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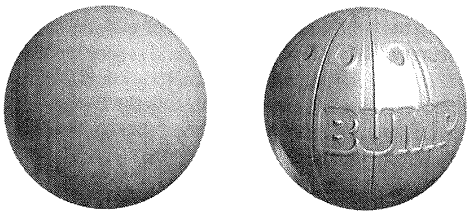

Bump mapping. *A 3-D–rendered sphere showing bump mapping.*

bundle *vb.* To combine products for sale as a lot. Frequently, operating system software and some widely used applications are bundled with a computer system for sale.

bundled software *n.* **1.** Programs sold with a computer as part of a combined hardware/software package. **2.** Smaller programs sold with larger programs to increase the latter's functionality or attractiveness.

burn *vb.* **1.** To write data electronically into a programmable read-only memory (PROM) chip by using a special programming device known variously as a PROM programmer, PROM blower, or PROM blaster. *Also called:* blast, blow. *See also* PROM. **2.** To create read-only memory compact discs (CD-ROMs). **3.** To write data electronically on a flash memory chip or a PC Card Type III. Unlike PROM chips or CD-ROM, flash memory media can be burned, or flashed, repeatedly with new information. *Also called:* flash.

burn in *vb.* **1.** To keep a new system or device running continuously so that any weak elements or components will fail early and can be found and corrected before the system becomes an integral part of the user's work routine. Such a test is often performed at the factory before a device is shipped. **2.** To make a permanent change in the phosphor coating on the inside of a monitor screen by leaving the monitor on and keeping a bright, unchanging image on the screen for extended periods. Such an image will remain visible after the monitor is turned off. Burning in was a danger with older PC monitors; it is no longer a concern with most new PC monitors. *Also called:* ghosting.

burst[1] *n.* Transfer of a block of data all at one time without a break. Certain microprocessors and certain buses have features that support various types of burst transfers. *See also* burst speed (definition 1).

burst[2] *vb.* To break fanfold continuous-feed paper apart at its perforations, resulting in a stack of separate sheets.

burster *n.* A device used to burst, or break apart at the perforations, fanfold continuous-feed paper.

burst extended-data-out RAM *n. See* BEDO DRAM.

burst mode *n.* A method of data transfer in which information is collected and sent as a unit in one high-speed transmission. In burst mode, an input/output device takes control of a multiplexer channel for the time required to send its data. In effect, the multiplexer, which normally merges input from several sources into a single high-speed data stream, becomes a channel dedicated to the needs of one device until the entire transmission has been sent. Burst mode is used both in communications and between devices in a computer system. *See also* burst[1].

burst rate *n. See* burst speed (definition 1).

burst speed *n.* **1.** The fastest speed at which a device can operate without interruption. For example, various communications devices (as on networks) can send data in bursts, and the speed of such equipment is sometimes measured as the burst speed (the speed of data transfer while the burst is being executed). *Also called:* burst rate. **2.** The number of characters per second that a printer can print on one line without a carriage return or linefeed. Burst speed measures the actual speed of printing, without consideration of the time taken to advance paper or to move the print head back to the left margin. Almost always, the speed claimed by the manufacturer is the burst speed. By contrast, *throughput* is the number of characters per second when one or more entire pages of text are being printed and is a more practical measurement of printer speed in real-life situations.

bursty *adj.* Transmitting data in spurts, or bursts, rather than in a continuous stream.

bus *n.* A set of hardware lines (conductors) used for data transfer among the components of a computer system. A bus is essentially a shared highway that connects different parts of the system—including the processor, disk-drive controller, memory, and input/output ports—and enables them to transfer information. The bus consists of specialized groups of lines that carry different types of information. One group of lines carries data; another carries memory addresses (locations) where data items are to be found; yet another carries control signals. Buses are characterized by the number of bits they can transfer at a single

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Control key.

controller *n.* A device that other devices rely on for access to a computer subsystem. A disk controller, for example, controls access to one or more disk drives, managing physical and logical access to the drive or drives.

control logic *n.* The electronic circuitry that generates, interprets, and uses control data.

control panel *n.* In Windows and Macintosh systems, a utility that allows the user to control aspects of the operating system or hardware, such as system time and date, keyboard characteristics, and networking parameters.

control panel device *n. See* cdev.

control sequence *n. See* control code.

control signal *n.* An electronic signal used to control internal or external devices or processes.

control statement *n.* A statement that affects the flow of execution through a program. Control statements include conditional statements (CASE, IF-THEN-ELSE), iterative statements (DO, FOR, REPEAT, WHILE), and transfer statements (GOTO). *See also* conditional statement, iterative statement, statement, transfer statement.

control strip *n.* **1.** An equipment calibration tool used to determine the corrections needed to restore accuracy by comparing recorded data against known values. **2.** A utility that groups shortcuts to commonly used items or information, such as time, battery power level, desktop items, and programs, in an easily accessible place. *See also* shortcut.

control structure *n.* A portion of a program defined by the relationship between the statements, used in structured programming. There are three basic control structures: sequence, where one statement simply follows another; selection, where program flow depends on which criteria are met; and iteration, where an action is repeated until some condition occurs.

control unit *n.* A device or circuit that performs an arbitrating or regulating function. For example, a memory example, the index variable in a FOR loop controls the number of times a group of statements are executed. *See also* control statement.

convenience adapter *n. See* port replicator.

convention *n.* Any standard that is used more or less universally in a given situation. Many conventions are applied to microcomputers. In programming, for example, a language such as C relies on formally accepted symbols and abbreviations that must be used in programs. Less formally, programmers usually adopt the convention of indenting subordinate instructions in a routine so that the structure of the program is more easily visualized. National and international committees often discuss and arbitrate conventions for programming languages, data structures, communication standards, and device characteristics. *See also* CCITT, ISO, NTSC, standard (definition 1).

conventional memory *n.* The amount of RAM addressable by an IBM PC or compatible machine operating in real mode. This is typically 640 kilobytes (KB). Without the use of special techniques, conventional memory is the only kind of RAM accessible to MS-DOS programs. *See also* protected mode, real mode. *Compare* expanded memory, extended memory.

convergence *n.* A coming together. Convergence can occur between different disciplines and technologies, as when telephone communications and computing converge in the field of telecommunications. It can also occur within a program, such as a spreadsheet, when a circular set of formulas are repeatedly recalculated (iterated), with the results of each iteration coming closer to a true solution.

conversational *adj.* Of, pertaining to, or characteristic of the mode of operation, typical of microcomputers, in which the computer user and the system engage in a dialogue of commands and system responses. *See also* interactive.

conversational interaction *n.* Interaction in which two or more parties alternately transmit and receive messages from each other. *See also* interactive processing.

conversational language *n.* Any programming language that allows the programmer to instruct the computer in a conversational mode, as opposed to more formal, structured languages. For example, in a COBOL program, in order to execute a procedure called CHECK 10 times, a

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longer needed. In some languages, such as C and C++, the programmer must keep track of memory usage by the program. Java, a newer language, automatically frees any chunk of memory that is not in use. *See also* C, C++, garbage collection, Java.

memory management program *n.* **1.** A program used to store data and programs in system memory, monitor their use, and reassign the freed space following their execution. **2.** A program that uses hard disk space as an extension of the random access memory (RAM).

memory management unit *n.* The hardware that supports the mapping of virtual memory addresses to physical memory addresses. In some systems, such as those based on the 68020, the memory management unit is separate from the processor. In most modern microcomputers, however, the memory management unit is built into the CPU chip. In some systems, the memory management unit provides interfacing between the microprocessor and memory. This type of memory management unit is typically responsible for address multiplexing and, in the case of DRAMs, the refresh cycle. *Acronym:* MMU. *See also* physical address, refresh cycle, virtual address.

M

memory model *n.* The approach used to address the code and the data that are used in a computer program. The memory model dictates how much memory can be used in a program for code and how much for data. Most computers with a flat address space support only a single memory model. Computers with a segmented address space usually support multiple memory models. *See also* compact model, flat address space, large model, medium model, segmented address space, small model, tiny model.

memory module *n.* A removable circuit board, cartridge, or other carrier that contains one or more RAM memory chips. *See also* memory card, memory cartridge, RAM.

memory-resident *adj.* Permanently located in a computer's memory, rather than swapped in and out of memory as needed. *See also* memory, TSR.

memory scrubbing *n.* **1.** In mainframe computers, the process of a computer reading its own memory during idle periods in order to find and fix errors. **2.** The process of any measured in megabytes. *See also* megabyte, memory.

memory typewriter *n.* An electric typewriter with internal memory and typically a one-line liquid crystal display for viewing the contents of that memory. Memory typewriters can usually hold one page of text at a time, to which small modifications can be made. Memory typewriters usually do not retain the contents of memory when power is turned off.

MEMS *n.* Acronym for **m**icro-**e**lectro**m**echanical **s**ystems. A technology combining computers with extremely tiny mechanical devices. MEMS devices contain microcircuitry on a tiny silicon chip onto which a mechanical device such as a sensor or an actuator is attached. MEMS devices are used in switches, pacemakers, games, GPS tracking, data storage, and for accelerometers in air bags. Because MEMS devices have the potential to be manufactured in large quantities for little cost, many additional MEMS products are being planned or studied.

menu *n.* A list of options from which a user can make a selection in order to perform a desired action, such as choosing a command or applying a particular format to part of a document. Many application programs, especially those that offer a graphical interface, use menus as a means of providing the user with an easily learned, easy-to-use alternative to memorizing program commands and their appropriate usage.

menu bar *n.* A rectangular bar displayed in an application program's on-screen window, often at the top, from which menus can be selected by the user. Names of available menus are displayed in the menu bar; choosing one with the keyboard or with a mouse causes the list of options in that menu to be displayed.

menu-driven *adj.* Using menus to present choices of commands and available options. Menu-driven programs are usually considered friendlier and easier to learn than programs with a command-line interface. *Compare* command-line interface.

menu item *n.* A choice on a menu, selectable by either the keyboard or a mouse. In some instances, a menu item that is not available (that is, not appropriate) for a given

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change from one session to another.

system *n.* Any collection of component elements that work together to perform a task. Examples are a hardware system consisting of a microprocessor, its allied chips and circuitry, input and output devices, and peripheral devices; an operating system consisting of a set of programs and data files; or a database management system used to process specific kinds of information.

system administrator *n.* The person responsible for administering use of a multiuser computer system, communications system, or both. A system administrator performs such duties as assigning user accounts and passwords, establishing security access levels, allocating storage space, and watching for unauthorized access to prevent virus or Trojan horse programs from entering the system. *Also called:* sysadmin. *See also* superuser, Trojan horse, virus. *Compare* sysop.

system area network *n. See* storage area network.

system board *n. See* motherboard.

system clock *n. See* clock (definition 1).

system console *n.* The control center of a computer system, primarily with reference to mainframe and minicomputers. In networked or distributed systems, one workstation is designated as the system administrator's; this workstation is analogous to the LAN system console. *See also* console, LAN.

system conversion *n.* Changing from one operating system to another—for example, from Windows 98 to Windows 2000, UNIX, or OS/2.

system development *n.* The process of defining, designing, testing, and implementing a new system.

S

system disk *n.* A disk that contains an operating system and can be used to boot a computer. *Also called:* startup disk. *See also* boot[2], operating system.

system error *n.* A software condition that renders the operating system incapable of continuing to function normally. This type of error usually requires rebooting the system.

system failure *n.* The inability of a computer to continue functioning, usually caused by software rather than hardware.

that contains the System file and other vital files, such as Finder, device drivers, INIT files, and control panel files. *See also* control panel, Finder, INIT, System file.

system font *n.* On the Macintosh and in some PC applications, the font used by the computer for on-screen text, such as menu titles and items (but not on-screen text within a word processor or other application). *See also* font.

system generation *n.* The process of configuring and installing system software for a particular set of hardware components. Complex operating systems such as UNIX are shipped with device drivers and utilities that are often not relevant to a particular hardware configuration; putting together only the necessary components, as well as specifying important system characteristics, is part of the system generation process. *Also called:* sysgen.

system heap *n. See* heap (definition 1).

system.ini *n.* In Windows 3.x, the initialization file used to store the hardware configuration information necessary to run the Windows operating environment. The system.ini file was replaced by the registry database in Windows 9x and in Windows NT. *See also* ini file.

system life cycle *n.* An information system's useful life. At the end of a system's life cycle it is not feasible to repair or expand it, so it must be replaced.

system memory *n. See* memory.

System Object Model *n. See* SOM (definition 1).

system on a chip *n. See* SOC.

system operator *n. See* sysop.

system prompt *n. See* prompt (definition 1).

system recovery *n.* Processing that takes place after a system failure in order to restore a system to normal operation. System recovery takes place after the operating system is initiated. It sometimes requires that tasks in process during the failure be backed out of and that structures in memory during the failure be reconstructed.

System Registry *n. See* registry.

system replacement *n. See* replacement strategy.

System Request key *n. See* Sys Req key.

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