Technology Integration and Hypermedia Information Delivery: Potentials for Librarians

Sylvia Carson

A t the LITA President's Program in Dallas, Ching-chih Chen proved that we are truly living in exciting technological times. In only the last few years many dramatic changes have occurred— the advent of personal computers, optical disc and other mass storage media, image technology, computer graphic technology, worldwide packet networks—that open up wonderful opportunities for

information delivery. Technology is now ready for information professionals to be demanding and aggressive in seeking new ways to disseminate information.

To illustrate her point, Dr. Chen took her audience on a two-hour journey, into the past as well as into the future. She described and demonstrated Project Emperor-I, a multimedia program that incorporates video, still images, text and sound to present and interpret archaeological information from the period of the First Emperor of China, about 2,200 years ago. In 1973, over 7,000 life-size terra cotta figures of warriors and horses were discovered in Xian, near the emperor's tomb. This spectacular archaeological site is the focus of Project Emperor-I.

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Project Goals

The project began in the Fall of 1984 with the receipt of a major grant from the Humanities Project in Libraries, U.S. National Endowment for the Humanities (NEH). Dr. Chen's goals in presenting and interpreting this period of China were to advance public understanding of the humanities, link scholarship and technology, and link East and West, past and present. An additional goal was to use computer-based technology to create a product that was of interest to, and easy enough to be used by, all types of users, from school children and the general public to in-depth researchers.

A final goal of Project Emperor-I was to develop a *research and demonstration* project that would show how technology could be integrated to present information in a dynamic, interactive fashion.

Hybrid Technology

Project Emperor-I uses a hybrid of videodisc and microcomputer technology. Two twelve-inch NTSC (National Television Systems Committee) CAV (Constant Angular Velocity) analog videodiscs, each containing 108,000 visual images and one-hour sound tracks in both English and Chinese, were completed in 1985—a mind-boggling nine months after the project began. This is the most comprehensive electronic database on the subject available anywhere. Optical videodisc was the medium of choice because of its high density storage capacity, multimedia capacity, quality resolution and ability to quickly access randomly stored information. A typical search through the 208,000 images takes only 1.5 to 3 seconds which, needless to say, yields high user satisfaction.

The software that runs the system, as well as large files such as a dictionary, maps, bibliography and the full text of bibliographic items, is stored on a microcomputer. Interactive courseware has been developed for other platforms.

Use of HyperCard Environment
Apple's introduction of HyperCard in late 1987 permits non-sequential reading and writing of data and is designed for rapid retrieval of multimedia information. It provided an excellent environment for further development of Project Emperor-I. In the summer of 1988, a hypermedia application modeled after a two-semester Harvard graduate course was developed on the Mac II using HyperTalk under the HyperCard environment. This application permitted Project Emperor-I to provide information in any combination of media—images, music, voice and text—at incredible speed.

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A main menu invites the user to sample from the VideoDisc Controller, which enables one to retrieve video and images from the discs; General Information, containing introductory courses for the general public and school children; Interactive Research, containing detailed subject treatment on a chosen topic for the serious student and researcher; Visual Exploration, which lets the user browse through the different videos, slides and objects; and Index Search, which locates video slides and text by numerous indexes. With only a click at a selected icon, users can gather and link any combination of text, pictures, commentaries and experts' viewpoints.

Future
Dr. Chen invited her audience to consider their own applications that take advantage of today's "hypermedia age." Improvements in technology that have taken place already, and changes that are yet to come, challenge us to deliver information in exciting new ways.—*Sylvia Carson is a Library Systems Specialist at Penn State University Libraries.*

More Technology, Less Access?

Donna Hirst

Brian Campbell, Chair of the Technology and Access Committee, introduced this moderately well-attended program designed to evaluate different models of information technology delivery. Speakers addressed a wide range of information access issues, many of them more political or economic than technical.

Assessing Information Technologies

Linda Garcia (Communications and Information Technologies Program, U.S. Office of Technology Assessment) identified an increasing trend toward the privatization of knowledge. Private-enterprise delivery of information may be hurting libraries. Ms. Garcia identified five factors affecting access to information in which the government has a potential role.

A *shifting of subsidies* in financing information is occurring. Consumers may pay less than the actual cost of providing information, but regulation currently plays a less important role, with increased deregulation. Advertising has, historically, largely financed mass media—but, with more diversity in