Appendix C: Glossary

C

Analog communication

A communication format in which information is transmitted by modulating a continuous signal, such as a radio wave. Voice and video messages originate in analog form since sound and light are wavelike functions; thus, they must be converted into digital messages in order to communicate along digital communications formats or media.

Anonymous FTP site

A **server** that allows the public to log on and download files without having an account or a user ID on that server.

Application tools

Computer software that enables the user to manipulate information to create documents or reports.

Archie

A database listing programs and data files available at anonymous FTP sites or Telnet sites on the Internet. See *Veronica*.

ARPAnet

The original experimental U.S. government network that started the Internet. ARPAnet was started in the mid-1960s to connect researchers, and is no longer in existence. ARPA is the Advanced Research Projects Agency, under the Department of Defense, previously named DARPA (Defense Advanced Research Projects Agency).

Artificial intelligence

The use of computer processing to simulate intelligent behavior. Current research includes natural language recognition and use, problem solving, selection from alternatives, pattern recognition, generalization based on experience, and analysis of novel situations.

ASCII (American Standard Code for Information Interchange)

Pronounced "as-key," a set of computer characters devised to achieve some measure of compatibility among various computers. Putting a text file in ASCII format reduces it to essential elements—upper- and lower-case letters, numbers, punctuation, and some control characters but no graphics characters or printer codes—and eases the process of sharing it with other computers.

Asynchronous communication

Two-way communication in which there is a time delay between when a message is sent and when it is received. Examples include electronic-mail and voice-mail systems. In contrast, synchronous communication is simultaneous two-way exchange of information—for example, a telephone conversation.

Audiographic conference
A conferencing system that can transmit audio and still-video signals, computer graphics, and text on the same telephone cable or other narrow-band communications channel. Equipment generally includes computers, graphics cables, and speaker phones at both the receiving and delivering ends.

Authoring
The process of building or modifying computer software using a computer program designed for that purpose. Generally, authoring software applications require less technical expertise compared with programming languages.

Backbone
The main communication channel in a network wiring scheme, so called because other communications lines connect to it like ribs connect to the human body's backbone.

Bandwidth
A measure of information-carrying capability. The difference between the lowest and highest signal frequency is expressed in hertz (cycles per second). Wider bandwidths can carry more information.

BITNET (Because It's Time Network)
An international computer network created to connect research institutions and higher education.

Broadband
A flexible, all-purpose, two-way medium that provides the wide bandwidth necessary for both conventional video and high-definition television, and for still-frame displays for information retrieval, catalog shopping, and so on.

Bulletin board service (BBS)
A computer service that is modeled after a community bulletin board. Using a computer, modem, and phone line, individuals connect to a central "host" computer to post or read messages or to upload and download software. Communication is usually asynchronous.

Cable television system (CATV)
A broadband communications system capable of delivering multiple channels of programming from a set of centralized satellite and off-air antennae, usually by coaxial cable, to a community. Many cable television systems combine microwave and fiberoptic technologies.

CAI (Computer-aided instruction)
Instruction that is carried out or supported by computer technology.

CD-ROM (Compact disc-read only memory)
An optical storage system for computers that permits data to be randomly accessed from a disc. With read-only discs, new data cannot be stored nor can the disc be erased for reuse. Other optical storage systems allow users to record or write and rewrite information.

Chat room
An area on a computer network where members "gather" to type in messages in real time. They can receive immediate responses. There are two types of chat rooms—public and private.

Client
A computer workstation that can request and receive services, information, and applications—such as file transfer to other computers, access to a printer, or access to another computer network—from a server on the same computer network.

Coaxial cable
Shielded wire cable that connects communications components. Coaxial cable is commonly used in cable television systems because of its ability to carry multiple video (or other broadband) signals.

Codec
An electronic device that converts analog video signals into a digital format for transmission, and vice versa. The name is an abbreviation for "coder-decoder," or "compressor-decompressor" when compression is also involved.

Compression

Compressing information so that it requires less space to store or transmit. When speech is compressed, for example, pauses are eliminated. Compression is generally expressed as a ratio. For example, an 8-to-1 ratio means that the information requires one-eighth of its original space. The greater the compression ratio, the higher the chance for loss of quality in image, sound, or motion. In compressed video, digital technology is used to encode and compress the signal. Picture quality is generally not as good as full motion; quick movements often appear blurred.

Computer graphics

Representations of information in formats other than text on a computer. Application tools allow users to draw or "paint" original images with a mouse or a graphics tablet.

Conference

In computer networking, refers to an online discussion group focused on a topic.

Connectivity

The degree or level to which one computer can connect to an online service. For example, a lower-level of connectivity to the Internet may support only the exchange of e-mail, while a more advanced level of connectivity may support FTP and Telnet services.

Courseware

A package used for teaching and learning that includes computer or video software and related print materials such as a teacher's guide and student activity books.

Curriculum (*pl.* curricula)

The courses offered by an educational institution. Most schools have a prescribed curriculum teachers must follow throughout the school year and on which students are tested as the basis for passing a course or getting credit for it.

Cyberspace

Worldwide pool of information stored and transmitted by internetworked computers. William Gibson created the term in his novel *Neuromanc-*

er, where he used it to refer to computers and the society that focuses on them.

Database

A collection of related information, computer databases can include text files, programs, and graphics, that can be searched by key words or other means, and reviewed or downloaded onto another computer.

Digital communications

A communications format used with both electronic and light-based systems that transmits audio, video, and data as bits of information.

Digital video

A format used to store, manipulate, and transmit moving images of bits of information. Codecs are used to convert traditional analog signals into a digital format and back again. Digital video can be compressed for more efficient storage and transmission.

Digitize

To change analog information to a digital format. Once information has been converted to this form, it can be conveniently stored, manipulated, and compressed. It can also be transmitted over a distance with little or no loss in quality. Sound (such as speech or music), still images (such as transparencies), and motion video are commonly converted into digitized form.

Distance learning

Instruction delivered from a distant site, possibly including data, voice, and video transmissions for interactivity.

Distributed network

Network that relies on multiple computers to provide various resources to other computers in the network, rather than making all resources available from a single server. The Internet depends on distributed networking.

Domain

A set of nodes on the Internet whose names share the same last two or three parts. For example, "msu.edu" is the domain name for the network of Michigan State University. Domain names that

end with "edu" are for education organizations; "com" for commercial entities; "net" for networks; and "gov" for governments.

Download
To copy a file, e-mail, or other information from a central computer to a personal computer. See *upload*.

Downlink
An antenna shaped like a dish that receives signals from a satellite. See *uplink*. Often referred to as a satellite dish, terminal, Earth station, or TVRO (television receive-only).

Electronic mail (e-mail)
A computer application for exchanging information over a distance using a modem and a computer. Communication is asynchronous. E-mail typically consists of text and/or graphics; advanced multimedia formats are under development. It can be addressed to an individual, as well as to groups of people.

E-mail address
A specific, locatable, electronic address that designates a person or service at a specific network site. Electronic mail addresses include a user name (which can be a title or function, such as "info"), the symbol "@," and a domain name (e.g., teacher@school.edu).

Ethernet
A type of **local area network** of up to 1,024 nodes (i.e., computers in a network), originated by Xerox Corporation. It specifies the types of wires connecting the network and the format in which information is packaged to travel over those wires. There are three types of Ethernet connections; different Ethernet systems use different software protocol, such as TCP/IP.

Facsimile machine (fax)
A device that converts hard-copy images and text into an electronic form for transmission over telephone lines to a similar device at another location, which then reconverts it back to text and images.

Fiberoptic cable
Hair-thin, flexible glass rods that use light signals to transmit information in either analog or digital formats. Fiberoptic cable has much higher capacity than copper or coaxial cable, and is not as subject to interference or noise. Fiberoptic cable has the bandwidth to accommodate high-speed, multimedia networking.

File
A file is a body of information (text, graphics, or a program) that can be passed from one computer to another.

File server
The personal computer that provides access to files for all workstations in a local area network.

Flame
To send over a computer network, as through e-mail, a message displaying a derogatory, obscene, or inflammatory attitude.

Flat-panel display
A video or computer screen that is relatively thin, lightweight, and typically used in portable computers.

FreeNet
One of a group of freely accessible servers offering information, e-mail, and access to the Internet over telephone lines.

FTP (File Transfer Protocol)
A standard technique for transferring files among dissimilar computer systems on a network.
A program that transfers files using file transfer protocol. It supports file exchange over the Internet.

Gateway
A dedicated computer that provides a link between dissimilar networks, allowing information to cross between the two.

Gopher
Software that presents in menu form information found all over the Internet. Gopher programs also allow searches on the Internet for hosts, directories, or files based on keywords supplied by the user.

Groupware
A software program that allows the same information to be shared among several computers simultaneously. With some applications, users can see

each other and, from their own computers, add to or edit text and graphics in a single document.

Hardware
The electrical and mechanical equipment used in conjunction with software (programs and files) for computer and telecommunications systems.

Host
The main computer system to which computer users are connected.

Hub
A point of connection to the Internet for users in a particular region.

Hypercard
A software program designed to create multiple pathways for moving through a body of related material, allowing the user to link documents and parts of documents in a nonlinear fashion from a single computer. Words in the displayed document may be linked to other documents or other text in the same document, usually by icons within the document, sometimes called *buttons*. Through Hypercard applications, the user can quickly access linked materials from a variety of media, such as still-motion video from a videodisc linked to a paragraph from a word processor (this type of Hypercard use is often called *hypermedia*).

Icon
A symbol displayed on the computer screen that represents a command or program (e.g., a trash can symbolize the command to delete a document or file).

Information highway/information superhighway
The vast network of interconnected telecommunications systems worldwide.

Interface
A general term used to designate the hardware and associated software needed to enable one device to communicate with another or to enable a person to communicate with computers and related devices. A user interface can be a keyboard, a mouse, commands, icons, or menus that facilitate communication between the user and computer.

Internet
International collection of interconnected electronic networks that support a common set of data communication protocols—Transmission Control Protocol (TCP) and Internet Protocol (IP). Internet evolved from ARPAnet. The National Science Foundation supported wider use of the network through development of NSFnet, expanding and replacing ARPAnet, and through funding for development of regional distribution networks. Many networks in the United States and worldwide are now part of the Internet.

ISDN (Integrated Service Digital Network)
Network that accommodates digital transmission of voice, data, and video over, standard copper telephone lines.

Keyword
A word that leads the user to go directly to a specific area. For example, entering the keyword "LABNET" takes you to the LabNetwork; "NGS," to the National Geographic Society; "Time," to *Time* magazine.

Knowbots
Software programs that act as "knowledge robots" to carry out functions such as searches for desired information, on electronic networks.

"Last mile"
Popular term for the last segment of the connection between a communication provider (e.g., telephone company central office) and the customer (usually residential, but sometimes commercial).

LATA (local access and transport area)
A geographic region ranging from a metropolitan area to a state, created with divestiture of AT&T and used to define service areas for regulated versus unregulated services (e.g., intra-LATA local service versus inter-LATA long-haul services).

Library
The term library, when used with computers, refers to a collection of computer files. A library contains files that can be text, graphics, or programs.

Listserv

A program (text and graphics) that distributes e-mail to users on a computer network who share a common interest and whose ID's are stored together. Any mail sent to a list on the listserv is automatically distributed to everyone on that list.

Local area network (LAN)

A network connecting computers in close proximity, LANs facilitate communication and sharing of information and computer resources (such as printers or storage by the members of a group).

Login/Logon/Logoff

The process of entering and leaving an electronic communications system; access generally requires a user identification code or password (often the user's name).

Mailbox

A file or directory on the end user's host computer that holds the user's e-mail.

Mailing list

A topic-specific alias with multiple mail destinations.

Message board

Message boards (or boards) are where members post messages, reply to messages, and so forth. Boards are organized using folders, which contain messages on a specific theme.

Microwave

High-frequency radio waves used for point-to-point and omnidirectional communication of data, video, and voice.

Modem

A device that allows two computers to communicate over telephone lines. It converts digital computer signals into analog format for transmission. A similar device at the other end converts the analog signal back into a digital format that the computer can understand. Abbreviated form of "modulator-demodulator."

Mosaic

A popular interface that eases navigation of the Internet.

Mouse

A pointing device that connects to a computer. With a mouse, users can control pointer movements on a computer screen by rolling the mouse over a flat surface and clicking a button on the device. The mouse is also commonly used to define and move blocks of text; open or close windows, documents or applications; and draw or paint graphics.

Multimedia

Any combination of video, sound, text, animation, and graphic images in a computer-based environment. Often includes technology such as CD-ROM, videodiscs, videocassette recorders, television, video cameras, and software.

National Research and Education Network (NREN)

Electronic network that eventually will succeed the noncommercial aspects of the Internet in the United States.

Network

A shared communications system that supports digital communication among connected computers.

Newsgroup

A topical discussion group on a network. Individuals submit messages to a newsgroup and read messages that are posted there.

NII (National Information Infrastructure)

The overall electronic information system in development in the United States.

NSFnet

The National Science Foundation Network, a high-speed network of networks linking computers at educational and research institutions. It is made up of several regional networks.

Online

Being actively connected to a network or computer system; usually being able interactively to exchange data, commands, and information.

Optical storage

High-density disk storage that uses a laser to "write" information on the surface. Erasable or re-writable optical storage enables written informa-

tion to be erased and new information written on the disk.

PC

A personal computer or microcomputer. The Apple Macintosh and the IBM PS/2 are examples of personal computers. Many participants on the Internet use PCs to connect to Internet hosts.

Point-to-point protocol (PPP)

Protocol that enables a computer to use the Internet protocols (TCP/IP). PPP is gaining in popularity over the SLIP alternative.

Protocols

The set of specific communication standards that allow one computer to interact with other computers.

RAM (random access memory)

Computer memory where any location can be read from, or written to, in a random access fashion. A computer's RAM is its main memory where it can store data.

ROM (read only memory)

Once information has been entered into this part of the computer's memory, it can be read as often as required, but cannot be changed by the user.

Router

A device (sometimes a specialized computer) that stores addresses of network hosts and forwards packets of data between networks. For maximum access to the Internet's resources, a local area network needs its own router.

Satellite

See *downlink*.

Scanner

An input device attached to a computer that makes a digital image of a hard-copy document, such as a photograph, scanned picture, graph, map, and other data that are often used in desktop publishing.

Server

A server is a powerful computer on a network that provides a particular service and information to other computers; for instance, a disk server manages a large disk, and a print server manages a printer.

Shareware

Shareware is software that can be shared among users but it is not free. Users purchase this type of computer software through donations to the software developer, usually to fund further research and development of the product line.

Simulation

Software that enables the user to experience a realistic reproduction of an actual situation. Computer-based simulations often involve situations that are very costly or high risk (e.g., flight simulation training for pilots).

"Snail mail"

Paper-based mail, delivered by the U.S. Post Office or other vendor, that cannot compete for speed with electronic networking.

Software

Programming that controls computer, video, or electronic hardware. Software takes many forms, including application tools, operating systems, instructional drills, and games.

Synchronous communication

See *asynchronous communication.*

Sysop (system operator)

A person in charge of a network system or BBS.

TCP/IP

Abbreviation for Transmission Control Protocol/Internet Protocol. TCP/IP is a set of computer commands that dictate how the computers on the Internet will communicate with each other.

Teleconference

Simultaneous visual and/or sound interconnection using telecommunications links that allow individuals in remote locations to see and communicate with each other in a conference arrangement. There are many types of teleconferencing, including videoconferencing, computer conferencing, and audioconferencing.

Telnet

An Internet service that allows users to log on to remote host computers as "guest" users, providing access to the files as if they were actually at the host site.

Terminal

The computer used to connect to a host. The terminal can be a personal computer such as a Macintosh, IBM, or compatible microcomputer.

Touch screen

A device that attaches to a computer screen that allows data to be entered by using a specialized stylus to write on the screen, or by making direct physical contact between the finger and the screen.

Uplink

A satellite dish that transmits signals up to a satellite. These signals are then sent back to Earth to a downlink (receiving) site.

Upload

To copy a file, e-mail, or other information from one's personal computer to a larger computer on a network.

Veronica

A Gopher service that allows you to do a keyword search of Gopher menus. Named after the comic strip character (like *Archie*).

Videoconference

A form of teleconferencing where participants see and hear other participants in remote locations. Video cameras, monitors, codecs, and networks allow synchronous communication between sites.

Videodisc

An optical disc that contains recorded still images, full-motion video, and sounds that can be played back using a Videodisc player through a television monitor. Videodiscs can be used alone or as a part of a computer-based application.

Videotext

A form of multimedia that presents video and text simultaneously on the same screen.

Voice mail

An electronic system for transmitting and storing voice messages, which can be accessed later by the person to whom they are addressed. Voice mail operates asynchronously, like an e-mail system.

Voice recognition

Computer hardware and software systems that recognize spoken words and convert them to digital signals that can be used for input (often used as an alternative to other input devices, such as a keyboard).

WAIS (Wide Area Information Server)

A protocol that allows users to search and access different types of information on many different computer systems from a single interface. This text-based information retrieval system selects databases from an unlimited pool, without the need for user familiarity with the internal configurations of each, and helps to organize responses on the user's machine despite vast amounts of accumulated data.

Wide area network (WAN)

A computer network in which widely dispersed computers, such as those among several buildings or across a city or state, are interconnected. WANs make use of a variety of transmission media, which can be provided on a leased or dial-up basis.

Window

A part of the computer screen that is given over to a different display from the rest of the screen (e.g., a text window in a graphics screen). It can also be a portion of a file or image currently on the screen, when multiple windows are displayed simultaneously.

Wireless

Voice, data, or video communications without the use of connecting wires. In wireless communications, radio signals make use of microwave towers or satellites. Cellular telephones and pagers are examples of wireless communications.

Workstation

A computer that is intended for individual use, but is generally more powerful (i.e., it has greater memory and speed) than a personal computer. A workstation may also act as a terminal for a central mainframe.

World Wide Web (WWW)

A hypermedia information retrieval system linking a variety of Internet-accessible documents and data files (text and graphics). Often referred to as "the Web."