

C O U R S E N O T E S

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**Mastering Visible
Wisdom: Graphic
Design for Usable
GUIs of Productivity
Tools, Multimedia,
and the Web**

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**Lecture Notes For Tutorial:
Graphic Design for
Usable User Interfaces**

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Tutorial Abstract

The tutorial will introduce terminology principles guidelines and heuristics for using information oriented systematic graphic design in graphical user interfaces (GUIs) 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, 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/control panels
Color selection	Visual semiotics conventions
Tables and forms	Style guides

Practical pen and paper design problems with critical review and commentary by the instructor will give participants experience in designing components of graphical user interfaces such icons dialogue boxes, and metaphors

Instructor Biographies

**Aaron Marcus,
President**

Aaron Marcus received a BA in Physics from Princeton University (1965) and a BFA and MFA in Graphic Design from Yale University Art School (1968). He is an internationally recognized authority on the design of user interfaces, interactive multimedia, and printing/publishing documents, including charts, forms, icons, and screens. Mr. Marcus has given tutorials at SIGGRAPH, NCGA, and SIGCHI conferences in addition to seminars at businesses and academic institutions in Australia, Canada, Finland, Israel, Singapore, South Korea, the USA, and Japan. He co-authored *Human Factors and Typography for More Readable Programs* (1990), *The Computer Image* (1982), and authored *Graphic Design for Electronic Documents and User Interfaces* (1992), all published by Addison-Wesley.

Mr. Marcus was the world's first professional graphic designer to be involved full time in computer graphics (1967), the first graphic designer to program a desktop publishing system (for the AT&T Picturephone, 1969-71), the first graphic designer to design virtual realities (1971-73), the first graphic designer to establish an independent computer-based graphic design firm for the purpose of designing user interfaces, electronic documents, and multimedia (1982), the only graphic designer to be co-awarded a research grant (\$500,000 for three years) by the US Defense Department's Advanced Research Projects Agency (DARPA) to develop new document design standards for programming languages (1982-85), and the only graphic designer to receive the National Computer Graphics Association (NCGA/USA) Industry Achievement Award for contributions to computer graphics (1992).

**John Armitage,
Designer/Analyst**

Mr. Armitage received his BFA in Graphic Design from Miami University in 1985, and his MFA in Graphic Design from Rhode Island School of Design (RISD) in 1989. His professional design experience includes information graphics, signage, environments, publications, retail marketing, corporate identity, packaging, advertising, and educational multimedia. He has held design positions with The Procter & Gamble Company, Total Design BV in The Netherlands, The Limited, and Times Mirror Multimedia.

Since joining AM+A, Mr. Armitage has directed cross-platform, multi-cultural software application design projects for SABRE Travel Information Network, Justsystem, a major Japanese business productivity software company, and The Vantive Corporation, a leading customer asset management software firm. Also for SABRE, he conceived, wrote, and directed the development of Wayfinder, an interactive training tool/game for teaching travel agents how to use graphical user interfaces. He also provided image and information organization consulting for SABRE's consumer travel booking Website, Travelocity.com. Mr. Armitage has given user interface design presentations for SIGGRAPH 96, International Interactive Communications Society (IICS), and Web-97.

**Volker Frank,
Designer/Analyst**

Mr. Frank received his MA in Design in 1994 from the University of Cincinnati. Earlier, he studied visual communication in Mainz, Germany, where he also worked as a free-lance magazine designer and as a design consultant for DTV, a major German publishing house.

At AM+A, Mr. Frank has worked extensively on conceptualizing, designing, and managing the production of cross-platform computer-based training (CBT), CD-ROMs, and software-integrated online help for corporate training.

and the consumer market. He worked on four projects for Oracle Corporation and currently is working on the development of three suites of computer based training (CBT) and educational CD ROMs specializing in technical subjects for Cogito Learning Media. Among other AM+A projects, Mr. Frank has consulted on the user interface design of a client/server productivity tool, a medical industry client/server productivity software product for Kaiser Permanente, customer asset management software for The Vantive Corporation, and a children's educational game for The Learning Company.

**Andrew Thompson,
Designer/Analyst**

Mr. Thompson received his MFA in Graphic Design from the Savannah College of Art and Design in Savannah, Georgia, in 1994, where his thesis involved a self-directed study of user-centered information design. Mr. Thompson's professional experience includes corporate and publication design and the development of award-winning World Wide Web sites noted for their clarity and usability.

At AM+A, Mr. Thompson worked on user interface design consulting for the Web for Fujitsu Software Corporation and Zip2. Mr. Thompson currently is working on user interface design projects for SABRE, ConsenSys Software, and The Vantive Corporation. He also is managing the re-design and maintenance of AM+A's Website and recently co-presented a tutorial on user interface design for the Web at the Web 97 conference in San Francisco.

**Pamela Tien,
Designer/Analyst**

Ms. Tien received her BFA in Graphic Design from the Rhode Island School of Design. Ms. Tien has won awards for writing and design, including the Honors Design Scholarship from the Women's Advertising Club of Rhode Island.

At AM+A, Ms. Tien has worked as a designer, writer, production artist, and project manager on several projects. She worked on the development of multi-cultural user interfaces of productivity tools for American Airlines/SABRE and has served as a user interface design consultant for educational software development firms. Recently, she worked on developing a computer-based training (CBT) CD ROM for Oracle Corporation and on user interface design consulting for the Web for Fujitsu Software Corporation. Currently, Ms. Tien is working on the design and production of two cross-platform CBT CD ROMs on technical subjects for Cogito Learning Media and on the re-design and maintenance of AM+A's Website.

Agenda for the Tutorial

Tutorial

5 August 1997

Time	Topic
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Morning Session

8 30 9 30	Lecture 1 Principles of Effective Visual Communication
9 30 10 15	Lecture 2 Grid Systems in GUI Design
10 15 10 30	Break
10 30 11 15	Lecture 3 Icon Design Semiotics
11 15 12 00	Project 1 Icon Design
12 00 1 30	Lunch

Afternoon Session

1 30 2 00	Lecture 4 Dialogue Design
2 00 2 45	Project 2 Dialogue Design
2 45 3 00	Break
3 00 3 45	Lecture 5 UI Design for Multimedia and Services
3 45-4 15	Lecture 6 Metaphor Design
4 15 5 00	Project 3 Metaphor Design

Lecture Materials

The following pages present materials for the lectures of the tutorial. Supplementary information may be found in the Appendices of the tutorial notes and in the accompanying text to the tutorial *Graphic Design for Electronic Documents and User Interfaces*.