NCGA Breaks Records for Conference Attendance

Margaret Neal, Managing Editor

The 25,600 people who attended NCGA's Computer Graphics 87 in Philadelphia on March 23 to 26 broke all records for previous conference-exhibitions held by that organization in the Eastern United States.

More than 200 exhibitors showed over 1500 products, many of them new entries in their field. The conference part of the show featured 129 tutorial and technical sessions with 300 expert speakers in their particular disciplines (see Figure 1).

The highlight of the entire event was the Videogala, at which top prize winners in different categories were feted and had their winning animation strips shown to the thousands gathered for dinner and the awards ceremony (see IEEE CG&A, March 1987). Also honored at the ceremony were James Meadlock, founder and president of Intergraph, who won the annual Executive of the Year Award and Steven P. Jobs—previously of Apple, which he founded, and now of Pixar—who won the annual Technical Excellence award. Peter Preuss, founder and former CEO of ISSCO was presented a one-time Special Recognition Award for his contribution to computer graphics. While at ISSCO, Preuss pioneered the development of computer graphics software for nonprogrammers. He is a founder and former board member of NCGA.

Shootouts

Attendees were treated to a variety of special events, including shootouts over specific product lines—desk-top publishing and PC graphics programs—where vendors outlined the virtues of their product and then took questions from the audiences, who later voted winners of each shootout.

John Squilla, director of end-user computing and future development at Eastman Kodak, moderated a shootout on PC Graphics. There were six participants, and they were given special tasks to show off their products. They all had to use a disk containing Lotus spreadsheet data and graphics. They couldn't change the contents of the disk, but they did have the disks ahead of time so they could study them and plan their presentations. They each had to make a chart from the data, using their product, and then they were called on to make many changes to show how easily their products could effect alterations in a given presentation. These included such changes as adding data, moving text to flush left, annotating bars, and many others. Then each had to make a chart from data in an overhead transparency so the audience could see how easily the task might be accomplished.

While doing all this the presenters could pitch to the audience if they had time. There were also questions asked by members of the 280-strong audience. Squilla picked the most representative ones and faced the presenters with them. When the...
demonstrations were all over, 211 members of the audience cast ballots for the products they favored after seeing all six work. Software Publishing won first place with 89 votes for its Harvard Presentation Graphics 2.0. Mirage 5.0 from Zeno Graphics, last year’s winner, garnered 64 votes.

Another popular shootout was held in desk-top publishing. Here the six presenters were divided, three using IBM PCs and three using Apple Macintoshes. After the large audience was shown the vendors’ wares, the Ventura Publisher from Xerox won for best program run on an IBM PC, and a brand new product, XPress from Quark won for programs on the Mac. Quark also won for best program overall at the shootout. This last product is so new it was due to ship on the very day the show closed, March 26, 1987.

Press invited to breakfast
NCGA has taken to throwing a corporate advisory board breakfast meeting open to the press. During this year’s breakfast meeting Phillip Mittleman, president of NCGA (see Figure 2), welcomed the audience and then introduced Robert Fischer, president and CEO of the CAD/CAM Group of Prime. Fischer addressed the subject “CIM: The Opportunity and the Reality.” Fischer says even the skeptics have now recognized it is a field to get into. Fischer feels the technology is there now or is no more than two years out. But will it all be implemented? No indeed, averred Fischer. Too many look at it as a philosophy, and what’s more, potential users are tired of hearing Silicon Valley and Route 128 tell everyone how easy it is.

This is not a new concept, said Fischer, but when you introduce the human factor it gets harder. The fact that it is DEP people, not executives, who use machines has slowed down progress enormously, he claims. And there is much resistance from humans who don’t want their lives automated because they feel they will lose control.

Fischer feels we need to use CIM intelligently to further, not completely integrate, the factory environment. He sees the gap between engineering and manufacturing as still broad and he says it needs closing. The real question is how do we integrate CIM into manufacturing? Vendors will have to enter a partnership with industry, according to Fischer. Technology is not the only system available. Logical innovation is necessary. Fischer would call for a new definition of CIM: intelligent integration of more and more functions for productivity.

Carl Machover (see Figure 3) followed Fischer and informed the audience that electronic photography is coming along. It is not quite good enough yet, but color desk top publishing, for instance, is beginning to come out now. Two years from now, said Machover, black and white desk-top printing will be as real as other fields are now.

Machover looks for knowledge-based systems, and he predicts that a really big boom will take place in the storage of data on compact disks. You may see users write once and read many times.

Machover said the industry is falling flat in MRP. Computer graphicists don’t even know what material replacement planning is.

New technologies on their way into the field, according to Machover, include Color LCD overhead-projection and application-specific workstations. There are also break-throughs coming in 3D—Tektronix has it with Polaroid glasses now.

In a warning, Machover cautioned that one shouldn’t just worry about GKS. Look out for image transfer standards, and there are many standards based on vector. He says to look for improvements in color hard copy, which will be needed for process control. Desk-top publishing will take off as the pro’s start using...
it. There will also be ultra high-performance workstations, twinned with ultra low-cost workstations. Machover predicts you’ll be able to use something like the Amiga, a throwaway will do it.

Image processing is another coming field, just beginning to be used in such applications as medical imaging. Much of it will be image based rather than vector based.

Service bureaus have a really bad record, says Machover. There is a vital need for companies that can put together packages, and these have to be local. You can’t do it nationally. We need an engineering interface with solid modelers. It’s a fact of life that we don’t know how to use them. Real-time, realistic images offer real opportunities, Machover advised.

Machover was followed by Ken D. Anderson of the Anderson Report, who predicted that information handlers will constitute two-thirds of employees by 1990. Machine intelligence, he believes, will start replacing middle management, and cheap sets will replace service. Those who keep up with technology, said Anderson, face a lifelong process of reeducation. The losers will be those who fail to keep up with technology—this is the person whose job is being computerized.

Standards—Friend of Foe?

One stirring session at Computer Graphics 87 was a debate on the use of standards. This wasn’t a classic debate with people taking polar positions. There was wide ground for agreement about the goodness of standards among the participants, but there were some basic philosophical differences about how devotedly vendors need to base their products on standards.

Lisle Anderson, director of management at EDS (and next year’s conference chair) said, “New things may come out and look wonderful, but without standards they can’t meet the rapid changes taking place in the market.”

Harold Blair, president of Nova Graphics International, representing the vendor viewpoint, added that “Standards don’t tell you how to do it or what to do. They are only an interface, an implementer. You must have a flexible design within a standard so you can take advantage of new technology.”

Barry Shepherd, the CAB standards program chair, remarked that in a rapidly changing environment, things can be very unstable, but if you are built on standards, you can still be safe.

Jim Warner, CEO of Precision Visuals (see Figure 4), advocates vendors using standards, but within some limits. He told the audience that because of standards’ slow change, many vendors now are voting to roll the dice a little to gain speed, etc. He said “GKS is good enough for pedestrian applications, but you can’t do high performance with them. It’s like driving a Jaguar in second gear.”

Weldon Adair, a mechanical engineer with Shell Oil, represented the user viewpoint. He said, “The leading edge has left a lot of people behind. They don’t need or want all that function.” Static environments, like materials control, he explained, don’t need even the power of a whole PC XT. “Therefore standards are important. Jim says you’re playing to the lowest common denominator. Sure! That’s what we need,” said Adair. Most users haven’t caught up with the leading edge, according to Adair. “Vendors keep pushing technology that users don’t even need.”

Warner countered that “Standards are a good guide, but they are not a gospel.”

Harold Blair gave the audience a timetable for watching standards use. He said it takes three years from the adoption of a standard to the decision to use it: one to one and one-half years to invent new software or hardware; at least one year to develop marketing, and at least one year to actually market it. “As GKS is only three years old,” he said, “we are only just arriving now.”

Jim Warner gave the last word: “Where standards can apply, you should use them. Where they do not, you’ll have to go it on your own. Don’t deviate for the sake of deviating, but when it’s not there, do what you want to make your best product.”

Erratum

The “Displays on Display,” section of the March 1987 issue of IEEE CG&A, featuring the winners of the NCGA Videogala 87 (p.9), incorrectly credited Ohio University for the first prize entry in the music visualization category.

The Ohio State University deserves this credit, we’ve been informed, and we apologize for the misunderstanding.

The caption for the image should have read: “Vision Obious, produced by Ruedy Leeman at the Ohio State University Computer Research Group, won first prize in Music Visualization.”

UCLA film archive receives grant

The John D. and Catherine T. MacArthur Foundation has awarded a $30,000 grant to the UCLA Film and Television Archive to support research and development of interactive laser disc technologies for the advancement of visual literacy.

The grant, part of $820,000 that is earmarked for not-for-profit media arts centers, reflects the organization’s continuing interest in the field of mass communications, according to MacArthur Foundation President John E. Corbally.

As a result of the grant, a newly established program called the Interactive Technologies Analysis Project, under the direction of Archive Director Robert Rosen and UCLA film Professor Steve Mamber, will use laser disc players interfaced with personal computers to produce test discs and software in a variety of areas. The goal of the project is to develop applications of new technologies in teaching, research, popular education, and improved access to archival materials.

The UCLA Film and Television Archive holds one of the nation’s largest collections of original film and broadcasting material, second only to the Library of Congress.
Videotex sales will reach $1 billion by 1990, study predicts

A study conducted by Frost & Sullivan entitled "In-Store/Public Access Videotex in the US," predicts that despite recent indications to the contrary, videotex technology will have 10 times as many installations as are available today, and generate $1 billion a year in revenues by the year 1990.

The 293-page analysis of the interactive terminals field reports that the 44,000 to 50,000 terminals in place in 1986 will roughly triple by 1988 to reach approximately 435,000 units by 1990.

The figures show that about 60 percent of these installations will be public access, and 40 percent in-store installations. In revenues, however, in-store units will account for more than 80 percent of the market, says Frost & Sullivan.

"The seeming incongruity between installations and revenues exists because the public access figures are dominated by a surge in automatic hotel/motel checkout systems. These are placed in each room and consist of a relatively inexpensive adjunct to an existing installation for pay-for-view TV," the study says.

At present, public-access videotex is used primarily for directories or advertising, whereas in-store terminals can be informational, demonstrational or transactional in function. Grocery and drug stores currently account for almost half of the in-store units; but this is expected to change as banks, car dealers, and hotel/motel facilities expand their usage.

Case studies, standalone versus host-driven systems, and future technology are also covered in this report, which sells for $1875.

For more information, contact Frost & Sullivan, 106 Fulton St., New York, NY 10038; (212) 233-1080. In Europe, contact Frost & Sullivan, Ltd., Sullivan House, 4 Grosvenor Gardens, London SW1W ODH; 01-730-3438.

Prize-winning graphics on display in Boston

The winning entries from Raster Technologies' 1986 Computer Graphics Images contest are on display at the Computer Museum in Boston, Massachusetts, through the end of the year.

The exhibition includes: Grand Prize, "Two Squares at Joe's" by Jane Tressel; First Prize, "Porcelain Doll" by Colin Hui, and "Mobius Gears" by Cranston Csuri Productions; Second Prize, "Color Photography" by David Laidlaw and Barbara Meier, and "Spheraica 2" by Mark Lee; Third Prize, "Still Life With Cat" by Mykyung Kim, and "Potential of Mandelbrot Set" by MAPART; and Honorable Mentions, "Haute Air" by David Kurlander, "Aquarium" by Marie-Andree Allaire, and "Goodnight Kiss" by Lance Williams.

The contest is held annually to challenge computer graphics users to create outstanding computer graphics images. It is cosponsored this year by Raster Technologies, AT&T, and Island Graphics.

Entry forms for the 1987 contest may be obtained by writing Raster Tech-Truevision Image Contest, Two Robbins Rd., Westford, MA 01886; (617) 692-7900.

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The Swiss Federal Institute of Technology
Lausanne, Switzerland

invites applications for three newly created

PROFESSORSHIPS IN
COMPUTER SCIENCE

Applicants with backgrounds in Computer Architecture, Databases, Distributed and Parallel Systems, Graphics and Peripherals will be considered seriously.

Applicants are expected to have a strong commitment to both teaching and research; furthermore, they should have an extensive experience in designing and using large scale hardware or software systems.

Application deadline: September 30th, 1987

Beginning of activity: Open

Further information at the following address:

Secretariat general de l'Ecole polytechnique
federale de Lausanne, CE-Ecublens,
1015 Lausanne, Suisse
New study explores opportunities for IBM-PC compatibles in desktop publishing

DOS-based desktop publishing systems must be clearly differentiated from the products and strategies presently being used by Apple Macintosh if they are to compete successfully, says a new report published jointly by Summit Strategies, Boston, and InterConsult, Inc., of Cambridge, Massachusetts.

"DOS & DTP: Bringing the Desktop Publishing Revolution to the IBM-PC Compatible Universe," focuses on perceived critical success factors that could determine the market share winners in the race to bring DTP capabilities into the complex DOS-PC markets.

According to Summit President Tom Kuchary, there are five critical differences between the DOS and Macintosh markets that must be understood by vendors:

- **Buyer Profile**: Mac buyers often graphically sophisticated but computer neophytes.
- **Retrofitting**: Many initial DOS DTP configurations will be sold as enhancements to existing PCs, which could reduce revenues and make integration and compatibility tougher.
- **Reduced Investment**: IBM-PC owners are likely to spend less on profitable aftermarket enhancements.
- **Dealer margins**: Apple’s attractive margins and simplified support requirements may cause retailers to push Mac-based DTP solutions over DOS.
- **Cost to compete**: The DOS market is populated by tough competitors with big budgets, making it harder for innovators to succeed. The authors provide step-by-step guidelines for "profitable entry into this lucrative market." Other key issues addressed in the study include: tapping the corporate market, the relationship between word processing and desktop publishing, finding the right niches, and "using CAD/CAM synergy." An examination of current versus future channels of distribution, and anticipated revenue breakdowns are also featured.


Articles on "Modeling and Display of Empirical Data" sought for IEEE CG&A special issue

An upcoming special issue of IEEE CG&A devoted to the topic, "Modeling and Display of Empirical Data," invites submissions of articles, according to Guest Editor Ingrid Carlbom.

While the majority of work that has been done in geometric modeling has been performed in the domain of CAD/CAM, these techniques also are used for the processing of empirical data in such areas as vision and robotics, medical imaging, and seismic and reservoir modeling. Modeling manmade objects and modeling empirical data share certain requirements, but have some important differences. With this in mind, papers that address the particular problems of processing and displaying three and higher dimensional empirical data are being sought for the special focus.

Appropriate topics include (but are not limited to): input techniques, representational techniques for multivariate data, modeling of highly irregular objects, algorithms for display and analysis of multivariate data, special purpose hardware, and applications systems.

Six copies of manuscripts must be submitted by December 1, 1987, to: Ingrid Carlbom, 73 Reservoir St., Bethel, CT 06801; or Michael Potmesil, AT&T Bell Laboratories, Rm. 4F-625, Holmdel, NJ 07733.

Prime Computer offers grants to educators

Prime Computer has introduced a program that gives grants of $21,000 to $87,000 to educational institutions on computer-aided-design and -manufacturing (CAD/CAM) software.

The "Prime CAD/CAM Technology Program" applies to Prime CAD/CAM software for all of the company’s office-installed and computer-room superminicomputers, and enhances Prime’s existing educational grant allowance program for hardware.

Based on grant forecasts, the program offers non-profit colleges, universities, and vocational schools an estimated $5 million worth of allowances on computer teaching and research tools.

Steven M. Fisch, Prime’s CAD/CAM vice president/marketing, elaborated, "This program is the first comprehensive offering of its kind from a vendor of both CAD/CAM hardware and software. It allows schools to inexpensively provide students with the computer skills they’ll need to compete in the evolving engineering, industrial control, and architectural job markets."

Fisch also commented that institutions can use CAD/CAM equipment to retrain local communities’ workforce for computer-related employment.

The new Prime grant program can be particularly valuable to non-profit schools and universities because it will enable them to seek matching grants from foundations. By combining grants, Prime predicts that schools can recover the entire cost of a CAD/CAM system.

Under the new program, CAD/CAM software is available in four package configurations: mechanical starter, mechanical design, computer-integrated-manufacturing (CIM), and architectural, engineering, and construction (AEC) packages.

Additional information is available from Prime Computer, Inc., Prime Park, Natick, MA 01760; (800) 343-2540 (national) or (800) 322-2450 (in MA).