

USABILITY TESTING AND DESIGN GUIDELINES FOR GRAPHICAL USER INTERFACES

COURSE # 15

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CASE STUDY - UNIVERSITY OF WASHINGTON

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COURSE DESCRIPTION



BACKGROUND



Ease-of-use has become of primary importance in software product development. Users and purchasers of computer systems are concerned about reducing training and support costs. Well-designed interfaces can substantially reduce those costs. They also allow users to perform tasks more easily, reducing the number of user complaints and customer support problems.

Graphical user interfaces have the potential to supply users with a more direct, intuitive means to interact with software. However, simply providing users with pull down menus, icons and a mouse is not synonymous with an easy-to-use system. Users may not understand menu labels; may not easily identify icons and may not remember mouse button functionality. Although an interesting graphic interface may promote ease-of-use, it is not a sufficient condition for it.

Some studies (e.g. Bailey, Knox and Lynch, 1988; Davies, Bury and Darnell, 1985) indicated that an iconic or windowed user interface enhanced some measures of user performance over a more traditional interface; however, others did not (Dumais and Jones, 1985, Whiteside, Jones, Levy and Wixon, 1985). The differences in performance lie with high-level user interface design considerations that need to be addressed long before menu labels, icons and mouse buttons are specified.

This course will review the published research, guidelines, and case studies on ease-of-use of graphical user interfaces. Introductory concepts include defining ease-of-use, setting usability goals and the costs of poor interface design. Graphical user interface components will include windows, icons, menus, dialogue boxes and input devices such as mice. In addition, techniques for collecting user feedback and usability data will be discussed. Techniques will include rapid prototyping, behavioral benchmarking and field observations. Guidelines will be presented within the context of common, widely-used applications including office automation. Class exercises on user interface design apply the guidelines discussed in the course.



OBJECTIVES



After completing this course, participants will be able to:

- o Objectively define ease-of-use and set behavioral criteria for usability
- o Identify and correct common user interface flaws early in the design process
- o Cost justify usability testing in the product development lifecycle
- o Understand how usability testing can lead to the design of better icons, menus, dialogue boxes and window functionality
- o Evaluate the usability of graphical user interfaces
- o Be able to plan, manage and monitor processes to insure that user feedback reaches product development teams



LEVEL



BEGINNING

This course is intended for those who are unfamiliar with the published research and guidelines on the usability of graphical user interfaces. This course does assume that attendees have experience with graphical user interfaces for several applications. Programming knowledge is not required.



FORMAT



The format consists of lectures combined with videotapes, demonstrations and class exercises in user interface design. Videotaped segments depict illustrative examples of course concepts and methodologies. Class exercises are designed to give participants experience in designing and evaluating computer-human interfaces.



INTENDED AUDIENCE



Software development managers and engineers, technical writers, instructional technologists, junior level human factors practitioners, marketing professionals, graphic designers, quality assurance and customer support engineers.



THE COURSE CHAIR



Arlene F. Aucella, Ph.D. is a principal and owner of **AFA Design Consultants** based in Hamilton, Mass. With over fifteen years experience in her field, she has helped design user interfaces for a wide range of applications including office automation, graphics, communications network management and command and control systems. She has also done extensive work preparing user interface guidelines for screen-based and voice-based systems. She currently serves on an ISO committee to review standards for user interfaces. Dr. Aucella is a frequent lecturer at universities, conferences and seminars and consults to both large and small companies.

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