Table of Contents

	Acknowledgments xiii
Chapter 1	Executive Summary 1
	1.1 Cost Savings 2
	1.2 Usability Now! 8
	1.3 Usability Slogans 10
	1.4 Discount Usability Engineering 17
	1.5 Recipe For Action 21
Chapter 2	What Is Usability? 23
	2.1 Usability and Other Considerations 2
	2.2 Definition of Usability 26
	2.3 Example: Measuring the Usability of Icons 37
	2.4 Usability Trade-Offs 41
	2.5 Categories of Users and
	Individual User Differences 43

Audience ix

Teaching Usability Engineering xi

Preface ix

v

	_	
Chapter 3		rations of User Interfaces 49
	3.1	Batch Systems 51
	3.2	
	3.3	
	3.4	Graphical User Interfaces 57
	3.5	Next-Generation Interfaces 62
	3.6	Long-Term Trends in Usability 67
Chapter 4	The U	Isability Engineering Lifecycle 71
	4.1	Know the User 73
	4.2	Competitive Analysis 78
	4.3	
	4.4	Parallel Design 85
	4.5	Participatory Design 88
	4.6	Coordinating the Total Interface 90
	4.7	Guidelines and Heuristic Evaluation 91
	4.8	Prototyping 93
	4.9	Interface Evaluation 102
	4.10	Iterative Design 105
	4.11	Follow-Up Studies of Installed Systems 109
	4.12	Meta-Methods 111
	4.13	Prioritizing Usability Activities 112
	4.14	Be Prepared 113
Chapter 5	Usabi	lity Heuristics 115
	5.1	Simple and Natural Dialogue 115
	5.2	Speak the Users' Language 123
	5.3	-
	5.4	Consistency 132
	5.5	Feedback 134
	5.6	Clearly Marked Exits 138
	5.7	Shortcuts 139
	5.8	Good Error Messages 142
		Prevent Errors 145
	5.10	Help and Documentation 148
	5.11	Heuristic Evaluation 155

Chapter 6	Usabi	lity Testing 165
	6.1	Test Goals and Test Plans 170
	6.2	Getting Test Users 175
	6.3	Choosing Experimenters 179
	6.4	Ethical Aspects of Tests with Human Subjects 181
	6.5	Test Tasks 185
	6.6	Stages of a Test 187
	6.7	S .
	6.8	Thinking Aloud 195
	6.9	Usability Laboratories 200
Chapter 7		lity Assessment Methods beyond g 207
	7.1	Observation 207
	7.2	Questionnaires and Interviews 209
	7.3	Focus Groups 214
	7.4	<u>-</u>
	7.5	00 0
	7.6	Choosing Usability Methods 223
Chapter 8	Interf	ace Standards 227
•	8.1	National, International and Vendor Standards 231
	8.2	Producing Usable In-House Standards 233
Chapter 9	Intern	national User Interfaces 237
·	9.1	International Graphical Interfaces 239
	9.2	International Usability Engineering 242
	9.3	, ,
	9.4	
	9.5	

Chapter 10	Future Developments 255
	10.1 Theoretical Solutions 256
	10.2 Technological Solutions 260
	10.3 CAUSE Tools: Computer-Aided Usability Engineering 264
	10.4 Technology Transfer 265
Appendix A	Exercises 269
Appendix B	Bibliography 283
	B.1 Conference Proceedings 284
	B.2 Journals 286
	B.3 Introductions and Textbooks 290
	B.4 Handbook 291
	B.5 Reprint Collections 292
	B.6 Important Monographs and Collections of Original Papers 294
	B.7 Guidelines 300
	B.8 Videotapes 302
	B.9 Other Bibliographies 304
	B.10 References 306
	Author Index 341

Subject Index 351