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The Dictionary of

Multimedia

Jerms & Acronyms

1998 Edition



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Dedication For my son, Graham.

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PREFACE

This book is for programmers, graphic artists, writers, video producers, audio engineers, network managers, hardware technicians, and telecommunications professionals who embrace the complex world of multimedia and realize the need for a common language to communicate with one another. Although many dictionaries and other existing references address individual disciplines, this book is unique in bringing together definitions of critical terms and concepts drawn from the diverse bodies of knowledge incorporated in the production of multimedia.

Multimedia, which may be defined as interactive digital media, is a synthesis of traditional forms of art and communication with the rapidly evolving fields of computing and networking. This dictionary addresses a vocabulary that results from the convergence of diverse disciplines and bodies of knowledge. Multimedia is an art, a science, and a new medium of expression that has engendered a truly interdisciplinary body of information that is growing at an incredible rate.

Terms were included based on their relevance to multimedia production and distribution. A creative team builds graphic, audio, and video products that are digitized by computer hardware and programmed for interactive access. The products are distributed on CD-ROM and other media, or they are delivered from a file server over a network or telecommunications system. For this team to function, its members must have some common definitions for the words they use to communicate. The terms in this dictionary originate from the disciplines represented by members of the multimedia team. The following list includes some of these disciplines and content pertaining to each:

Audio—acoustics, engineering, music, MIDI, recording, signal processing Graphics—imaging, animation, drawing, color theory, photography, semiology Hardware—computers, electronics, components, interfaces, media, physics Networking—transfer of data, protocols, connections, standards, the Internet Human factors—organizations, committees, individuals, ergonomics Software—logic, programming, data, file structures, scripting, applications Telecommunications—telephony, broadcast, radio, television, cable, satellite Video—lighting, post-production, editing, film, tape formats, compression

Preface

The nature of multimedia requires teamwork and the contribution of many minds and hands. Likewise, scores of individuals who contributed directly and indirectly to this book should be credited. Many members of computer-user groups and professional associations have shared their knowledge unselfishly, including the International Interactive Communications Society (IICS), the Association for Computing Machinery (ACM), the Institute of Electrical and Electronics Engineers (IEEE), the International Multimedia Association and the International MIDI Association (IMA), the Audio Engineering Society (AES), and the International Television Association (ITVA). Kevin Yorke at the National Multimedia Association (NMA) and John Melchi at the National Center for Supercomputing (NCSA) have personally assisted in making information available.

In addition to definitions of terms and acronyms, several relevant appendices have been added that expand on topics related to multimedia. For those who at times find themselves at a prompt on the command line, a complete listing of MS-DOS commands is provided, courtesy of Carolyn Gillay.

Developers for the Web who seek a quick reference on the HTML language will find help in the World Wide Web appendix. The Basic Tutorial on HTML and the description of CGI script conventions both appear courtesy of the NCSA. Additionally, a table of HTML tags and attributes, a list of coded characters, and the HTML 3.2 color designations are included.

Another extensive appendix carefully outlines the issues surrounding copyrights, particularly pertaining to digital media and ownership of assets. For support in developing the copyright appendix, thanks go to Terrence J. Carroll, an attorney with Cooley Godward Castro Huddleson & Tatum in Palo Alto, California. His FAQ is located at http://www.aimnet.com/~carroll/copyright/faq-home.html.

Since the issue of standardization is critical to multimedia production and implementation, an appendix is devoted to standards organizations and sources of information about international standards. Thanks to Markus Kuhn for his research.

The final appendix is a categorical listing of books on multimedia. Books, software manuals, and documentation explaining the installation and operation of multimedia devices and programs served as critical sources of information for the dictionary, along with current periodicals.

Definitions in this dictionary are located beside commonly used acronyms, and the words represented by the acronyms are spelled out where they appear alphabetically.

The reader is referred to the acronyms for the definitions. Words, symbols, and numbers are ordered alphabetically as they would be spelled. For example, "C++" follows "courseware," and "16-bit" follows "site." To avoid confusion in quantifying data, one convention to which we adhere should be pointed out. The abbreviation for kilobits is Kb, while kilobytes is KB. A similar convention applies to megabits (Mb) and megabytes (MB). The need for accuracy, clarity, and precision in writing about this field has remained a high priority in preparing this document.

Jim Leisy and his entire staff at Franklin, Beedle & Associates have been wonderful partners in fulfilling our collective vision (Karen, Tom, Susan, Dan, Vic, Sue, Eric, Laura, Cary, Chris, and Ann). Thanks to Jeff Ong and Bill DeRouchey for their fine illustrations. Astute comments from Harvey Smythe, Mark Farley, and Rockley Miller, who all reviewed early drafts, were greatly appreciated. My wife Jani, son Graham, and daughter Claire deserve heartfelt thanks for their support and for permitting me to make time to write this book.

ing, when a specified set of conditions is satisfied, previously programmed instructions take a user to a different location in the program. The destination to which the program branches is conditional upon the nature of a user's input. If specific conditions are not met, the computer follows the normal sequence.

conference (n.) An asynchronous online discussion area where a group of users may post information and comments for others with access.

confetti (n.) Small, colored dots on a video screen caused by signal drop-outs or video noise. See *noise*.

config.sys (n.) A file of commands read by MS-DOS each time a PC boots, since it holds the instructions for configuration parameters, device drivers, buffers, and other necessary information.

Connection Control Language See CCL.

constant (n.) In programming, a value that does not change, as opposed to a variable.

constant angular velocity See CAV.

constant linear velocity See CLV.

consumer market (n.) Also called the domestic market, this is the segment of the audio/video market where equipment is used mostly in private homes and software consists of movies and games. The professional market uses industrial gear. **content** (n.) The story, information, graphics, audio, and video material that is incorporated in a digital production.

contention (n.) In telecommunications, a method of access used by PBX or public telephone systems where numerous devices are served on a first-come, firstserved basis by a limited number of ports.

context-sensitive (adj.) Depending on a user's actions, a context-sensitive program responds with help or prompts that are specifically related to activities in which the user is engaged.

contiguous (adj.) Related to data storage, describes a file whose elements are grouped together and not fragmented in separate locations on a disk. If a file is fragmented, it may not stream smoothly since the heads of the drive have to move around during transmission. Video files will drop frames on playback if they are not contiguous. To make all the files on a disk contiguous, execute the "defrag" command in MS-DOS, or "optimize" with a Macintosh utility.

continuous branching (n.) A feature of an interactive program that modifies the environment constantly in response to the user, rather than only at predetermined branching points or menus.

contrast (n.) The range between the darkest and brightest components in an image. Displays often provide hardware adjustments for controlling contrast, and scanners permit software

control code

controls. Adjusting contrast in a selective manner can make relatively light or dark areas of an image become visible while increasing detail.

control code (n.) One of the 32 ASCII codes reserved for issuing hardware control commands, such as advancing a printer page.

controller 1. (n.) Related to hardware, a processing component in a computer that controls the flow of data between the computer and peripheral devices. 2. (n.) The input device for a video game that moves and manipulates objects on the screen. A mouse is a controller for a computer with a graphical user interface.

control panel (n.) In a graphical user interface (GUI), this is a utility program that may be used to adjust parameters for system settings, such as volume, color, and rate of response to input devices.

control panel device See CDEV.

Control Program for Microcomputers See *CP/M*.

control track 1. (n.) A track on video recorders that is imprinted with pulses to set timing and align the tape with the recording and playback heads. 2. (n.) A rudimentary method of video positioning that counts pulses on the tape rather than reading time-stamped data that identifies the location of a frame.

convergence (n.) Alignment of the red,

green, and blue light beams aimed at phosphors in a triad. The simultaneous firing of the red, green, and blue beams excites the three corresponding phosphors to generate the color white. Slight deviation of the beams due to magnetic misalignment of the electron trajectory causes colored shadows around pixels, and the beams have poor convergence. If the beams are perfectly aimed at the pixels on the screen, the monitor has good convergence.

Copper Distributed Data Interface See CDDI.

coprocessor (n.) Frequently referred to as a "math coprocessor," this chip is designed to rapidly execute floating point calculations and other mathematical functions. Many spreadsheets and CAD applications are constructed to take advantage of the presence of a coprocessor in a microcomputer's circuitry.

copyright (n.) The ownership rights to an idea, document, graphic, sound, or other reproducible event or object. This right belongs to the creator unless creation is done under a work-for-hire contract. A copyright may be transferred to another party, or it may be licensed with limitations or contractual conditions.

copy stand (n.) A table or flat surface with a photographic or video camera stationed overhead. Lamps are mounted on the sides to brightly illuminate an image or object placed on the stand, which is the focal point of the camera.