchase a cartridge that contains PostScript. There are three basic versions: Level 1, Level 2 and PostScript 3. Level 2 PostScript, which was released in 1992, has better support for color printing. PostScript 3, release in 1997, supports more fonts, better graphics handling, and faster PostScript printing.
Post-Script fonts are preferred in printing, since there can be discrepancies between how a True-Type font is displayed on the screen and how it is printed. True-Type text printed professionally with an image setter may have unexpected and irregular kerning problems.

FPS (frames per second). The number of picture images displayed per second, giving digital video the illusion of motion. Full-motion video, with no dropped frames, is considered 30 fps (NTSC standard).

FREEWARE. The software author retains rights to the program, but allows users to copy and use the program without fee. The program thus cannot be resold or relabeled without the consent of the originator.

FTP (File Transport Protocol). It is a method for retrieving files from a remote Internet site. Many sites out there allow what is termed an 'anonymous' connection. In other words, there exists a special username called anonymous so that the site can act as a library of useful public domain programs and documents. Microsoft and Adobe FTP sites are anonymous sites. Some FTP sites are private and therefore accessible only by entering a password.

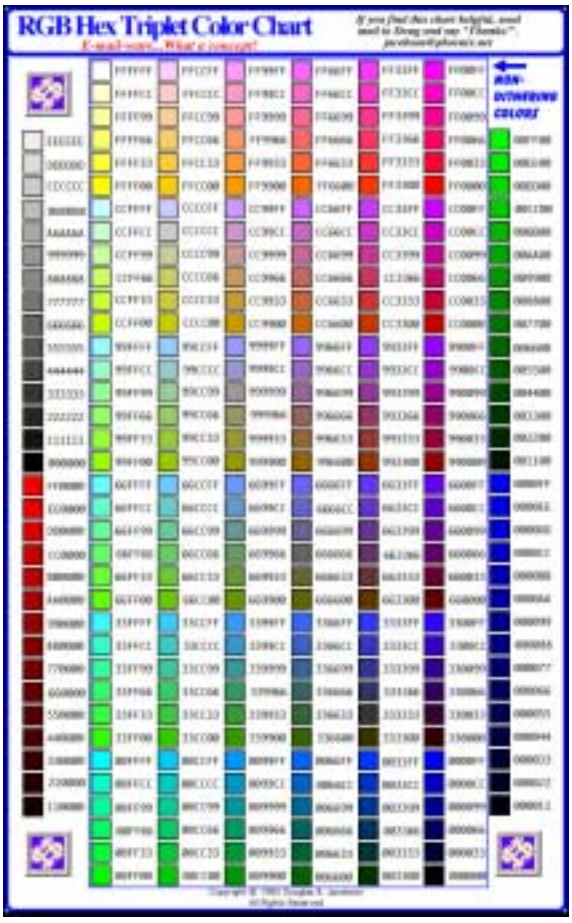
Gateway. The computer hardware and software that connect networks that use different protocols (rules hardware and software use to communicate), or that transfer data between two incompatible applications on a network. The gateway reformats data so that it is acceptable to the receiving network or application. The term is frequently used to describe any computer that transfers data from one network to another, but such usage is not technically correct.

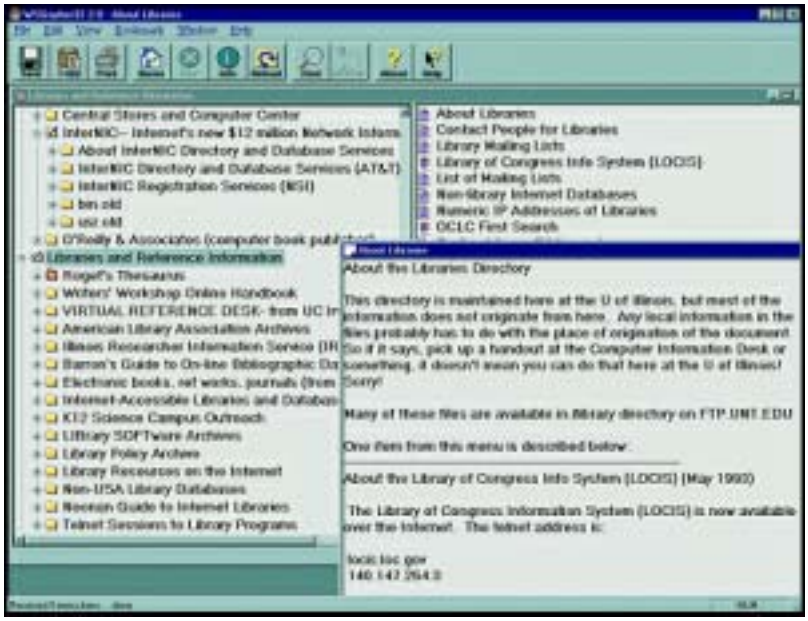


GLOW. A glow is the opposite of a shadow in that it creates a surrounding highlight of an image. A high radiance creates a soft, subtle glow and a low radiance creates a hard, bright glow.

GOPHER. A menu-driven system that lets you search for and retrieve files across the Net. The features are: (a) provides a menu interface (b) graphical / menu version of ftp (c) not supported/implemented by all sites (d) being replaced by WWW server (e)icons represent types, text files, links, folders (directories)

HERTZ (Hz). Cycles per second. A measure of frequency or bandwidth.





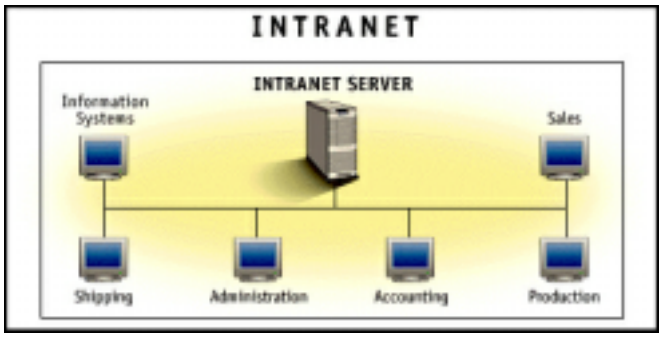
HEXADECIMAL. A numbering system which uses a base of 16. The first ten digits are 0-9 and the next six are A-F. Hexadecimal numbers are used to color web pages. For example, the hexadecimal equivalent for White is #FFFFFF.

HIT. A match to the criteria you specify in a search.

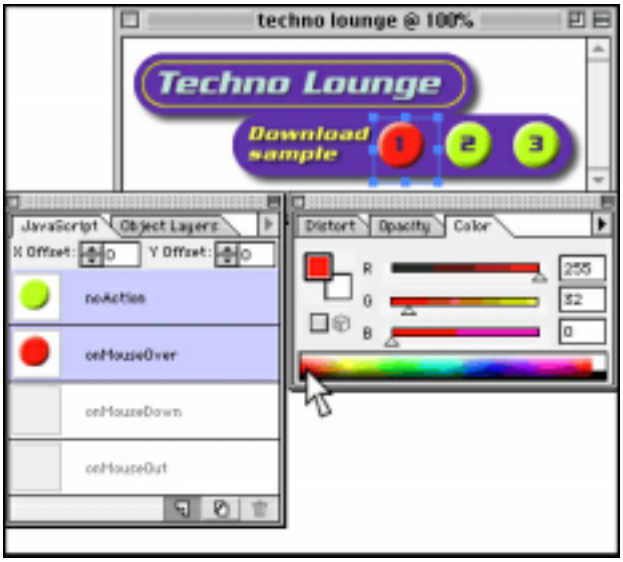
HTML. Hypertext Markup Language; the format of pages on the Web.

HYPERLINK or HYPERTEXT. A special part of a Web page (it may be text or graphic) which causes a new page to be displayed when it is selected, often by clicking on it. Hypertext is basically the same as regular text, with one exception: hypertext contains connections within the text to other Web documents. The connections are denoted, generally, as underlined, colored text. The “documents” to which the hypertext connect may be local or remote, perhaps even in a different country.

INTRANET. The World Wide Web documents accessible within a single organization.



JAVA. An object-oriented, Web programming language, similar to C++, developed by Sun MicroSystems. As an interpreted language, JAVA applications, called applets, do not have to be compiled for each operating system. Thus, an applet will run the same on any operating system.



JAVA APPLETS. Small programs written in JAVA that produce various special effects, which are embedded right into the Web pages. When someone accesses a Web page with applets, the applets automatically download with the page: All that is needed to view the effect comes with the page itself, making applets independent of the eccentricities of various operating systems. This design feature makes applets particularly desirable for multimedia applications, which typically are very platform-dependent.

JAVA BEANS. Component Application Programming Interface allowing Java applications to run in other frameworks, e.g., Microsoft Word.

JAVASCRIPT. Resembles Java, but runs (is interpreted) on the client (user) side, not the host/server.

KERNING. The horizontal spacing between the letters in a word.
compare this h o r i z o n t a l s p a c i n g
with this horizontal spacing

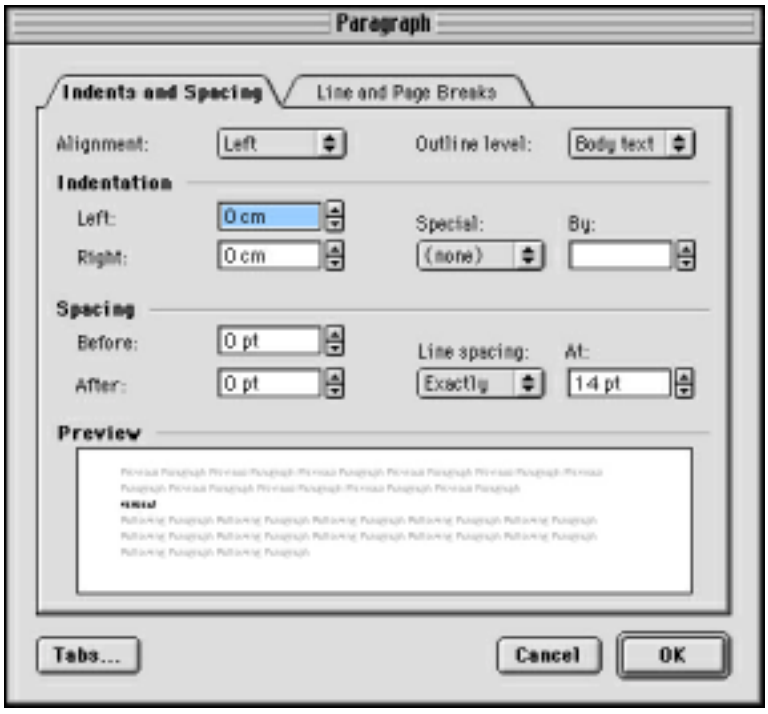
KEY FRAME. A “complete” video frame, containing all the image detail, not just the changes from the previous frame.

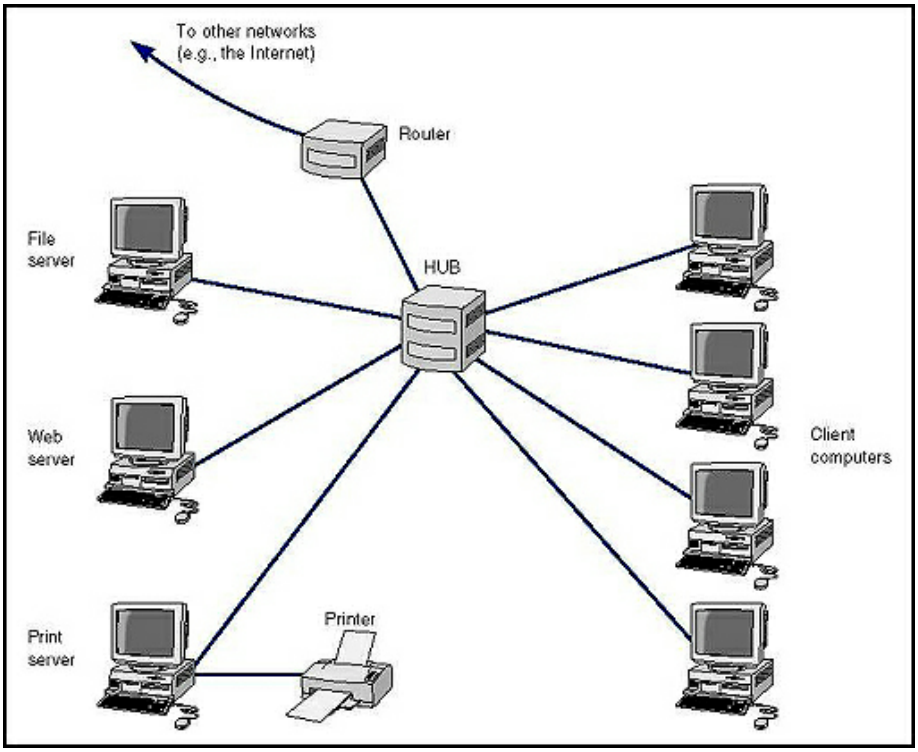
LEADING. The vertical spacing between lines of text.
compare this
vertical spacing (10 points)

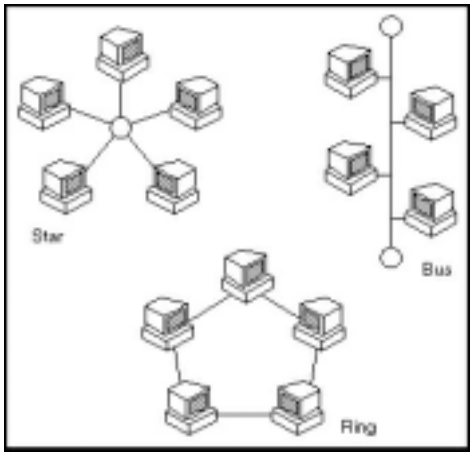
with this,

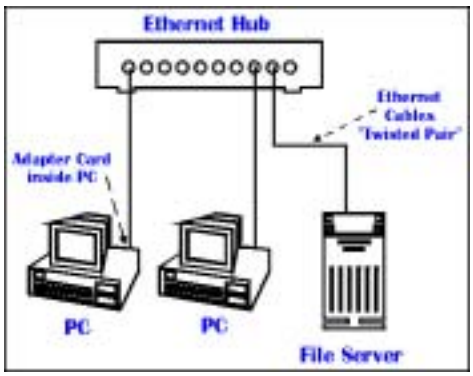
vertical

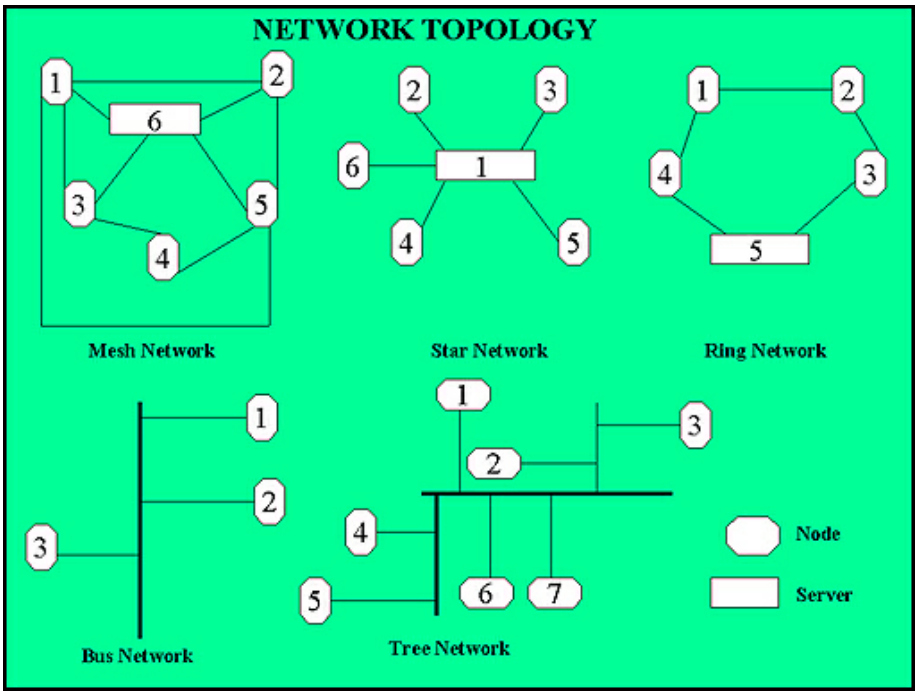
spacing (20 points)

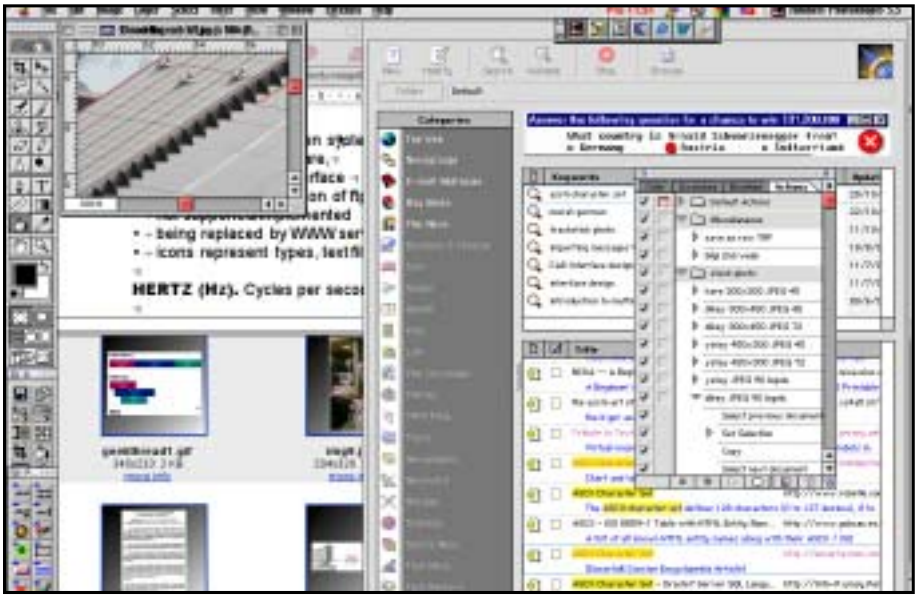












LOCAL AREA NETWORK (LAN). A data communications system confined to a limited geographic area (typically up to 6 miles or about 10 kilometers) with moderate to high data rates (100 Kbps to 50 Mbps). The area served may consist of a single building, a cluster of buildings, or a campus-type arrangement. The network uses some type of switching technology, and does not use common carrier circuits (i.e. telephone lines) although it may provide access to other public or private networks.

MULTITASKING. The characteristics of an operating system and/or CPU that allows a processor to perform several operations at once.

NETIQUETTE. The rules of conduct for interacting on the Internet. Accepted, proper behavior on the Internet. The term especially applies to e-mail and newsgroup posts.

NEWBIE. A new user of the Internet. Newbie can be used as either a neutral or derogatory term.

OBJECT-ORIENTED. A programming technique that focuses design on the data (=objects) and on the user interfaces to it. To make an analogy with carpentry, an “object-oriented” carpenter would be mostly concerned with the chair he was building, and secondarily with the tools used to make it; a “non-object-oriented” carpenter would think primarily of his tools. Object-oriented design is also the mechanism for defining how modules “plug and play.”

OLE (Object Linking and Embedding). Windows’ “magic” to transfer objects from one program “document” to another. The process involves copying the selected object to the clipboard, then switching over to the receiving document and pasting. Paste Linking (available as a Paste Special option), plants a trail back to the original/source document so that when the original changes, you see the changes in the receiver. Paste Embedding, the default paste mode, places a copy of the original into the receiver. Because the two programs are not linked, any changes to the original are not reflected in the receiver.

PIXELS. PICture ELements = Pixel. The tiny dots comprising a picture. Look closely at your TV to see pixeled images.

PLUG-IN. A software extension that provides added capabilities to the browser / image processing software, for purposes such as viewing, hearing, or saving specially formatted files. Most plug-ins are available via the creator’s web page for downloading. QuickTime plug-in enables Explorer to display QuickTime movies on the web; or a Photoshop plug-in allows the user to apply a visual effect that cannot be otherwise realized with Photoshop’s built-in filters.

POPMAIL (Post Office Protocol mail). POPmail is a client/server e-mail package. The POPmail client allows you to read e-mail on your local machine, but in order to receive e-mail you must have a user ID on a host machine that is acting as a POPmail server. An example is the e-mail package Eudora.

PROXY. The definition of proxy in the Webster's dictionary is authority given by one person to another to act for him. A proxy server has the same responsibility. Once you configure your browser to use our proxy server you will no longer directly request objects from the Internet. Your request to view http://www.netscape.com/ is not sent to the server www.netscape.com but instead the request is sent to our proxy server. Our proxy server will then request the webpage for you and as it receives the page send it back to you.

QUERY. A search request submitted to a database (such as the search engine and directory databases) to find a particular piece of information or all records that meet the search criteria.

RENDERING. The process of applying color and texture to a 3D object once geometry processing has defined its

corners and edges. Lighting and shading are elements of rendering, which is a task typically performed by the graphics accelerator.

RESOLUTION. The clarity of the displayed/printed image. The more pixels/dots per square inch (ppi), the finer the detail (higher resolution).

RGB. Red-Green-Blue, the primary colors composing light. Applied to color monitors.

SCREEN FONT. A part of the font suitcase (of Adobe Type 1 fonts), that describes the shape of each character to the operating system so that the font can be seen onscreen. PostScript fonts need to have screen fonts in order to be displayed.

SHAREWARE. "Try before you buy" software. The author retains full rights to the package. It may be copied at will, but shareware cannot be used at will. There is generally a limited period of use granted without fee, commonly 30 or 60 days. After that period, the user pays a licensing fee to continue using the software. Some shareware programs have certain capabilities disabled to make you pay the necessary fee after you try the software. Some others are fully functional and do not have any time limitation, but display small reminders that come to screen every time you turn the computer on.

SHOCKWAVE. Add-in to MacroMedia Director that lets you create highly-compressed interactive animations and movies for Web pages. Director supports Java applets.

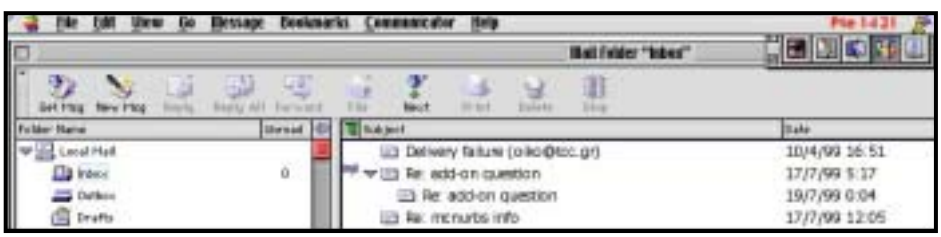
SPAM. To send identical and irrelevant messages to many different people. Usually, but not always, the message is an advertisement. Also used as a noun to refer to the message itself.

STORY BOARDS. A precise description detailing how each multimedia element is going to be used and screen-by-screen planning of what is available to the end user.

TCP/IP (Transmission Control Protocol/Internet Protocol). A set of communication standards through which different kinds of computers on the Internet communicate together; the "language" of the Internet.

TEXT FILES. Files that contains no special codes or commands - such as bold, italics or graphics - only text. Text files, unlike binary files, can be read without any special software.

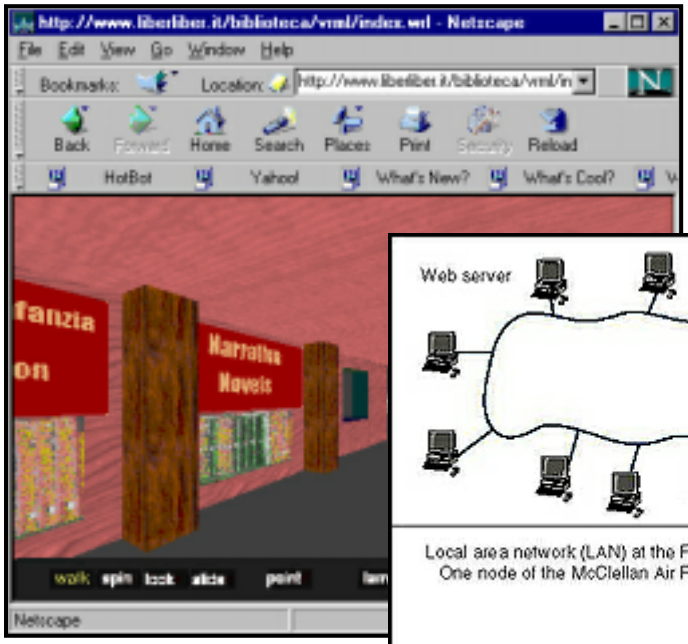
THREAD. A series of messages related to the same topic in a discussion group or newsgroup, such as an original post and related follow-ups.



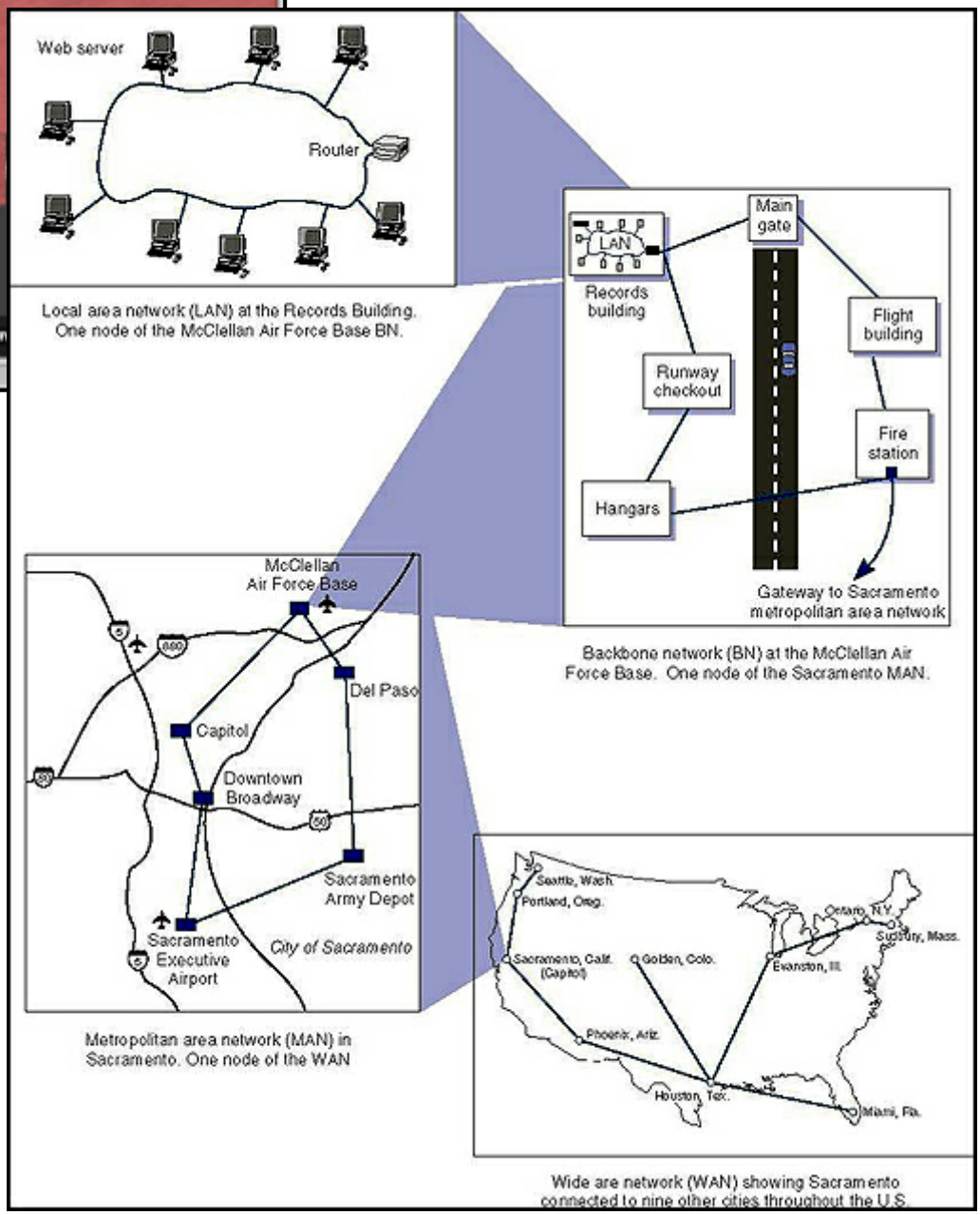
URL (Uniform Resource Locator). The addressing scheme used to link resources on the Web. Like the post office, which must have addresses to deliver mail, Internet users - and their computers - must have addresses in order to send and receive messages. A URL has two parts, separated by ://. Example:

http://www.whitehouse.gov (Clicking here actually jumps you to the Whitehouse for a cyber-visit.) The portion before the "://" is the web protocol, which could be http://, gopher:// ... The after portion is the name of the computer the person is using - the host.

The name of this host computer may consist of several parts, each separated by a period. The last part tells you what kind of organization owns the computer. For example, gov stands for government, com for commercial organizations, edu for educational institutions, mil for the military, and so forth. Occasionally you see names which end with country codes. The United States designation is us.



VRML (Virtual Reality Markup Language). The "next stage" in HTML, permitting 3-D animation browsing. The VRML server works by transmitting an object command, such as "cone", and the mathematical description of its dimensions, location, color and texture to the client. The client then handles rendering and manipulation.



WAN (Wide Area Network). A network of computers covering a wide geographic area. The networks are not necessarily physically connected to each other by wiring.

WORD. The standard number of bits that a processor or memory manipulates at one time. Microprocessors typically use 8 or 16-bit words.