

Contents

What's Inside?

xvii

1	WHAT IS INTERACTION DESIGN?	1
1.1	Introduction	1
1.2	Good and Poor Design	2
1.3	What Is Interaction Design?	9
1.4	The User Experience	13
1.5	Understanding Users	15
1.6	Accessibility and Inclusiveness	17
1.7	Usability and User Experience Goals	19
	Interview with Harry Brignull	34
2	THE PROCESS OF INTERACTION DESIGN	37
2.1	Introduction	37
2.2	What Is Involved in Interaction Design?	38
2.3	Some Practical Issues	55
3	CONCEPTUALIZING INTERACTION	69
3.1	Introduction	69
3.2	Conceptualizing Interaction	71
3.3	Conceptual Models	74
3.4	Interface Metaphors	78
3.5	Interaction Types	81
3.6	Paradigms, Visions, Theories, Models, and Frameworks	88
	Interview with Albrecht Schmidt	97
4	COGNITIVE ASPECTS	101
4.1	Introduction	101
4.2	What Is Cognition?	102
4.3	Cognitive Frameworks	123
5	SOCIAL INTERACTION	135
5.1	Introduction	135
5.2	Being Social	136
5.3	Face-to-Face Conversations	139

5.4	Remote Conversations	143
5.5	Co-presence	150
5.6	Social Engagement	158
6	EMOTIONAL INTERACTION	165
6.1	Introduction	165
6.2	Emotions and the User Experience	166
6.3	Expressive Interfaces and Emotional Design	172
6.4	Annoying Interfaces	174
6.5	Affective Computing and Emotional AI	179
6.6	Persuasive Technologies and Behavioral Change	182
6.7	Anthropomorphism	187
7	INTERFACES	193
7.1	Introduction	193
7.2	Interface Types	194
7.3	Natural User Interfaces and Beyond	252
7.4	Which Interface?	253
	Interview with Leah Buechley	257
8	DATA GATHERING	259
8.1	Introduction	259
8.2	Five Key Issues	260
8.3	Data Recording	266
8.4	Interviews	268
8.5	Questionnaires	278
8.6	Observation	287
8.7	Choosing and Combining Techniques	300
9	DATA ANALYSIS, INTERPRETATION, AND PRESENTATION	307
9.1	Introduction	307
9.2	Quantitative and Qualitative	308
9.3	Basic Quantitative Analysis	311
9.4	Basic Qualitative Analysis	320
9.5	Which Kind of Analytic Framework to Use?	329
9.6	Tools to Support Data Analysis	341
9.7	Interpreting and Presenting the Findings	342

10 DATA AT SCALE	349
10.1 Introduction	349
10.2 Approaches to Collecting and Analyzing Data	351
10.3 Visualizing and Exploring Data	366
10.4 Ethical Design Concerns	375
11 DISCOVERING REQUIREMENTS	385
11.1 Introduction	385
11.2 What, How, and Why?	386
11.3 What Are Requirements?	387
11.4 Data Gathering for Requirements	395
11.5 Bringing Requirements to Life: Personas and Scenarios	403
11.6 Capturing Interaction with Use Cases	415
Interview with Ellen Gottesdiener	418
12 DESIGN, PROTOTYPING, AND CONSTRUCTION	421
12.1 Introduction	421
12.2 Prototyping	422
12.3 Conceptual Design	434
12.4 Concrete Design	445
12.5 Generating Prototypes	447
12.6 Construction	457
Interview with Jon Froehlich	466
13 INTERACTION DESIGN IN PRACTICE	471
13.1 Introduction	471
13.2 AgileUX	473
13.3 Design Patterns	484
13.4 Open Source Resources	489
13.5 Tools for Interaction Design	491
14 INTRODUCING EVALUATION	495
14.1 Introduction	495
14.2 The Why, What, Where, and When of Evaluation	496
14.3 Types of Evaluation	500
14.4 Evaluation Case Studies	507
14.5 What Did We Learn from the Case Studies?	514
14.6 Other Issues to Consider When Doing Evaluation	516

15 EVALUATION STUDIES: FROM CONTROLLED TO NATURAL SETTINGS	523
15.1 Introduction	523
15.2 Usability Testing	524
15.3 Conducting Experiments	533
15.4 Field Studies	536
Interview with danah boyd	546
16 EVALUATION: INSPECTIONS, ANALYTICS, AND MODELS	549
16.1 Introduction	549
16.2 Inspections: Heuristic Evaluation and Walk-Throughs	550
16.3 Analytics and A/B Testing	567
16.4 Predictive Models	576
References	581
Index	619