

INTRODUCTION TO VISUAL PROGRAMMING ENVIRONMENTS

COURSE # 17

CHAIR:

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SPEAKERS:

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About the speakers

- *Ephraim P. Glinert* is with the Dept. of Computer Science at Rensselaer Polytechnic Institute. His research interests include multiparadigm and graphical programming environments, nontextual human-computer interfaces, computers and the physically handicapped, and CAD environments for VLSI design. He holds the PhD from the University of Washington, where he was an IBM graduate fellow for two years. Together with his graduate students, he has designed and implemented numerous visual environments, including PICT (which formed the topic of his dissertation), SunPict, PC-TILES, C², MAGNEX and the OOCAD user interface. He has lectured widely on his research, including an intensive graduate-level course in the Dept. of Computer Engineering at National Chiao Tung University, Taiwan in the summer of 1987. He is the author of the chapter "Nontextual Programming Environments" in the volume *Principles of Visual Programming Systems* edited by S.-K. Chang, which will be published later this year by Prentice Hall. He is also currently editing a tutorial on visual computing environments for the IEEE Computer Society Press. In 1987, he was elected Vice Chair of the ACM Special Interest Group for Computers and the Physically Handicapped (SIGCAPH).
- *Marc H. Brown* is a member of the research staff at Digital Equipment Corporation's Systems Research Center in Palo Alto, CA. He received the PhD in Computer Science from Brown University in 1987, working with Andy van Dam and Robert Sedgewick on the "Electronic Classroom" project. Brown was primarily responsible for the BALSA system, the course-ware environment used in the classroom for interactive animation of computer programs. His subsequent work on BALSA-II was the basis for his dissertation *Algorithm Animation*, which was selected as a 1987 ACM Distinguished Dissertation. Brown's current research interests focus on (parallel) algorithm animation, program visualization, user interfaces, graphics, workstation environments, and computer science education.
- *Brad A. Myers* is a research computer scientist at Carnegie Mellon University. He received his PhD in computer science from the University of Toronto, and the MS and BSc from MIT, during which time he was a research intern at Xerox PARC. From 1980 through 1983 he worked at PERQ Systems Corp., where he designed and implemented the SAPPHIRE window manager. Myers' PhD research led to the development of the PERIDOT system, which uses visual programming and programming by example in novel ways to help users design user interfaces. The INCENSE system built at Xerox PARC for his MSc thesis was one of the first program visualization systems. His current research interests include user interface management systems (UIMSs), user interfaces, programming by example, visual programming, interaction techniques, window management, programming environments, debugging, and graphics.

Course outline and timetable

SESSION I:

1. EPG (15 min): Welcome and course overview.
2. BAM (30 min): Definitions and taxonomies.
3. EPG (45 min): Graphical representations
for programs.

BREAK

4. MHB (60 min): Data visualization.
5. BAM (30 min): Data and code visualization
in MacGNOME.

Course outline and timetable

SESSION II:

6. MHB (60 min): Algorithm animation - issues and systems.

7. EPG (30 min): Exploring the general purpose visual alternative.

BREAK

8. BAM (30 min): Visual programming and programming by example in PERIDOT.

9. EPG (30 min): Key issues in icon design.

10. BAM (30 min): Outstanding issues in visual programming.