
Contents

Series Foreword <i>by Gabriel Salvendy</i>	ix
Preface	xi
List of Acronyms	xiii
1 An Overview of System Development	1
Developmental Elements	3
The Remainder of the Book	7
Concepts of the System Development Process	8
System Characteristics and the Design Process	16
2 The Design Process	24
Theories of Design	26
Design as Information Processing	37
3 Design Methods	50
Criteria for Selecting a Design Method	53
Logic, Training, and Experience: Psychological Research Methods	54
Function Analysis	55
Task Description and Analysis	65

Design Evaluation Tools: Checklists and Simulation	71
Prototyping	80
Cognitive Design Techniques: Cognitive Task Analysis and Ecological Interface Design	81
4 Design Practice	87
The Survey	89
Results	93
Empirical Studies of Design Activities	109
5 Information Resources	122
Theoretical Considerations	129
Research on Design Guidelines	136
Empirical Studies of HF Research	140
Standards	149
6 Software Design	154
The Software Design Process	155
Cognitive and Mental Models	180
Design Guidelines	186
Display Design Issues	188
7 The User	194
What Do We Want to Know About the User?	197
The User and the Cost-Benefit Ratio	199
Designing for the General User	201
Usability Testing	205
Design for the Elderly	208
Design for the Disabled	214
Design for Children	220
Design for the Handicapped	220
8 A Behavioral Theory of System Design	222
References	227
Author Index	237
Subject Index	243