

# The Elements of User Interface Design

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## Reader's Roadmap

### Part 1: Foundations of User Interface Design

#### Chapter 1: Designing Quality Software User Interfaces

This chapter sets the tone for readers of this book. It answers the questions, "What is quality design?" and "What are the criteria for effective interface design?"

#### Chapter 2: What Is a User Interface?

User experiences and expectations are the foundation on which users relate to the rest of the world. This chapter provides some real-world examples and defines software user interfaces.

#### Chapter 3: User Interface Models

This chapter defines the three models of interface design: users, designers, and developers. Interface metaphors are defined and examples are discussed.

#### Chapter 4: The Psychology of Humans and Computers

User interface design begins with the study of human cognition and perception. An information-processing model of human memory is discussed, with implications for software design. Human and computer strengths and weaknesses are described.

#### Chapter 5: The Golden Rules of User Interface Design

This chapter details the "stone tablets" of user interface design. Regardless of the computing environment, basic user interface design principles should be followed to design user- and task-oriented software interfaces.

#### Chapter 6: Computer Standards and User Interface Guidelines

Industry and corporate standards and guidelines serve to enable designers and developers to build usable interfaces. This chapter describes what guidelines are, where to find them, why one should follow them, and how to produce corporate style guides.

#### Chapter 7: Software Usability Testing

Usability should be designed into a software product, but how do you know you have achieved usability goals? Usability and usability testing are defined in this chapter. Usability goals and objectives are described and examples are given. Test validity and reliability are defined and compared. Several types of usability tests are discussed and "lessons learned" are offered. A usability test report card is offered to help develop usability test plans and procedures.

## **Chapter 8: User Interface Evolution: Command-Lines and Menus**

The evolution of user interfaces is documented. Definitions, examples, and discussions are presented for command-line user interfaces and menu interfaces. Each interface style is analyzed and summarized with respect to the user's model, user's memory, semantics, and user interaction.

## **Chapter 9: User Interface Evolution: Graphical User Interfaces**

Graphical user interfaces are discussed. Definitions, examples, and discussions are presented from GUI operating systems and programs. GUIs are analyzed and summarized with respect to the user interface architecture, user's model, user's memory, semantics, and user interaction.

## **Part 2: Object-Oriented User Interfaces**

### **Chapter 10: Object-Oriented User Interfaces: The New World**

Object-oriented user interfaces are examined. Definitions, examples, and discussions of interface objects, views, and core skills users need for OOUIs are presented. OOUi operating systems and programs are showcased. The user interface architecture underlying OOUIs is detailed.

### **Chapter 11: Object-Oriented User Interfaces: Meeting User Needs**

This chapter continues the discussion of object-oriented user interfaces. OOUIs and user models are examined. How do you migrate users from GUIs to OOUIs? Finally, OOUIs and object-oriented programming (OOP) are compared and contrasted.

## **Part 3: The User Interface Design Process**

### **Chapter 12: An Iterative User Interface Design Process**

This chapter covers a four-phase iterative user interface design process from start to finish. The phases are: analyze, design, construct, and validate. The main focus is on the design phase. A detailed case study with examples are offered for the reader. A design team approach is recommended. This process can be used for both GUI design and object-oriented interface design.

## **Part 4: Advanced User Interface Techniques and Technologies**

### **Chapter 13: The Interface Designer's Toolkit**

This chapter addresses the interface designer's toolkit containing numerous skills. Communicating with graphic excellence and integrity is addressed. Using color, audio, and animation are covered. You'll learn why terminology and international design are important. Key interface design issues are discussed, along with the top 10 usability problems with GUIs and OUIs.

### **Chapter 14: Help, Advisors, Wizards, and Multimedia**

Help and training are necessary components of successful software implementation. Topics covered include: Just-In-Time training, how to train for the "paradigm shift," and what is Electronic Performance Support (EPS). Advisors and wizards are defined and examples are provided. Multimedia is defined and it is shown how multimedia can be used to enhance information presentation and user interaction.

### **Chapter 15: Social User Interfaces and Intelligent Agents**

Are computers intelligent? Are agents and social user interfaces here to stay? This chapter starts with speech technology and goes on to define and show examples of agents and social user interfaces. Internet agents are also discussed.

### **Chapter 16: The New World of PC-Internet User Interfaces**

The new world of the Internet and World Wide Web is addressed from the user interface viewpoint. Web design brings a new computing metaphor to the forefront. The new areas of ethics, morals, and addiction on the Internet are discussed. Future software products will combine PC-style interfaces with Web-browser interfaces. Web interface design skills are detailed. The key elements of Web interface design are covered and examples are discussed. You are provided with Web design guidelines and shown where to find design guidance on the Web. Usability on the Web is also discussed.

The book finishes by discussing the latest research and design in the world of newly evolving software and interfaces.

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