

Report on Annual Symposium of Nebraska Videodisc Design Group, 1987

Peter Crowell

This year's Nebraska Interactive Videodisc Symposium reflected the growing trend toward profitable business IV activities. Indicators of this trend include Pioneer Communications of America's announcement that LaserVision (in the United States) has turned a profit. Moreover, Apple Computer, Inc.'s new HyperCard will support graphics overlay for interactive videodisc and videotape. In addition, Apple is developing an interactive authoring system for the Macintosh—a sure sign of Apple's realization of the growing education market interest in interactive video.

Reports and presentations at the 1987 Nebraska Interactive Videodisc Symposium indicate that this field, so long troubled by poor profits and slow growth, is beginning to see a variety of profitable operations. The Symposium was held October 5–8 in Lincoln, Nebraska, concurrently with the (second) Annual National Videodisc Symposium for Education, sponsored by the Nebraska Videodisc Design/Production Group. About 250 people took part from the United States, Canada, the Federal Republic of Germany, and the United Kingdom. Some of the indicators follow:

1. Representatives of Pioneer Communications of America said that LaserVision in the United States has finally, according to internal accounting terms, turned a profit. This is welcome news after years of slow growth and virtual subsidy of the industry by Pioneer.
2. Laser Travel Network (LTN) of California has joined the ranks of those that are making "Level 5" videodiscs—discs that make money. LTN distributes an 8-inch videodisc to 300 travel agencies each month. Starting in November, they will ship two videodiscs a month and reduce the travel agency's lease cost to \$49 from \$129 per month. LTN won a Certificate of Merit for its successful implementation of this Level 2 system.
3. Apple Computer, Inc. demonstrated HyperCard

software at Nebraska, and stated that Apple will support graphics overlay for interactive video as well as the videodisc control already implemented via HyperCard. Apple is also developing an interactive video authoring system for the Macintosh. It is clear that Apple intends to make money by capitalizing on its large installed base of Apple computers in education, and on the growing interest of educators in interactive video.

For the Awards, the medical field earned Best Overall Achievement with the U.S. Navy's "Advanced Combat Trauma Life Support," a simulation of startling realism and urgency. The developer, Navy Commander Joe Henderson, M.D., took pains to acknowledge, as the source of inspiration, the "Victor Mercedes" series developed two years ago by Carol Hargan and Bill Underhill of Lunaria for Intelligent Images, Inc.

Education was a major emphasis at the Symposium with concurrent sessions that kept participants moving between tracks. At one time the main auditorium was nearly empty while people crowded into a demonstration of HyperCards.

Leaders of the Educational Symposium spent considerable time attempting to rally educators around a "National Agenda" for videodisc in education. While they may have had some success with elementary educators, university-level interactive developers stood

about sagely noting that it was impossible to develop broadbased interactive programs in their universities because no instructor would use another's program. Attempts of the educators to form an organization for interactive video education met with strong recommendations that they join the already established International Interactive Communications Society (IICS) instead.

Presentations on the Education Track, however, revealed intense interest in the United Kingdom Schools Project, and on a variety of Level 1 and Level 3 programs for education in science, mathematics, and music. Presentations on IV system design and development were well attended.

Presentations in the field of industrial education and training featured systems for electronics training by NUS Training Company (an Award winner), and MetaMedia Systems.

The MetaMedia Systems presentation was based on the company's OASYS authoring system which is a menu-driven code generator for PILOT Plus. The system shown was a prototype course on Digital Electronics. The course provides about 38 contact hours of training using one CD-ROM and one videodisc. All graphics and almost all audio are on the CD-ROM, with only motion video and accompanying audio on the videodisc. The graphic quality of the system was considered outstanding. (This application was only recently completed, and was not submitted for the Nebraska Award.)

As a result of these technological approaches, MetaMedia President Thomas Held said that he estimates the course can be delivered for less than \$2.00 per contact hour. The total course cost would be around \$1,200. Held and other presenters repeatedly emphasized the search for reduction in the cost of IV system development and implementation.

Significant IV programs were shown outside the Award competition, based on their novelty or excellence of design. "A Different Train of Thought" by Carol Strohecker, is an interactive movie in which the viewer can at any time see what any character on the screen is thinking. This alters the progress of the story, and allows almost infinite variation. The material was videotaped by amateurs using consumer VHS equipment during a European train trip to Budapest. Interior scenes were staged with actors in the United States. No English is spoken by any actor at any time and Magyar, German, French and other languages are used throughout to increase the feeling of disorientation desired by the designers. Picture quality is poor, but the design is inspired and creative.

Another application, "Getting Out and Staying Out" by Dr. Barbara Rosenberg of the Missouri Institute of Psychiatry, St. Louis, Missouri, was designed for psychiatric patients to use in helping themselves get out

of the hospital and to stay out. While the photography and graphics are poor, the program design was extremely sophisticated. The user is given many opportunities for activities that will help or inhibit the realization of the goal of staying mentally healthy. The program weighs each response and provides appropriate branching and feedback. Clinical trials with psychiatric patients are now under way with positive results.

As part of the emphasis on the business aspects of IV technology, the symposium presented an entire afternoon each on managing interactive program development and on marketing generic interactive programs.

Dow Chemical, Eastman Kodak, and Pratt & Whitney were the presenters on IV program management. These companies have extensive IV development efforts in-house.

C.L. Price of Dow Chemical described IV as a "paradigm shift" as defined in the book *The Right Way to Manage* by William Conway. That is, IV creates a new set of rules for training and education. He explained how Dow developed an IV program on IV program development; when the process used for developing the program was analyzed according to the principles of *The Right Way to Manage*, development was halted and a search for a new process was begun.

Price also emphasized that IV is an integral part of the training solution at Dow, but that company management believes IV is too costly and takes too long to develop. On the other hand, once in place, IV is seen as the best possible solution. The need, he said, is for a "paradigm shift" in the process of IV program development to reduce duplication, delay, cost, and confusion. One means of improving the situation is to use an authoring system, which Dow has not previously done.

George DelVecchio of Eastman Kodak noted that Kodak has thirty-four IV systems in the field and is busy creating more. The company uses forty learning centers and is beginning to use IV in training end-users of its copiers. User training takes a great deal of the time of service representatives, and IV can do the job faster and cheaper. DelVecchio indicated there is some likelihood that an IV training system may become an integral part of Kodak copiers.

The Kodak development operation uses the Authority authoring system, but uses four programmers to provide that "extra 20 percent" that Kodak feels an authoring system cannot provide. Currently, Kodak is planning a change to the IBM InfoWindow technology, but hasn't decided on an authoring system at this time (October 1987).

Jim Wallbeoff of Pratt & Whitney is using IV for certifying employees and for what he described as a continual process of training and re-training of employees in a high-technology industry. The reality, he said, is that his firm can train as many people on two IV systems as with one stand-up instructor and *that* is the

wave of the future. He indicated that programs such as Statistical Process Control could be developed as "just-in-time" training, making it available to 1,200 employees of two company divisions when needed, without a long process of start-up and shut-down.

Wallbeoff also indicated that P&W is looking seriously at sophisticated graphics for such programs as "Geometric Tolerances" which require demonstration of 3-D concepts and of the way production three-view drawings represent a three-dimensional object.

All three symposium presenters strongly endorsed interactive video as a powerful training method that can save cost and improve effectiveness of training. The three also noted great need for simpler delivery systems, improved development toolware, and more competent

authoring systems, in addition to better management of the development process.

The discussion on marketing generic videodisc products to retail and educational markets featured a panel consisting of Joan Cash of VideoDiscovery of Seattle, Washington, a marketer of generic educational materials, Wendy Rogers of the National Geographic Society, Washington, D.C., and Geoff Tully, of Pioneer. The emphasis was more on the importance of doing all the normal, basic marketing functions rather than on any subject exclusive to interactive video. In short, the presenters made it clear that generic IV can be successfully marketed in the same ways other products are marketed, providing you "do the homework."

Nebraska Interactive Videodisc Awards

The 1987 Nebraska Interactive Videodisc Awards were presented October 6, 1987 at the Nebraska Symposium in Lincoln, Nebraska. The awards were accompanied by nine presentations of Interactive Videodisc Certificates of Merit.

Winners of the Nebraska Interactive Videodisc Awards:

Best Overall Achievement: "Advanced Combat Trauma Life Support," produced by Naval Health Sciences Education and Training Command, Bethesda, MD.

Simulating the experience of Trauma Life Support in the field for military surgeons, emphasis is on following specified procedures for treating wounded soldiers. The simulation is so vivid and convincing that viewers at the Symposium were totally caught up in the situations. Even when reading medical reports shown as computer graphics, the audio commotion of a battlefield surgical hospital continues. The system offers five simulations of increasing complexity; provides evaluation of performance, of tests improperly ordered or which should have been done, and an overall evaluation by the supervising physician.

Best Educational Achievement: "Introduction to Cardiovascular Examination," produced by Mirror Systems, Inc. and the C.V. Mosby Company, Cambridge, MA.

A prototype developed as the first in a series of medical systems for use in medical education. The system features extremely sophisticated computer-generated video graphics which show the precise timing and action of heart valves and muscles. The system permits the user to listen to heart sounds through a simulated stethoscope, and to demonstrate correct placement of the stethoscope on the chest during a typical auscultation. A variety of options permit the user to hear and identify abnormal heart sounds and to take a test on the sounds presented. All sounds are actual, not simulated.

Best Industrial Training Achievement (Tie): "Transistor Amplifiers," produced by NUS Training Corporation, Gaithersburg, MD and "Exploring the IBM InfoWindow System," produced by Fusion Media, Inc., New York, and the IBM Corporation.

The NUS application is a pilot for a series of interactive programs to be marketed by this developer of correspondence training programs. The target audience is schools, colleges, and industrial training programs. Emphasis is on troubleshooting; the program provides the student with a calculator, a volt-ohm meter, and an oscilloscope on the screen at all appropriate times. The student calculates and measures voltages and resistances, and is able to see signals on the oscilloscope by placing leads appropriately on circuit diagrams presented as computer graphics.

The IBM InfoWindow application was developed for use at the introduction of the IBM interactive video equipment last year (1986). This system uses graphics to offer icons and touch targets that enable the user to relate to specific functions. To reduce the likelihood of screen blanking, digitized video is shown as a graphic at the outset of a sequence, which is then folded back to show running video or a still frame from the videodisc.

Best Consumer Achievement: "Play Away, Please," produced by Digital Techniques, Inc., Burlington, MA.

Developed for the United States Golf Association, this program offers visitors to the Golf Museum many options to see classic films of great golfers from many periods of golfing history. One segment allows the user to design golf holes by making tracings on the monitor's touch screen. The user's finger picks up an icon for trees, sand traps, fairway, etc., and "drags" them

Nebraska Interactive Videodisc Awards (con't.)

across the screen as desired. Another segment permits users to display the swings of various all-time great golfers at various speeds to reveal their styles.

Best Data Bank Achievement: "In Touch," produced by Travelers Interactive Video, the Travelers Companies, Hartford, CT.

This kiosk application offers employees of a major insurance company ninety-second movies about company activities and a large number of simple services such as weather reports, stock prices, etc. The real justification lies in applications that relieve the Employee Benefits Department and Payroll from having to answer employee questions. These applications include a tax withholding calculator, a calculator for modelling payroll deductions and simulators for calculating the effect of various employee savings plans. Travelers has fourteen kiosks and experiences a total of 15,000 touches per week from users. Plans are to expand the system to more than forty kiosks, and to provide employees access to their benefits files.

Best Government/Military Training Achievement: "The Authorized Classifier," produced by Allen Communications, Salt Lake City, UT, The Brookhaven National Laboratory, Upton, NY, and the Office of Classification, a division of the U.S. Department of Energy.

Developed for the U.S. Department of Energy, this system is used by people who are presently responsible for classification of documents as Confidential, Secret, etc., and for training new government document classifiers. While large parts of the system could not be shown to this audience, what was shown used simulations and role playing very well. The Department of Energy has ordered another follow-on system, so the assumption is that the system was well received by the client and user population.

Special Recognition Award: Optical Data Corporation, for the Space Disc series, and the company's long-time support of videodiscs in education.

Winners of the Nebraska Interactive Videodisc Merit Awards:

"The Suicidal Adolescent," produced by the National Institute of Mental Health and the National Library of Medicine. This system is intended for use in training physicians to recognize the signs of potential trouble in disturbed young people.

"The Employability Skills Series," produced by the Interactive Systems Group of The Center for Instructional Development and Services, Florida State University. Used in State of Florida Job Service Centers, this videodisc helps clients to evaluate their employability.

"Management Skill Development Series," produced by Wilson Learning, IT Group, uses role playing to train management personnel in people-to-people skills.

"Recruiting Skills," produced by Massachusetts Mutual Life Insurance Company, uses a video camera and VCR to permit users to practice techniques acquired through the courseware.

"Tour Disc, Cruise Disc, et al.," produced by Laser Travel Network, is a financially profitable service that provides two, 12-inch, Level 2 videodiscs per month to more than 300 travel agencies. Videodiscs cover tour and cruise packages as well as travel destinations.

"Interactive Media at the National Scouting Museum," produced by Butler, Raila and Company and Telematic Systems. Interactive materials are used at the Boy Scout Museum, including interactive stories whose outcome is obtained by polling a number of user response units.

Developers of the following Certificate of Merit Awards were not present at the Symposium nor were these systems shown:

"The Bartletts: An Interactive History," produced by Interactive Image Technologies.

"Ford IVLS: Electronic Engine Controls," produced by Creative Universal, Inc.

"Managing for Success," produced by Digital Equipment Corporation, Educational Technologies Group.

What About HyperCards?

Apple Computer, Inc. has said it would include free HyperCard software with all Macintosh computers sold, and provide upgrades for Macintosh computers already in use at forty-nine dollars. What are HyperCards and what do they mean for interactive video?

HyperCard software permits the user to execute a variety of functions quickly and simply by "clicking" the mouse on an icon or other indicator. This action activates software embedded in the HyperCard to call a sub-routine, a file, a program, or other action. "Card Stacks" are collections of HyperCards and can be linked in creative ways.

For interactive video, HyperCards have been provided that serve as drivers for all known interactive videodisc players. Apple said at the Symposium that it will also support graphics overlay over video, a new development. Optical Data Corporation, an exhibitor at the Symposium, showed several HyperCard applications, and The Voyager Company, a mail-order retailer of interactive videodiscs, showed HyperCard applications for The National Gallery Videodisc and others. In the education field, VideoDiscovery was promoting Card Stacks for its products at its booth.

A HyperCard can be used to call up an authoring system, or as a form of authoring system, and Apple representatives said that the company is developing a HyperCard-based authoring system. In Voyager's National Gallery videodisc system, the user selects an icon for Artist, Period, Style, etc., then sees the names of paintings that apply. A given painting can be called to the video screen from the videodisc by clicking on it; additional information can be called up by clicking on the appropriate icon. Various cards can be linked into a "Card Stack" and filed for use as a teaching aid or for later enjoyment. The National Gallery Card Stack is sold for about fifty dollars.

The end result of HyperCard use is to make the interface between the user and the videodisc more transparent and more intuitive in its use.

At the time of the Apple announcement (August, 1987), there were several vendors offering hypertext products similar to HyperCards. One of these, Owl International (14218 NE 21st Street, Bellevue, Washington, 98007 207/747-3203), has announced that it will sell an enhanced version of its "Guide" product, known as "William Tell," which will permit use of HyperCards in IBM PC-compatible machines. The system will require MicroSoft Windows and will presumably also operate on the MicroSoft OS/2 operating system when it becomes available.

OPTICAL STORAGE TECHNOLOGY: A BIBLIOGRAPHY

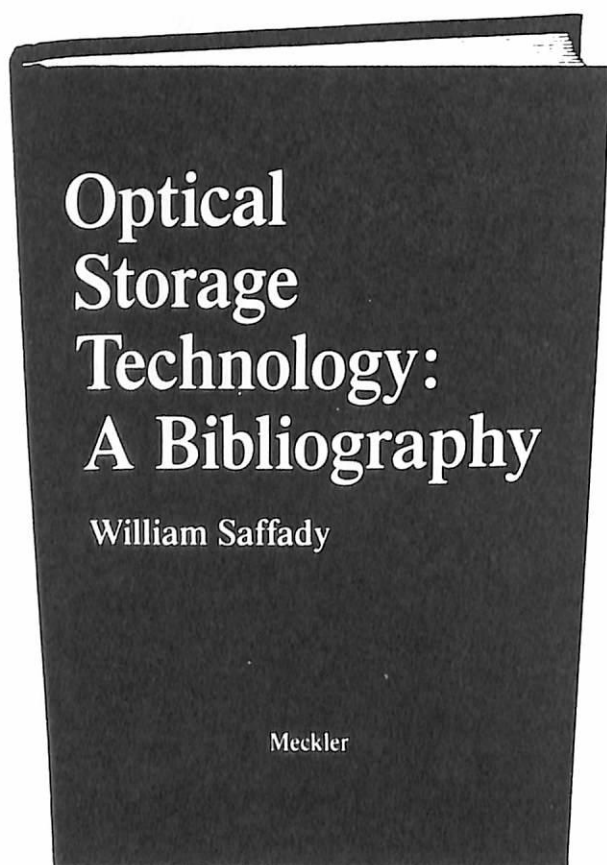
By William Saffady

This bibliography is designed for researchers, information systems specialists, librarians, and others interested in recent developments in information storage and retrieval. *Optical Storage Technology: A Bibliography* provides an extensive compilation of citations to published literature (books, technical reports, articles) dealing with all facets of optical storage technology. The content is sub-divided by media type (video disks, CD-ROM, CD-I, write-once optical disks, erasable optical disks etc.) and within each type, by the type of publication and method of treatment (technology, descriptions, case studies). Saffady emphasizes recent literature, but some older citations are included. News-oriented articles without significant analytical content are not included. This book is also available on a set of 4 disks that conform to Pro-Cite. (The diskettes and instructions are packaged in a sturdy 3-ring binder.)

Book Version: 1988/Feb. 250pp	ISBN 0-88736-231-1	\$45.00
Pro-Cite Diskettes: 1988/Feb.	ISBN 0-88736-283-4	\$65.00

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