



SIGGRAPH 1992

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On Computer Graphics and
Interactive Techniques*

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COURSE NOTES

5

**GRAPHIC DESIGN FOR
USER INTERFACES**

Organizer

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Graphic Design for Graphical User Interfaces: Tutorial Notes

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Abstract for ACM/SIGGRAPH Tutorial

The tutorial will introduce terminology, principles, guidelines, and heuristics for using information-oriented, systematic graphic design in graphical user interfaces (GUI's), especially for the design of icons, dialogue boxes and control panels, metaphors, mental models, and other navigational devices that often are not prescribed by window management systems.

Participants will be exposed to a wide body of existing knowledge and practical advice that are immediately useful, as well as potential research topics in user interface design. They will observe and analyze techniques for making displays more intelligible, functional, aesthetic, and marketable.

Extensively illustrated lectures and demo excerpts will cover perceptual, conceptual, and communication issues in typography, symbol systems, color, spatial composition, animation, and sequencing topics, including the design of the following:

Metaphors	Charts and diagrams
Mental models and navigation	Icons and cursors
Look and feel	Windows and menus
Proportion and composition: grids	Dialogue boxes and control panels
Color selection	Visual semiotics conventions
Tables and forms	Style guides

Practical design problems with critical review and commentary by the instructors will give participants hands-on experience in designing components of graphical user interfaces, such as icons, dialogue boxes, and metaphors.

Instructor Biographies

Aaron Marcus

Aaron Marcus is an internationally recognized authority on the design of user interfaces, electronic documents and presentations, and knowledge visualization, including the design of charts, diagrams, forms, icons, and screens. He has presented tutorials at SIGGRAPH, SIGCHI, NCGA, and Nicograph (Japan) conferences in addition to tutorials at companies and organizations in the USA, Australia, Canada, Europe, Israel, Singapore, and Japan. In 1992, Mr Marcus received the National Computer Graphics Annual Industry Achievement Award for contributions to computer graphics.

He and his staff at Aaron Marcus and Associates (AM+A), which he founded in 1982, have designed and reviewed user interfaces, multimedia presentations, templates, and documentation for Apple, Borland, Eastman Kodak, DEC, DuPont, General Motors, Hewlett-Packard, IBM, MCC, McDonnell-Douglas, Microsoft, Motorola, NCR, Pacific Bell, Prime-Computervision, Reuters, Scitex, 3M, Wavefront, and many other firms.

Mr. Marcus has written numerous articles on graphic design for computer graphics for technical and professional journals. He authored the essay "Color: A Tool for Computer Graphics Communication" in *The Computer Image*, co-authored *Human Factors and Typography for More Readable Programs*, and authored *Graphic Design for Electronic Documents and User Interfaces*, all published by Addison-Wesley. Mr. Marcus received a B.A. in Physics from Princeton University (1965) and a B.F.A. and M.F.A. in Graphic Design from Yale University Art School (1968). He has taught computer graphics since 1970.

Greg Galle

Mr. Galle is a graduate of the Communication Design Program of the Otis/Parsons Art School, Los Angeles. He worked for several Silicon Valley corporate design firms before becoming Project Manager and Art Director at The Understanding Business, San Francisco, where he was responsible for the design of Pacific Bell's *Smart Yellow Pages* project. Since joining Aaron Marcus and Associates in 1989, he supervises all projects and works as a designer on many of them.

Grant Letz

Mr. Letz received a B.F.A. in Graphic Design from the University of Washington/Seattle. After working as a graphic designer in the publications department of the New Mexico State University, he joined the Understanding Business, San Francisco, where he worked on Pacific Bell's *Smart Yellow Pages* project. He joined Aaron Marcus and Associates in 1989 and has worked on most of the firm's user interface design projects since that time. His special area of expertise is in multimedia presentations.

Agenda for the ACM/SIGGRAPH Tutorial

Time	Topic	Speaker
<i>Morning Session</i>		
8:30-9:30	Visual Communication Principles	Marcus
9:30-10:00	Grids	Marcus, Galle, Letz
10:00-10:15	Break	
10:15-11:00	Semiotics, Icon Design	Marcus, Galle, Letz
11:15-12:00	Icon Design Project	Marcus, Galle, Letz
<i>Afternoon Session</i>		
1:30-2:30	Graphic Design of Dialogue	Marcus, Galle, Letz
2:30-3:15	Dialogue Design Project	Marcus, Galle, Letz
3:15-3:30	Break	
3:30-4:15	Future of GUI's, Metaphors	Marcus
4:15-5:00	Metaphor Design Project	Marcus, Galle, Letz

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