<table>
<thead>
<tr>
<th><strong>Chapter 0</strong></th>
<th><strong>BASICS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hard-Wired in my Brain</td>
<td>Software tool that allows a computer to be used for specific purposes.</td>
</tr>
<tr>
<td>font</td>
<td>A size and style of typeface.</td>
</tr>
<tr>
<td>find-and-replace (search and replace)</td>
<td>A word processing program text editing tool that allows you to make repetitive changes throughout a document.</td>
</tr>
<tr>
<td>folder</td>
<td>A container for files and other folders. Also called a directory.</td>
</tr>
<tr>
<td>font</td>
<td>A size and style of typeface.</td>
</tr>
<tr>
<td>back-up copy</td>
<td>A copy of a file created as insurance against the loss of the original.</td>
</tr>
<tr>
<td>back-up media</td>
<td>Disks, CD-Rs, and other technologies to hold backup files and to save computer storage space.</td>
</tr>
<tr>
<td>button</td>
<td>A hot spot on a screen that responds to mouse clicks. A button can be programmed to perform one of many tasks, such as opening a dialog box or launching an application.</td>
</tr>
<tr>
<td>CD-ROM drive</td>
<td>A common optical drive in computers that can read data from CD-ROM disks.</td>
</tr>
<tr>
<td>CD-RW drive</td>
<td>A disk drive that can read and write on rewritable optical disks.</td>
</tr>
<tr>
<td>central processing unit (CPU)</td>
<td>Part of the computer that processes information, performs arithmetic calculations, and makes basic decisions based on information values.</td>
</tr>
<tr>
<td>click</td>
<td>The action of pressing a button on a mouse.</td>
</tr>
<tr>
<td>Clipboard</td>
<td>A word processing program text editing tool for temporarily storing chunks of text and other data.</td>
</tr>
<tr>
<td>copy</td>
<td>A word processing program text editing tool that allows you to make a copy of a set of words or data and place the copy elsewhere in the same or a different document.</td>
</tr>
<tr>
<td>cut</td>
<td>A word processing program text editing tool that allows you to delete a set of words or data; often used with the copy function to move text around.</td>
</tr>
<tr>
<td>double-click</td>
<td>To click a mouse button twice in rapid succession.</td>
</tr>
<tr>
<td>drag</td>
<td>To move the mouse while holding the mouse button down. Used for moving objects, selecting text, drawing, and other tasks.</td>
</tr>
<tr>
<td>drag-and-drop</td>
<td>A word processing program text editing tool that allows you to move a selected block of text from one location to another.</td>
</tr>
<tr>
<td>DVD drive</td>
<td>An optical disk drive that can read high-capacity DVD disks.</td>
</tr>
<tr>
<td>electronic mail (email)</td>
<td>Allows Internet users to send mail messages, data files, and software programs to other Internet users and to users of most commercial networks and online services.</td>
</tr>
<tr>
<td>file</td>
<td>An organized collection of related information stored in a computer-readable form.</td>
</tr>
<tr>
<td>file compression</td>
<td>The process of reducing the size of a file so that you can fit more files into the same amount of disk space.</td>
</tr>
<tr>
<td>file decompression</td>
<td>The process of restoring a compressed file back to its original state.</td>
</tr>
<tr>
<td>Find</td>
<td>A command used to locate a particular word, string of characters, or formatting in a document.</td>
</tr>
<tr>
<td>find-and-replace (search and replace)</td>
<td>A word processing program text editing tool that allows you to make repetitive changes throughout a document.</td>
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<td>CD-RW drive</td>
<td>A disk drive that can read and write on rewritable optical disks.</td>
</tr>
</tbody>
</table>
software
Instructions that tell the hardware what to do to transform input into output.

spam
Internet junk mail.

Search
Looking for a specific record.

search engine
A program for locating information on the Web.

sans-serif fonts
Typeface fonts in which the characters have plain and clean lines rather than embellishments at the ends of the main strokes.

serif fonts
Typeface fonts in which the characters are embellished with fine lines (serifs) at the ends of the main strokes.

printer
Output device that produces a paper copy of any information that can be displayed on the screen.

proportionally spaced fonts
Fonts that enable more room for wide than for narrow characters.

monospaced fonts
Fonts like those in the Courier family that mimic typewriters; characters, no matter how skinny or fat, always take up the same amount of space.

keyboard
Input device, similar to a typewriter keyboard, for entering data and commands into the computer.

memory
Stores programs and the data they need to be instantly accessible to the CPU.

open
To load a file into an application program's workspace so it can be viewed and edited by the user.

operating system (OS)
A system of programs that performs a variety of technical operations, providing an additional layer of insulation between the user and the bits-and-bytes world of computer hardware.

paste
A word processing program text editing tool that allows you to cut or copy words from one part of a document and place the copy elsewhere in the same or a different document.

menu
An onscreen list of command choices.

monoezaced fonts
Fonts like those in the Courier family that mimic typewriters; characters, no matter how skinny or fat, always take up the same amount of space.

mouse
A handheld input device that, when moved around on a desktop or table, moves a pointer around the computer screen.

memory
A global interconnected network of thousands of networks linking academic, research, government, and commercial institutions, and other organizations and individuals. Also known as the Net.

monitor
An output device that displays text and graphics onscreen.

personal computer
A small, powerful, relatively low-cost microcomputer.

point size
A measure of character size, with one point equal to 1/72 inch.

memory
Stores programs and the data they need to be instantly accessible to the CPU.

hardware
Physical parts of the computer system.

hard disk
A rigid, magnetically sensitive disk that spins rapidly and continuously inside the computer chassis or in a separate box attached to the computer housing. Used as a storage device.

mouse
Input device, similar to a typewriter keyboard, for entering data and commands into the computer.

formatting
The function of software, such as word processing software, that enables users to change the appearance of a document by specifying the font, point size, and style of any character in the document, as well as the overall layout of text and graphical elements in the document.

open
To load a file into an application program's workspace so it can be viewed and edited by the user.

hard disk
A rigid, magnetically sensitive disk that spins rapidly and continuously inside the computer chassis or in a separate box attached to the computer housing. Used as a storage device.

hyperlink
A word, phrase, or picture that acts as a button, enabling the user to explore the Web or a multimedia document with mouse clicks.

Internet
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peripheral
An external device, such as a keyboard or monitor, connected via cables to the system central processing unit.

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A small, powerful, relatively low-cost microcomputer.

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A measure of character size, with one point equal to 1/72 inch.

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search
Looking for a specific record.

search engine
A program for locating information on the Web.

software
Instructions that tell the hardware what to do to transform input into output.
**Chapter 1  COMPUTER CURRENTS & INTERNET WAVES**

**application program (application)**  Software tool that allows a computer to be used for specific purposes.

**data**  Information in a form that can be read, used, and manipulated by a computer.

**firmware**  A program, usually for special-purpose computers, stored on a ROM chip so it cannot be altered.

**hardware**  Physical parts of the computer system.

**hypertext link**  A Web connection to another document or site, like the many that loosely tie together millions of Web pages.

**industrial age**  The recent modern era, characterized by the shift from farms to factories.

**Industrial Revolution**  The era of rapid advances in machine technology that began at the end of the eighteenth century and ushered in the industrial age.

**information age**  The current era, characterized by the shift from an industrial economy to an information economy and the convergence of computer and communication technology.

**information appliance**  Network computer or other Internet-capable device used in offices and homes.

**input**  Information taken in by the computer.

**integrated circuit**  A chip containing hundreds, thousands, or even millions of transistors.

**Internet**  A global interconnected network of thousands of networks linking academic, research, government,
local area network (LAN)

A network system that links two or more computers.

mainframe computer

Expensive, room-size computer, used mostly for large computing jobs.

modem

Modulator/demodulator: A hardware device that connects a computer to a telephone line.

Moore's law

The prediction made in 1965 by Gordon Moore that the power of a silicon chip of the same price would double about every 18 months for at least two decades.

network

A computer system that links two or more computers.

network computer (NC)

A computer designed to function as part of a network rather than as a PC.

output

Information given out by the computer.

paradigm shift

A change in thinking that results in a new way of seeing the world.

personal computer

A small, powerful, relatively low-cost microcomputer.

personal digital assistant (PDA)

A pocket-sized computer used to organize appointments, tasks, notes, contacts, and other personal information. Sometimes called handheld computer or palmtop computer. Many PDAs include additional software and hardware for wireless communication.

program

Instructions that tell the hardware what to do to transform input into output.

semiconductor

A device that packs hundreds of transistors into a single integrated circuit on a tiny silicon chip.

server

A computer especially designed to provide software and other resources to other computers over a network.

silicon chip

Hundreds of transistors packed into an integrated circuit on a piece of silicon.

Silicon Valley

The area around San Jose, California, that has become a hotbed of the computer industry since the 1970s, when dozens of microprocessor manufacturing companies sprouted and grew there.

software

Instructions that tell the hardware what to do to transform input into output.

subnotebooks

Portable computers, smaller than a notebook or laptop, about the size of a hardbound book.

supercomputer

A super-fast, super-powerful, and super-expensive computer used for applications that demand maximum power.

terminal

Combination keyboard and screen that transfers information to and from a mainframe computer.

wide area network (WAN)

A network that extends over a long distance. Each network site is a node on the network.

workstation

A high-end desktop computer with massive computing power, though less expensive than a minicomputer. Workstations are the most powerful of the desktop computers.

World Wide Web (WWW)

Part of the Internet, a collection of multimedia documents created by organizations and users worldwide. Documents are linked in a hypertext Web that allows users to explore them with simple mouse clicks.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>architecture</td>
<td>Design that determines how individual components of the CPU are put together on the chip. More generally used to describe the way individual components are put together to create a complete computer system.</td>
</tr>
<tr>
<td>ASCII</td>
<td>American Standard Code for Information Interchange, a code that represents characters as 8-bit codes. Allows the binary computer to work with letters, digits, and special characters.</td>
</tr>
<tr>
<td>backward compatible</td>
<td>Able to run software written for older CPUs. Also, when referring to a software program, able to read and write files compatible with older versions of the program.</td>
</tr>
<tr>
<td>bay</td>
<td>An open area in the system box for disk drives and other peripheral devices.</td>
</tr>
<tr>
<td>binary</td>
<td>A choice of two values, such as yes and no or zero and one.</td>
</tr>
<tr>
<td>bit</td>
<td>Binary digit, the smallest unit of information. A bit can have two values: 0 or 1.</td>
</tr>
<tr>
<td>bus</td>
<td>Group of wires on a circuit board. Information travels between components through a bus.</td>
</tr>
<tr>
<td>byte</td>
<td>Grouping of 8 bits.</td>
</tr>
<tr>
<td>central processing unit (CPU)</td>
<td>Part of the computer that processes information, performs arithmetic calculations, and makes basic decisions based on information values.</td>
</tr>
<tr>
<td>cluster</td>
<td>A grouping of multiple processors or servers to, for example, improve graphic rendering speeds or increase reliability.</td>
</tr>
<tr>
<td>compatible (compatibility)</td>
<td>The ability of a software program to run on a specific computer system. Also, the ability of a hardware device to function with a particular type of computer.</td>
</tr>
<tr>
<td>data</td>
<td>Information in a form that can be read, used, and manipulated by a computer.</td>
</tr>
<tr>
<td>digit</td>
<td>A discrete, countable unit.</td>
</tr>
<tr>
<td>digital</td>
<td>Information made up of discrete units that can be counted.</td>
</tr>
<tr>
<td>expansion slot</td>
<td>An area inside the computer's housing that holds special-purpose circuit boards.</td>
</tr>
<tr>
<td>file</td>
<td>An organized collection of related information stored in a computer-readable form.</td>
</tr>
<tr>
<td>GB (gigabyte)</td>
<td>Approximately 1000MB.</td>
</tr>
<tr>
<td>information</td>
<td>Anything that can be communicated.</td>
</tr>
<tr>
<td>input device</td>
<td>Device for accepting input, such as a keyboard.</td>
</tr>
<tr>
<td>KB (kilobyte)</td>
<td>About 1024 bytes of information.</td>
</tr>
<tr>
<td>MB (megabyte)</td>
<td>Approximately 1000KB, or 1 million bytes.</td>
</tr>
<tr>
<td>memory</td>
<td>Stores programs and the data they need to be instantly accessible to the CPU.</td>
</tr>
<tr>
<td>microprocessor</td>
<td>Now known as a personal computer.</td>
</tr>
<tr>
<td>motherboard</td>
<td>The circuit board that contains a computer's CPU. Also called a system board.</td>
</tr>
</tbody>
</table>
Chapter 3

HARDWARE BASICS: PERIPHERALS

- **CD-RW**: Compact disk-rewritable, an optical disk that allows writing, erasing, and rewriting.
- **CD-ROM**: Compact disc-read-only memory, a type of optical disk that contains data that cannot be changed; CD-ROMs are commonly used to distribute commercial software programs.
- **CD-ROM drive**: A common optical drive in computers that can read data from CD-ROM disks.
- **CD-R**: Compact disk-recordable, an optical disk you can write information on, but you cannot remove the information.
- **CD-ROM drive**: A disk drive that can read and write on rewritable optical disks.
- **CRT (cathode-ray tube) monitors**: Television-style monitors used as the output device for many desktop computers.
- **Port**: Socket that allows information to pass in and out.
- **Processor**: Part of the computer that processes information, performs arithmetic calculations, and makes basic decisions based on information values.
- **Random Access Memory (RAM)**: Memory that stores program instructions and data temporarily.
- **Read-only Memory (ROM)**: Memory that includes permanent information only. The computer can only read information from it; it can never write any new information on it.
- **Peripheral**: An external device, such as a keyboard or monitor, connected via cables to the system central processing unit.
- **Bar code reader**: A reading tool that uses light to read universal product codes, inventory codes, and other codes created out of patterns of variable-width bars.
- **Storage device**: Long-term repository for data. Disks and tape drives are examples.
- **Parallel processing**: Using multiple processors to divide jobs into pieces and work simultaneously on the pieces.
- **System bus**: A group of wires that transmits information between components on the motherboard.
- **TB (terabyte)**: Approximately 1 million megabytes.
- **PB (petabyte)**: The equivalent of 1024 terabytes, or 1 quadrillion bytes.
- **Unicode**: A 65,000-character set for making letters, digits, and special characters fit into the computer's binary circuitry.
- **Nonvolatile memory**: Memory that is not lost when the computer is turned off. An example is the read-only memory that contains start-up instructions and other critical information.
- **Output device**: Device for sending information from the computer, such as a monitor or printer.
- **Symmetric multiprocessing**: See multiprocessing.
- **Processor**: Part of the computer that processes information, performs arithmetic calculations, and makes basic decisions based on information values.
- **System bus**: A group of wires that transmits information between components on the motherboard.
- **Port**: Socket that allows information to pass in and out.
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<td>digital camera</td>
<td>A camera that captures images and stores them as bit patterns on disks or other digital storage media instead of using film.</td>
</tr>
<tr>
<td>digitize</td>
<td>Converting information into a digital form that can be stored in the computer’s memory.</td>
</tr>
<tr>
<td>DVD-RAM drive</td>
<td>An optical disk drive that can read high-capacity DVD disks.</td>
</tr>
<tr>
<td>ergonomic keyboard</td>
<td>A keyboard that places the keys at angles that allow your wrists to assume a more natural position while you type, potentially reducing the risk of repetitive-stress injuries.</td>
</tr>
<tr>
<td>ergonomics</td>
<td>The science of designing work environments that enable people and things to interact efficiently and safely.</td>
</tr>
<tr>
<td>facsimile (fax) machine</td>
<td>An output device capable of sending, in effect, a photocopy through a telephone line, allowing for fast and convenient transmission of information stored on paper.</td>
</tr>
<tr>
<td>fax modem</td>
<td>Hardware peripheral that enables a computer to send onscreen documents to a receiving fax machine by translating the document into signals that can be sent over phone wires and decoded by the receiving fax machine.</td>
</tr>
<tr>
<td>flash memory</td>
<td>A type of erasable memory chip used in cell phones, pagers, portable computers, and handheld computers, among other things.</td>
</tr>
<tr>
<td>graphics tablet</td>
<td>A pressure-sensitive touch tablet used as a pointing device. The user presses on the tablet with a stylus.</td>
</tr>
<tr>
<td>handwriting recognition software</td>
<td>Software that translates the user’s handwritten forms into ASCII characters.</td>
</tr>
<tr>
<td>hard disk</td>
<td>A rigid, magnetically sensitive disk that spins rapidly and continuously inside the computer chassis or in a separate box attached to the computer housing. Used as a storage device.</td>
</tr>
<tr>
<td>hot swap</td>
<td>To remove and replace peripheral devices without powering down the computer and peripherals. Some modern interface standards such as USB and FireWire allow hot-swapping.</td>
</tr>
<tr>
<td>inkjet printer</td>
<td>A nonimpact printer that sprays ink directly onto paper to produce printed text and graphic images.</td>
</tr>
<tr>
<td>joystick</td>
<td>A gearshift-like device used as a controller for arcade-style computer games.</td>
</tr>
<tr>
<td>keyboard</td>
<td>Input device, similar to a typewriter keyboard, for entering data and commands into the computer.</td>
</tr>
<tr>
<td>laser printer</td>
<td>A nonimpact printer that uses a laser beam to create patterns of electrical charges on a rotating drum. The charged patterns attract black toner and transfer it to paper as the drum rotates.</td>
</tr>
<tr>
<td>line printer</td>
<td>An impact printer used by mainframes to produce massive printouts. They print characters only, not graphics.</td>
</tr>
<tr>
<td>liquid crystal display (LCD) displays</td>
<td>Flat-panel displays, once primarily used for portable computers but now replacing bulkier CRT monitors for desktops.</td>
</tr>
<tr>
<td>magnetic disk</td>
<td>Storage medium with random-access capability, accessed by the computer's disk drive.</td>
</tr>
<tr>
<td>monitor</td>
<td>An output device that displays text and graphics onscreen.</td>
</tr>
<tr>
<td>mouse</td>
<td>A handheld input device that, when moved around on a desktop or table, moves a pointer around the computer screen.</td>
</tr>
<tr>
<td>optical character recognition (OCR)</td>
<td>Locating and identifying printed characters embedded in an image, allowing the text to be stored as an editable document. OCR can be performed by wand readers, pen scanners, and OCR software.</td>
</tr>
<tr>
<td>optical disk drive</td>
<td>A disk drive that uses laser beams to read and write bits of information on the surface of an optical disk.</td>
</tr>
<tr>
<td>pen-based computer</td>
<td>A keyboardless machine that accepts input from a stylus applied directly to a flat-panel screen.</td>
</tr>
<tr>
<td>plotter</td>
<td>An automated drawing tool that produces finely scaled drawings by moving pen and/or paper in response to computer commands.</td>
</tr>
<tr>
<td>pointing stick (TrackPoint)</td>
<td>A tiny joystick-like device embedded in the keyboard of a laptop computer.</td>
</tr>
<tr>
<td>point-of-sale (POS) terminal</td>
<td>A terminal with a wand reader, barcode scanner, or other device that captures information at the check-out counter of a store.</td>
</tr>
</tbody>
</table>
Chapter 4

SOFTWARE BASICS: The Ghost in the Machine

printer

Output device that produces a paper copy of any information that can be displayed on the screen.

radio frequency identification (RFID) reader

A reading tool that uses radio waves to communicate with RFID tags.

random access

Storage method that allows information retrieval without regard to the order in which it was recorded.

repetitive-stress injuries

Conditions that result from repeating the same movements over long periods, such as keyboarding-induced carpal tunnel syndrome, a painful affliction of the wrist and hand.

resolution

Density of pixels, measured by the number of dots per inch.

scanner

An input device that makes a digital representation of any printed image. See flatbed scanners, slide scanners, drum scanners, and sheetfed scanners.

sensor

A device that enables digital machines to monitor a physical quantity of the analog world, such as temperature, humidity, or pressure, to provide data used in robotics, environmental climate control, and other applications.

solid-state storage

Storage, such as flash memory, with no moving parts. Solid-state storage is likely to replace disk storage in the future.

sound card

A circuit board that allows the PC to accept microphone input, play music and other sound through speakers or headphones, and process sound in a variety of ways.

storage device

Long-term repository for data. Disks and tape drives are examples.

touch screen

Pointing device that responds when the user points to or touches different screen regions.

touchpad (trackpad)

A small flat-panel pointing device that is sensitive to light pressure. The user moves the pointer by dragging a finger across the pad.

trackball

Pointing device that remains stationary while the user moves a protruding ball to control the pointer on the screen.

USB (universal serial bus)

A data path standard that theoretically allows up to 126 devices, such as keyboards, digital cameras, and scanners, to be chained together from a single port, allowing for data transmission that is much faster and more flexible than through traditional serial and parallel ports.
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<td></td>
</tr>
<tr>
<td>Advices</td>
<td>process jobs simultaneously.</td>
</tr>
<tr>
<td>context-sensitive menus</td>
<td>Menus offering choices that depend on the context.</td>
</tr>
<tr>
<td>custom application</td>
<td>An application programmed for a specific purpose, typically for a specific client.</td>
</tr>
<tr>
<td>debugging</td>
<td>Finding and correcting errors (bugs) in computer software.</td>
</tr>
<tr>
<td>defragmentation utility</td>
<td>A program that eliminates fragmented files by changing the assignment of clusters to files.</td>
</tr>
<tr>
<td>desktop</td>
<td>The virtual workspace on a graphical user interface that resembles the physical desktops found in brick-and-mortar offices.</td>
</tr>
<tr>
<td>device drivers</td>
<td>Small programs that allow input/output devices to communicate with the computer.</td>
</tr>
<tr>
<td>dialog box</td>
<td>In a graphical user interface, a box that enables the user to communicate with the computer.</td>
</tr>
<tr>
<td>documentation</td>
<td>Instructions for installing the software on a computer's hard disk.</td>
</tr>
<tr>
<td>end-user license agreement (EULA)</td>
<td>An agreement typically including specifications for how a program may be used, warranty disclaimers, and rules concerning the copying of the software.</td>
</tr>
<tr>
<td>file-management utility</td>
<td>A program that allows you to view, rename, copy, move, and delete files and folders.</td>
</tr>
<tr>
<td>folder</td>
<td>A container for files and other folders. Also called a directory.</td>
</tr>
<tr>
<td>formatting</td>
<td>The function of software, such as word processing software, that enables users to change the appearance of a document by specifying the font, point size, and style of any character in the document, as well as the overall layout of text and graphical elements in the document.</td>
</tr>
<tr>
<td>fragmented file</td>
<td>A file allocated to noncontiguous clusters on a disk, thus degrading the disk's performance.</td>
</tr>
<tr>
<td>graphical user interface (GUI)</td>
<td>A user interface based on graphical displays. With a mouse, the user points to icons that represent files, folders, and disks. Documents are displayed in windows. The user selects commands from menus.</td>
</tr>
<tr>
<td>hierarchical menus</td>
<td>Menus that organize commands into compact, efficient submenus.</td>
</tr>
<tr>
<td>high-level language</td>
<td>A programming language that falls somewhere between natural human languages and precise machine languages, developed to streamline and simplify the programming process.</td>
</tr>
<tr>
<td>icon</td>
<td>In a graphical user interface, a picture that represents a file, folder, or disk.</td>
</tr>
<tr>
<td>integrated software</td>
<td>Software packages that include several applications designed to work well together.</td>
</tr>
<tr>
<td>intellectual property</td>
<td>The results of intellectual activities in the arts, science, and industry.</td>
</tr>
<tr>
<td>Java</td>
<td>A platform-neutral, object-oriented programming language developed by Sun Microsystems for use on multiprocessor networks.</td>
</tr>
<tr>
<td>Linux</td>
<td>An operating system based on UNIX, maintained by volunteers, and distributed for free. Linux is used mostly in servers and embedded computers, but is growing in popularity as a PC operating system.</td>
</tr>
<tr>
<td>machine language</td>
<td>The language that computers use to process instructions. Machine language uses numeric codes to represent basic computer operations.</td>
</tr>
<tr>
<td>Mac OS</td>
<td>The operating system for the Apple Macintosh computer.</td>
</tr>
<tr>
<td>menu</td>
<td>An onscreen list of command choices.</td>
</tr>
<tr>
<td>menu-driven interface</td>
<td>User interface that enables users to choose commands from onscreen lists called menus.</td>
</tr>
</tbody>
</table>
vertical-market application
A computer application designed specifically for a particular business or industry.

user interface
The look and feel of the computing experience from a human point of view.

utility programs
Software that serves as tools for doing system maintenance and some repairs that are not automatically handled by the operating system.

UNIX
An operating system that allows a timesharing computer to communicate with several other computers or terminals at once. UNIX is the most widely available multi-user operating system in use. It is also widely used on Internet hosts.

upgrade
A new and improved version of a software program.

user interface
The look and feel of the computing experience from a human point of view.

utility programs
Software that serves as tools for doing system maintenance and some repairs that are not automatically handled by the operating system.

vertical-market application
A computer application designed specifically for a particular business or industry.
<table>
<thead>
<tr>
<th>Term</th>
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</tr>
</thead>
<tbody>
<tr>
<td>virtual memory</td>
<td>Use of part of a computer hard disk as a substitute for RAM.</td>
</tr>
<tr>
<td>virtual reality</td>
<td>Technology that creates the illusion that the user is immersed in a world that exists only inside the computer, an environment that contains both scenes and the controls to change those scenes.</td>
</tr>
<tr>
<td>window</td>
<td>In a graphical user interface, a framed area that can be opened, closed, and rearranged with the mouse. Documents are displayed in windows.</td>
</tr>
</tbody>
</table>

**Chapter 5**

**BASIC PRODUCTIVITY APPLICATIONS**

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>address</td>
<td>In a spreadsheet, the location of a cell, determined by row number and column number.</td>
</tr>
<tr>
<td>agents</td>
<td>Software programs that can ask questions, respond to commands, pay attention to users’ work patterns, serve as a guide and a coach, take on owners’ goals, and use reasoning to fabricate their own goals.</td>
</tr>
<tr>
<td>automatic correction (autocorrect)</td>
<td>A word processing feature that catches and corrects common typing errors.</td>
</tr>
<tr>
<td>bar chart</td>
<td>A chart that shows relative values with bars, appropriate when data fall into a few categories.</td>
</tr>
<tr>
<td>bot</td>
<td>Software robots that crawl around the Web collecting information, helping consumers make decisions, answering email, and even playing games.</td>
</tr>
<tr>
<td>camera-ready</td>
<td>Typeset-quality pages, ready to be photographed and printed.</td>
</tr>
<tr>
<td>cell</td>
<td>The intersection of a row and a column on the grid of a spreadsheet.</td>
</tr>
<tr>
<td>columns</td>
<td>Along with rows, comprise the grid of a spreadsheet.</td>
</tr>
<tr>
<td>desktop publishing (DTP)</td>
<td>Software used mainly to produce print publications. Also, the process of using desktop publishing software to produce publications.</td>
</tr>
<tr>
<td>electronic book (ebook)</td>
<td>A handheld device that displays digital representations of the contents of books.</td>
</tr>
<tr>
<td>electronic paper (epaper)</td>
<td>A flexible, portable, paperlike material that can dynamically display black-and-white text and images on its surface, as well as erase itself and display new text and images as the reader &quot;turns&quot; the page.</td>
</tr>
<tr>
<td>feedback loop</td>
<td>In a computer simulation, the user and the computer responding to data from each other.</td>
</tr>
<tr>
<td>footer</td>
<td>Block of information that appears at the bottom of every page in a document, displaying repetitive information such as an automatically calculated page number.</td>
</tr>
<tr>
<td>formula</td>
<td>Step-by-step procedure for calculating a number on a spreadsheet.</td>
</tr>
<tr>
<td>function</td>
<td>A predefined set of calculations, such as SUM and AVERAGE, in spreadsheet software.</td>
</tr>
<tr>
<td>grammar and style checker</td>
<td>Component of word processing software that analyzes each word in context, checking for context errors, common grammatical errors, and stylistic problems.</td>
</tr>
<tr>
<td>header</td>
<td>Block that appears at the top of every page in a document, displaying repetitive information such as a chapter title.</td>
</tr>
<tr>
<td>HTML (hypertext markup language)</td>
<td>An HTML document is a text file that includes codes that describe the format, layout, and logical structure of a hypermedia document. Most Web pages are created with HTML.</td>
</tr>
<tr>
<td>justification</td>
<td>The alignment of text on a line: left justification (smooth left margin and ragged right margin), right justification, (smooth right margin and ragged left margin).</td>
</tr>
<tr>
<td>label</td>
<td>In a spreadsheet, a text entry that provides information on what a column or row represents.</td>
</tr>
<tr>
<td>line chart</td>
<td>A chart that shows trends or relationships over time, or a relative distribution of one variable through another.</td>
</tr>
</tbody>
</table>
Chapter 6

GRAPHICS, DIGITAL MEDIA, & MULTIMEDIA

3-D modeling software
Software that enables the user to create 3-D objects. The objects can be rotated, stretched, and combined with other model objects to create complex 3-D scenes.

animation
The process of simulating motion with a series of still pictures.

audio digitizers
Hardware devices or software programs that capture a sound and store it as a data file on a disk.

augmented reality (AR)
The use of computer displays that add virtual information to a person’s sensory perceptions, supplementing rather than replacing (as in virtual reality) the world the user sees.

bit depth
Color depth, the number of bits devoted to each pixel in a color display.

WYSIWYG
Short for “what you see is what you get,” pronounced “wizzy-wig.” With a word processor, the arrangement of the words on the screen represents a close approximation to the arrangement of words on the printed page.

spreadsheet software
Enables the user to control numbers, manipulating them in various ways. The software can manage budgeting, investment management, business projections, grade books, scientific simulations, checkbooks, financial planning and speculation, and other tasks involving numbers.

pie chart
A round pie-shaped chart with slices that show the relative proportions of the parts to a whole.

replication
Automatic replication of values, labels, and formulas, a feature of spreadsheet software.

scatter chart
Discovers a relationship between two variables.

pie chart
A round pie-shaped chart with slices that show the relative proportions of the parts to a whole.

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Automatic replication of values, labels, and formulas, a feature of spreadsheet software.

scatter chart
Discovers a relationship between two variables.

wizard
A software help agent that walks the user through a complex process.

worksheet
A spreadsheet document that appears on the screen as a grid of numbered rows and columns.

mail merge
A feature of a word processor or other program that enables it to merge names and addresses from a database mailing list into personalized form letters and mailings.

modeling
The use of computers to create abstract models of objects, organisms, organizations, and processes.

outliner
Software that facilitates the arrangement of information into hierarchies or levels of ideas. Some word processors include outline views that serve the same function as separate outliners.

page-layout software
In desktop publishing, software used to combine various source documents into a coherent, visually appealing publication.

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scatter chart
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scientific visualization software
Uses shape, location in space, color, brightness, and motion to help you understand invisible relationships, providing graphical representation of numerical data.

source document
In desktop publishing, the articles, chapters, drawings, maps, charts, and photographs that are to appear in the publication. Usually produced with standard word processors and graphics programs.

speech-recognition software
See speech recognition.

spreadsheet software
Enables the user to control numbers, manipulating them in various ways. The software can manage budgeting, investment management, business projections, grade books, scientific simulations, checkbooks, financial planning and speculation, and other tasks involving numbers.

stack chart
Stacked bars to show proportions of a whole change over time.

statistical analysis software
Specialized software that tests the strength of data relationships, produces graphs showing how two or more variables relate to each other, uncovers trends, and performs other statistical analyses.

stylesheet
Custom styles for each of the common elements in a document.

templates
In desktop publishing, professionally designed empty documents that can be adapted to specific user needs. In spreadsheet software, worksheets that contain labels and formulas but no data values. The templates enable rapid exchange when you fill in the blanks.

thesaurus
A synonym finder; often included with a word processor.

value
The numbers that are the raw material used by spreadsheet software to perform calculations.

wizard
A software help agent that walks the user through a complex process.

worksheet
A spreadsheet document that appears on the screen as a grid of numbered rows and columns.

MYSTICWYG
Short for “what you see is what you get,” pronounced “wizzy-wig.” With a word processor, the arrangement of the words on the screen represents a close approximation to the arrangement of words on the printed page.

Chapter 6

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<td>bitmapped graphics</td>
<td>Graphics in which images are stored and manipulated as organized collections of pixels rather than as shapes and lines. Contrast with object-oriented graphics.</td>
</tr>
<tr>
<td>bullet charts</td>
<td>Graphical elements, such as drawings and tables, integrated into a series of charts that list the main points of a presentation.</td>
</tr>
<tr>
<td>button</td>
<td>A hot spot on a screen that responds to mouse clicks. A button can be programmed to perform one of many tasks, such as opening a dialog box or launching an application.</td>
</tr>
<tr>
<td>color depth</td>
<td>Bit depth, the number of bits devoted to each pixel.</td>
</tr>
<tr>
<td>compression</td>
<td>Making files smaller using special encoding schemes. File compression saves storage space on disks and saves transmission time when files are transferred through networks.</td>
</tr>
<tr>
<td>computer-aided design (CAD)</td>
<td>The use of computers to draw products or process designs on the screen.</td>
</tr>
<tr>
<td>computer-aided manufacturing (CAM)</td>
<td>When the design of a product is completed, the numbers are fed to a program that controls the manufacturing of parts. For electronic parts the design translates directly into a template for etching circuits onto chips. Also called computer integrated manufacturing (CIM).</td>
</tr>
<tr>
<td>drawing software</td>
<td>Stores a picture as a collection of lines and shapes. Also stores shapes as shape formulas and text as text.</td>
</tr>
<tr>
<td>frame</td>
<td>In animation, one still picture in a video or animated sequence.</td>
</tr>
<tr>
<td>gray-scale graphics</td>
<td>Computerized imaging that allows each pixel to appear as black, white, or one of several shades of gray.</td>
</tr>
<tr>
<td>hypermedia</td>
<td>The combination of text, numbers, graphics, animation, sound effects, music, and other media in hyperlinked documents.</td>
</tr>
<tr>
<td>hypertext</td>
<td>An interactive cross-referenced system that allows textual information to be linked in nonsequential ways. A hypertext document contains links that lead quickly to other parts of the document or to related documents.</td>
</tr>
<tr>
<td>image processing software</td>
<td>Software that enables the user to manipulate photographs and other high-resolution images.</td>
</tr>
<tr>
<td>interactive multimedia</td>
<td>Multimedia that enables the user to take an active part in the experience.</td>
</tr>
<tr>
<td>MIDI</td>
<td>Musical Instrument Digital Interface, a standard interface that allows electronic instruments and computers to communicate with each other and work together.</td>
</tr>
<tr>
<td>morph</td>
<td>Video clip in which one image metamorphoses into another.</td>
</tr>
<tr>
<td>MP3</td>
<td>A method of compression that can squeeze a music file to a fraction of its original CD file size with only slight loss of quality.</td>
</tr>
<tr>
<td>multimedia</td>
<td>Using some combination of text, graphics, animation, video, music, voice, and sound effects to communicate.</td>
</tr>
<tr>
<td>object-oriented graphics</td>
<td>The storage of pictures as collections of lines, shapes, and other objects.</td>
</tr>
<tr>
<td>painting software</td>
<td>Enables you to paint pixels on the screen with a painting device.</td>
</tr>
<tr>
<td>palette</td>
<td>A collection of colors available in drawing software.</td>
</tr>
<tr>
<td>pixel</td>
<td>A picture element (dot) on a computer screen or printout. Groups of pixels compose the images on the monitor and the output of a printout.</td>
</tr>
<tr>
<td>presentation graphics software</td>
<td>A method of compression that can squeeze a music file to a fraction of its original CD file size with only slight loss of quality.</td>
</tr>
<tr>
<td>public domain</td>
<td>Creative work or intellectual property that is freely usable by anyone, either because the copyright has expired or because the creator obtained a Creative Commons license for the work.</td>
</tr>
<tr>
<td>raster (bit-mapped) graphics</td>
<td>Painting programs create raster graphics that are, to the computer, simple maps showing how the pixels on the screen should be represented.</td>
</tr>
<tr>
<td>resolution</td>
<td>Density of pixels, measured by the number of dots per inch.</td>
</tr>
</tbody>
</table>
Chapter 7
DATABASE APPLICATIONS & IMPLICATIONS

query
An information request.

query language
A special language for performing queries, more precise than the English language.

privacy
Freedom from unauthorized access to one’s person, or to knowledge about one’s person.

object-oriented database
Instead of storing records in tables and hierarchies, stores software objects that contain procedures (or instructions) with data.

identity (ID) theft
The crime, committed by hackers or other unscrupulous individuals, of obtaining enough information about a person to assume his or her identity, often as a prelude to illegally using the victim’s credit cards.

file manager
A program that enables users to manipulate files on their computers.

general object-oriented interface (GOSIP)
A specialized database that combines tables of data with demographic information and displays geographic and demographic data on maps.

geographical information system (GIS)
A specialized database that combines tables of data with demographic information and displays geographic and demographic data on maps.

video editing software
Software for editing digital video, including titles, sound, and special effects.

virtual reality
Technology that creates the illusion that the user is immersed in a world that exists only inside the computer, an environment that contains both scenes and the controls to change those scenes.

export data
Transmitting records and fields from a database program to another program.

field
Each discrete chunk of information in a database record.

batch processing
Accumulating transactions and feeding them into a computer in large batches.

browse
The process of finding information in a database or other data source, such as the World Wide Web.

centralized database
A database housed in a mainframe computer, accessible only to information-processing personnel.

client/server
Client programs in desktop computers send information requests through a network to server databases on mainframes, minicomputers, or desktop computers; the servers process queries and send the requested data back to the client.

Computed field
In a database, a field containing formulas similar to spreadsheet formulas; they display values calculated from values in other numeric fields.

data mining
The discovery and extraction of hidden predictive information from large databases.

data scrubbing (data cleansing)
The process of going through a database and eliminating records that contain errors.

database
A collection of information stored in an organized form in a computer.

database program
A software tool for organizing the storage and retrieval of the information in a database.

field manager
A program that enables users to manipulate files on their computers.

geographical information system (GIS)
A specialized database that combines tables of data with demographic information and displays geographic and demographic data on maps.

identity (ID) theft
The crime, committed by hackers or other unscrupulous individuals, of obtaining enough information about a person to assume his or her identity, often as a prelude to illegally using the victim’s credit cards.

object-oriented database
Instead of storing records in tables and hierarchies, stores software objects that contain procedures (or instructions) with data.

privacy
Freedom from unauthorized access to one’s person, or to knowledge about one’s person.

query
An information request.

query language
A special language for performing queries, more precise than the English language.
**real time**
When a computer performs tasks immediately.

**record**
In a database, the information relating to one person, product, or event.

**record matching**
Compiling profiles by combining information from different database files by looking for a shared unique field.

**relational database**
A program that allows files to be related to each other so that changes in one file are reflected in other files automatically.

**report**
A database printout that is an ordered list of selected records and fields in an easy-to-read form.

**right to privacy**
Freedom from interference into the private sphere of a person’s affairs.

**search**
Looking for a specific record.

**select (records)**
Looking for all records that match a set of criteria.

**sort**
Arrange records in alphabetic or numeric order based on values in one or more fields.

**Structured Query Language (SQL)**
A query language available for many different database management systems. More than a query language, SQL also accesses databases from a wide variety of vendors.

**table**
A grid of rows and columns; on many Web pages tables with hidden grids are used to align graphical images.

**XML**
Extensible Markup language, a language that enables Web developers to control and display data the way they control text and graphics. Forms, database queries, and other data-intensive operations that can’t be completely constructed with standard HTML are much easier with XML.

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**Chapter 8**

**NETWORKING & TELECOMMUNICATIONS**

**asynchronous communication**
Delayed communication, such as that used for newsgroups and mailing lists, where the sender and the recipients don’t have to be logged in at the same time.

**attachments**
A way to send formatted word processor documents, pictures, and other multimedia files via email.

**bandwidth**
The quantity of information that can be transmitted through a communication medium in a given amount of time.

**Bluetooth**
A type of wireless technology that enables mobile phones, handheld computers, and PCs to communicate with each other regardless of operating system.

**bounce**
The automatic return of an undeliverable email message to its sender.

**bridges**
Hardware devices that can pass messages between networks.

**chat room**
Public real-time teleconference.

**client/server model**
For a local area network, a hierarchical model in which one or more computers act as dedicated servers and all the remaining computers act as clients. The server fills requests from clients for data and other resources.

**communication software**
Software that enables computers to interact with each other over a phone line or other network.

**digital signal**
A stream of bits.

**direct connection**
A dedicated, direct connection to the Internet through a LAN, with the computer having its own IP address.
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>server</td>
<td>A computer especially designed to provide software and other resources to other computers over a network.</td>
</tr>
<tr>
<td>remote access</td>
<td>Network access via phone line, TV cable system, or wireless link.</td>
</tr>
<tr>
<td>routers</td>
<td>Programs or devices that decide how to route Internet transmissions.</td>
</tr>
<tr>
<td>protocol</td>
<td>A set of rules for the exchange of data between a terminal and a computer or between two computers.</td>
</tr>
<tr>
<td>real-time communication</td>
<td>Internet communication that enables you to communicate with other users who are logged on at the same time.</td>
</tr>
<tr>
<td>peer-to-peer model</td>
<td>A LAN model that allows every computer on the network to be both client and server.</td>
</tr>
<tr>
<td>port</td>
<td>Socket that allows information to pass in and out.</td>
</tr>
<tr>
<td>newsgroups</td>
<td>Ongoing public discussions on a particular subject consisting of notes written to a central Internet site and redistributed through a worldwide newsgroup network called Usenet. You can check into and out of them whenever you want; all messages are posted on virtual bulletin boards for anyone to read anytime.</td>
</tr>
<tr>
<td>host system</td>
<td>A computer that provides services to multiple users.</td>
</tr>
<tr>
<td>local area network (LAN)</td>
<td>Multiple personal computers connected on a network.</td>
</tr>
<tr>
<td>file server</td>
<td>In a LAN, a computer used as a storehouse for software and data that are shared by several users.</td>
</tr>
<tr>
<td>download</td>
<td>To copy software from an online source to a local computer.</td>
</tr>
<tr>
<td>Ethernet</td>
<td>A popular networking architecture developed in 1976 at Xerox.</td>
</tr>
<tr>
<td>FAQs (frequently asked questions)</td>
<td>Posted lists of common queries and their answers.</td>
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<td>network interface card (NIC)</td>
<td>Card that adds an additional serial port to a computer. The port is especially designed for a direct network connection.</td>
</tr>
<tr>
<td>network license</td>
<td>License for multiple copies or removing restrictions on software copying and use at a network site.</td>
</tr>
<tr>
<td>network operating system (NOS)</td>
<td>Server operating system software for a local-area network.</td>
</tr>
<tr>
<td>fiber-optic cable</td>
<td>High-capacity cable that uses light waves to carry information at blinding speeds.</td>
</tr>
<tr>
<td>host system</td>
<td>A computer that provides services to multiple users.</td>
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<td>A technology that enables users to create buddy lists, check for buddies who are logged in, and exchange typed messages and files with those who are.</td>
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<td>cable modems</td>
<td>A type of broadband Internet connection that uses the same network of coaxial cables that delivers TV signals.</td>
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<td>telecommunication</td>
<td>Long-distance electronic communication in a variety of forms.</td>
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<td>telephony</td>
<td>Technology that enables computers to serve as speakerphones, answering machines, and complete voice mail systems.</td>
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<td>terminal emulation software</td>
<td>Software that allows a PC to act as a dumb terminal-an input/output device that enables the user to send commands to and view information on the host computer.</td>
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<tr>
<td>upload</td>
<td>To post software or documents to an online source so they're available for others.</td>
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<tr>
<td>video teleconference</td>
<td>Face-to-face communication over long distances using video and computer technology.</td>
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<td>voicemail</td>
<td>A telephone-based messaging system with many of the features of an email system.</td>
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<td>wide area network (WAN)</td>
<td>A network that extends over a long distance. Each network site is a node on the network.</td>
</tr>
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<td>Wi-Fi</td>
<td>A popular wireless LAN technology that allows multiple computers to connect to a LAN through a base station up to 150 feet away. Often referred to as 802.11b.</td>
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<td>wireless network</td>
<td>A network in which a node has a tiny radio or infrared transmitter connected to its network port so it can send and receive data through the air rather than through cables.</td>
</tr>
<tr>
<td>spam</td>
<td>Internet junk mail.</td>
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<tr>
<td>TCP/IP (Transmission Control Protocol/Internet Protocol)</td>
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Chapter 9

INSIDE THE INTERNET AND THE WWW

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streaming audio
Sound files that play without being completely downloaded to the local hard disk.

push technology
Technology in which information is delivered automatically to a client computer. The user subscribes to a service and the server delivers that information periodically and unobtrusively. Contrast with pull technology.

satellite Internet connections
A broadband technology available through many of the same satellite dishes that provide television channels to viewers. For many rural homes and businesses, satellite Internet connections provide the only high-speed Internet access options available.

portal
A Web site designed as a Web entry station, offering quick and easy access to a variety of services.

pull technology
Technology in which browsers on client computers pull information from server machines. The browser needs to initiate a request before any information is delivered.

push technology
Technology in which information is delivered automatically to a client computer. The user subscribes to a service and the server delivers that information periodically and unobtrusively. Contrast with pull technology.

streamline audio
Sound files that play without having completely downloaded to the local hard disk.
Chapter 10

COMPUTER SECURITY AND RISKS

antivirus
A program designed to search for viruses, notify users when they're found, and remove them from infected files.

authentication mechanisms
Computer network security measures that ensure that only legitimate users have access to the system by asking potential users to identify themselves.

autonomous systems
Complex systems that can assume almost complete responsibility for a task without human input, verification, or decision making.

backup
The process of saving data—especially for data recovery. Many systems automatically back up data and software onto disks or tapes.

biometrics
Measurements of individual body characteristics, such as a voice print or fingerprint; sometimes used in computer security.

Code of Ethics
Policies and procedures, such as those developed by companies and by organizations such as the ACM (Association for Computing Machinery), to guide the behavior of information workers.

computer crime
Any crime accomplished through knowledge or use of computer technology.

computer security
Protecting computer systems and the information they contain against unwanted access, damage, modification, or destruction.

Denial of service (DoS) attack
A type of computer vandalism that bombards servers and Web sites with so much bogus traffic that they're effectively shut down, denying service to legitimate customers and clients.

encryption
Protects transmitted information by scrambling the transmissions. When a user encrypts a message by applying a secret numerical code (encryption key), the message can be transmitted or stored as an indecipherable garble of characters. The message can be read only after it's been reconstructed with a matching key.

ethics
Moral philosophy—philosophical thinking about right and wrong.

hacking
Electronic trespassing and vandalism.

identity (ID) theft
The crime, committed by hackers or other unscrupulous individuals, of obtaining enough information about a person to assume his or her identity, often as a prelude to illegally using the victim's credit cards.
globalization
The creation of global businesses and markets.

extranets
Private TCP/IP networks designed for outside use by customers, clients, and business partners of an organization. These networks are typically for electronic commerce.

filtering software
Software that for the most part, keeps offensive and otherwise inappropriate Web content from being viewed by children, on-duty workers, and others.

electronic sweatshops
Worker warehouses where most of the work is mindless keyboarding, computer monitoring is a common practice, wages are low and working conditions poor, and repetitive stress injuries are common.

edutainment
Programs geared toward home markets that combine education and entertainment.

drill-and-practice software
Teaching software based on the principles of individualized rate, small steps, and positive feedback.

educational simulations
Software that enables students to explore artificial environments that are imaginary or based on reality. Most have the look and feel of a game, but they challenge students to learn through exploration, experimentation, and interaction with other students.

distance education
Using computers, networks, and other technology to extend the educational process beyond the walls of a school, connecting students and faculty at remote locations.

distance learning

chief information officers (CIOs)
Along with chief technology officers (CTOs), the chief decision makers concerning enterprise computer systems and technology in a business enterprise.

courseware
Educational software.

distance education

educational simulations

edutainment
Programs geared toward home markets that combine education and entertainment.

electric commerce (e-commerce)
Business transactions through electronic networks.

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Worker warehouses where most of the work is mindless keyboarding, computer monitoring is a common practice, wages are low and working conditions poor, and repetitive stress injuries are common.

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filtering software
Software that for the most part, keeps offensive and otherwise inappropriate Web content from being viewed by children, on-duty workers, and others.

globalization
The creation of global businesses and markets.
real-time processing
Processing each transaction as it occurs, which is appropriate when users need the data immediately, as with bank ATM machines.

outsourcing
Hiring talent for selected activities on a contract basis.

management reporting systems
Another name for management information systems, because their main output is a variety of detailed, summary, and exception reports for managers.

management
A set of activities that helps people efficiently use resources to accomplish an organization's goals.

infrastructure
Information technology's basic framework, comprising of all the organization's information systems hardware, software, and telecommunications equipment; the information system department's staff and other personnel; and the organizational structure and procedures that affect accessing, processing, and using information in the company.

information overload
The state of being bombarded with too much computer output, a risk of poorly designed information systems.

intranet
A self-contained intraorganizational network that is designed using the same technology as the Internet.

Gantt chart
A type of chart capable of representing a project schedule visually, by showing each step or category of steps in a plan, along with their planned and actual start and completion times.

geographical information system (GIS)
A specialized database that combines tables of data with demographic information and displays geographic and demographic data on maps.

group decision support system (GDSS)
Systems designed to improve the productivity of decision-making meetings by enhancing the dynamics of collaborative work.

expert systems (ES)
Information systems of software programs designed to replicated the decision-making process of a human expert.

data warehousing
Software used to create and maintain large databases.

decision support systems (DSS)
Systems designed to improve the productivity of decision-making meetings by enhancing the dynamics of collaborative work.

deployment
The process of capturing data about an event that is important to the organization.

deployment
Acquiring computer programs, hardware, and other equipment.

deployment
The process of acquiring computer programs, hardware, and other equipment.

deployment
Deploying an organization's computer resources in ways that will support the organization's operations.

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Chapter 14

SYSTEMS DESIGN AND DEVELOPMENT

algorithm
A set of step-by-step instructions that, when completed, solves a problem.

alpha testing
Initial testing of a system; also called "pre-beta testing."

applet
A small compiled program to run inside another application—typically a Web browser.

assembler
A program that translates each assembly-language instruction into a machine-language instruction.

assembly language
A language that is functionally equivalent to machine language but is easier for people to read, write, and understand. Programmers use alphabetic codes that correspond to the machine's numeric instructions.

beta testing
Testing of almost-finished software by potential end users.

c
A complex computer language invented at Bell Labs in the early 1970s as a tool for programming.

dot coms
Internet-based companies.

e-commerce software
Programs on a Web server that provide the commercial services to consumers and business partners on the Web site.

electronic commerce (e-commerce)
Business transactions through electronic networks.

electronic payment system
An online credit card transaction in which a trusted third party transfers funds from one person or business to another, thereby concealing the credit card information of the buyer to the seller.

e-tranets
Private TCP/IP networks designed for outside use by customers, clients, and business partners of an organization. These networks are typically for electronic commerce.

intranet
A self-contained intraorganizational network that is designed using the same technology as the Internet.

m-commerce
Mobile commerce, in which workers use laptops and wireless handheld devices to take their offices with them wherever they travel.

virtual private network (VPN)
A network that uses encryption software to create secure "tunnels" through the public Internet or between intranets, a method an organization can use to set up an extranet.

Web hosting service
A service that provides the e-commerce software expertise to run an online business.

business-to-business (B2B)
E-commerce transactions that involve businesses providing goods or services to other businesses.

extranets
Private TCP/IP networks designed for outside use by customers, clients, and business partners of an organization. These networks are typically for electronic commerce.

intranet
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**Hard-Wired programming**
A specialized form of problem solving, typically involving the four steps of defining the problem; devising, refining, and testing the algorithm; writing the program; and testing and debugging the problem.

**Prototype**
A limited working system or subsystem that is created to give users and managers an idea of how the complete system will work.

**Outsourcing**
Hiring talent for selected activities on a contract basis.

**Program Verification**
The process of proving the correctness of a program.

**Object-oriented programming (OOP)**
Programming in which a program is not just a collection of step-by-step instructions or procedures; it’s a collection of objects. Objects contain both data and instructions and can send and receive messages.

**End-user development**
A systems development approach in which a project team comprising only end users develops many small-scale systems without the direct involvement of a professional systems analyst.

**High-level language**
A programming language that falls somewhere between natural human languages and precise machine languages, developed to streamline and simplify the programming process.

**Information system**
A collection of people, machines, data, and methods organized to accomplish specific functions and to solve specific problems. Programming is part of the larger process of designing, implementing, and managing an information system.

**Data Dictionary**
A catalog, or directory, that describes all the data flowing through a system.

**Data Flow Diagram**
A simple graphical depiction of the movement of data through a system.

**Data Structures**
A set of data elements used together, such as an invoice or other paper or electronic document.

**Decision Table**
A table that shows, in a row-column format, the decision rules that apply and what actions to take when certain conditions occur.

**End User**
A person who uses the information system directly or uses the information produced by the system.

**End-user development**
A systems development approach in which a project team comprising only end users develops many small-scale systems without the direct involvement of a professional systems analyst.

**Interpreters**
A translation program that translates and transmits each source code statement individually into machine language.

**Java**
A platform-neutral, object-oriented programming language developed by Sun Microsystems for use on multiprocessor networks.

**Logic Errors**
Errors in the logical structure of a program that cause differences between what the program is supposed to do and what it actually does.

**Machine Language**
The language that computers use to process instructions. Machine language uses numeric codes to represent basic computer operations.

**Modules**
In structured programming, a program is built from smaller programs called modules.

**Object-oriented Programming (OOP)**
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Chapter 15

**IS ARTIFICIAL INTELLIGENCE REAL?**

- **Artificial Intelligence (AI)**
  - The field of computer science devoted to making computers perceive, reason, and act in ways that have, until now, been reserved for human beings.

- **Automatic Speech Recognition**
  - Also speech recognition. The identification of spoken words and sentences by a computer, making it possible for voice input to be converted into text files.

- **Automatic Translation**
  - The process of using software to translate written or spoken communication from one natural language to another.

- **Digitized Sound**
  - Computerized sound output.

- **Digitized Speech**
  - Computerized voice output that mimics human speech.

- **Heuristic**
  - A rule of thumb.

- **Image Analysis**
  - The process of identifying objects and shapes in a photograph, drawing, video, or other visual image.

- **Knowledge Base**
  - A database that contains both facts and a system of rules for determining and changing the relationship among those facts.

- **Machine Learning**
  - Artificial intelligence techniques that make it possible for machine performance to improve based on feedback from past performance.
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<td>Turing test</td>
<td>A way to test machine intelligence.</td>
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<tr>
<td>synthetic speech</td>
<td>Speech generated by computers by converting text into phonetic sounds.</td>
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<tr>
<td>speech synthesis</td>
<td>The use of software or hardware to allow PCs to recite anything to be typed, through with voices that sound artificial and robotic.</td>
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<td>syntax</td>
<td>A set of rules for constructing sentences from words. Every language has a syntax.</td>
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<td>pattern recognition</td>
<td>Identifying recuring patterns in input data with the goal of understanding or categorizing that input.</td>
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<tr>
<td>parsing program (parser)</td>
<td>In translation, a program that analyzes sentence structure and identifies each word according to its part of speech. Another program looks up each word in a translation dictionary and substitutes the appropriate word.</td>
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<tr>
<td>parallel processing</td>
<td>Using multiple processors to divide jobs into pieces and work simultaneously on the pieces.</td>
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<td>optical character recognition (OCR) software</td>
<td>Software that locates and identifies printed characters embedded in images.</td>
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<td>natural language</td>
<td>Language that people speak and write everyday.</td>
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<td>semantics</td>
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<td>robots</td>
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