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MULTIMEDIA: IC PERSONNEL SUPPORT IN THE INSTRUCTIONAL AREA

The purpose of this presentation is to make some recommendations for the Information Center role in the support of multimedia in the instructional environment. We define the "technology mix" of a typical multimedia system. We profile IC personnel and make assessments on the nature and extent of end-user support.

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Introduction

Multimedia is ushering in a new era in the instructional environment. It combines the use of visual, graphic, audio, and textual material using a "technology mix." As users become exposed to the multimedia system, they will expect information to be presented in this format. What it is and how we can support it will remain open questions for the next several years. We give a view of typical multimedia systems by levels of complexity and define their elements.

Information is provided on the number of personnel in various positions in the Information Center, the degree and experience required for the positions, training provided, which positions are filled by students, and supporting degree programs. A profile of the person-position in the Information Center is presented based on the summarized data.

Of several categories of end-users, those most likely utilizing multimedia systems would be "functional support personnel". These are users at the various departmental levels who have similar levels of expertise as their counterparts in the Information Center. These users will require access to technical and management support personnel. They are most valuable in that they provide the focused application of the multimedia environment.

From this information assessments are made on the type and extent of end-user support required from the Information Center.

What is multimedia?

At present, there are as many definitions of a multimedia system as there are vendors selling them. Multimedia systems even exist on multiple platforms. Our discussion concerns itself with microcomputer systems: the audio and video elements, microprocessor types, CD ROMs and software. We define three levels of "multimedia" systems.

Level 1 (base system)

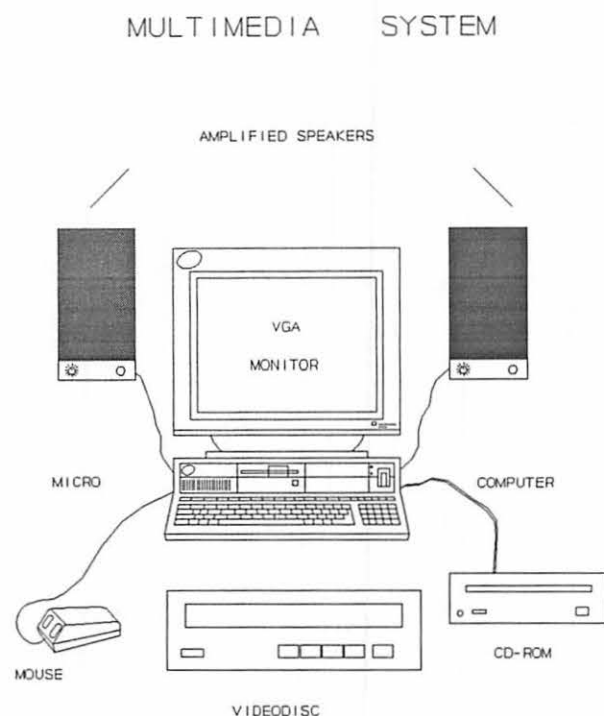
- 286, 10Mhz (minimum)
- 2 mb ram
- 40-60 mb hard drive
- VGA monitor
- Mouse
- DOS or Windows
- CD-ROM drive

Level 2

- Level 1 system w/ 386, 25Mhz
- 100-150 mb hard drive
- Videodisc player
- Windows or OS/2
- External speakers(amplified)
- Sound card
- Touch-screen

Level 3

- Level 2 system
- 4-6 mb ram
- 200+ mb hard drive
- Digital audio card
- Full-motion video card



How the elements of a multimedia system are packaged is determined by the specific end-user application. The elements must be configured in "technical harmony" so they work synergistically for the desired effect.

The *level 1* system is to be used mainly on an individual basis, by faculty or students who wish to incorporate graphics from the CD-ROM into their text files for handouts, reports, and other documents. This system also suffices for small classroom presentations using a LCD viewer. The software packages on this system are those which end-users employ daily. Therefore, the users of a *level 1* system are not likely to require much, if any, additional training.

A *level 2* system is comparable to many of the multimedia systems currently in place. The *level 2* system is most appropriate for use of interactive (canned) demonstrations. This setup is optimal for help centers and media centers. The experienced user, with the necessary software installed, will also be able to create and display animation.

The *level 3* system allows those well-versed with the various authoring systems to strut their stuff. The added full-motion video and digital audio capabilities open the door to the full-blown multimedia experience. This system allows the qualified user to combine video stills, full-motion video, audio, text, graphics, and animation into an interactive presentation. Opportunities abound for the use of these segments. They can be formulated into self-study programs, incorporated into tutorials, or set up for elaborate lecture presentations. The main drawback to this system is the tremendous amount of storage necessary for each segment. For each second of sound, 15-150 kb of space is required depending upon quality desired.

The Information Center in end-user support.

In recent surveys on human resources in educational Information Centers, several items were selected for investigation. They were:

- the number of personnel in various positions
- whether a degree and/or experience is required for each of the positions
- whether training is provided for each position
- whether the position can be filled by students
- the "essentiality" of the position, and
- supporting degree programs.

The following table is a summary profile of the data collected on each of fourteen positions listed in the survey questionnaire. In column two, we have arbitrarily listed the percentages of "two in a position" when surveys had a response of 10% or greater. The last column is an index of the "essentiality" of positions determined from survey responses to a degree scale of 1 to 5. An *essential* position is one considered indispensable to the functioning of the computer center for which critical services depend. Information in the table is ordered by this item.

IC PERSONNEL PROFILE						
	NUM IN POSITN	DEGREE REQUIRE	EXPER REQUIRE	TRAIN REQUIRE	STUDENT FILLED	ESSENTL POSITN
DIRECTOR	1 (77%)	94%	99%	62%	0%	.98
USER SUPP	1 (26%) 2 (10%)	43%	98%	80%	71%	.91
OPER MGR	1 (40%)	68%	90%	67%	0%	.85
TECH SUPPORT	1 (39%) 2 (11%)	41%	80%	84%	50%	.84
SYSTEM ENGR	1 (24%)	82%	100%	78%	0%	.83
NETWRK TECH	1 (25%)	57%	83%	77%	20%	.83
SYS PRG MGR	1 (19%)	100%	95%	81%	0%	.82
PROG ANALY	1 (15%)	77%	88%	91%	3%	.81
SYS PRGR	1 (11%)	71%	95%	76%	20%	.81
SYS ANALY	1 (14%) 2 (10%)	80%	74%	80%	3%	.80
OPERATORS	1 (36%)	11%	51%	90%	68%	.75
BUS MGR	1 (24%)	64%	92%	60%	0%	.74
APPLI PRG	1 (26%) 2 (10%)	68%	77%	73%	52%	.73
TELE COM TECH	1 (13%)	50%	94%	65%	28%	.69

It is our opinion that IC support should come from people qualified in three areas. They are:

Systems Engineer: Evaluates and specifies new technology, maintains the operational efficacy of all systems; provides computer systems security and contingency recovery; supervises tech support, network support, and telecommunications.

Technical Support: Installs computer and communication hardware; maintains and does minor maintenance on all computer and peripheral hardware.

User Support Services: Assists users with software and programming questions and problems. Provides assistance to users when making purchases, installing new equipment, and using new products.

All three positions are considered highly *essential* and two, technical support and user support, have multiple positions that may be filled in-part by students.

Support for the end-user should be focused. Whereas end-user computing is everywhere in the instructional area, the "bulk" of the computing is conducted by selected, knowledgeable individuals or groups of individuals in various departments. An interesting study by Rockart and Flannery(see bibliography) on management of end-user computing in the corporate environment, identified 6 classes of end-users. That class which would seem most appropriate to multimedia end-users is termed "functional support personnel." These people are defined as "sophisticated programmers supporting other end-users within their particular functional areas." For our purposes, we would like to include a "high level of technical expertise in the use of microcomputer systems and office automation tools" in that definition and de-emphasize the "programming" capabilities.

From these studies, several recommendations for multimedia support may be made:

- those most qualified for end-user support of multimedia systems in the IC are Systems Engineer(s), Technical and User Support.
- support should be focused to the end-user, specifically to the "functional support personnel." These people should have close association with representative members in the IC. They should be included in specific seminars, training and other germane activities within the IC.
- to make the support effective and efficient, standards and controls should be set in place by appropriate personnel in the IC and end-user area.

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