

Contents

Foreword

xiii

Chapter 1 • Why You Should Care about the Gamer's Brain

1

1.1 Disclaimer: The "Neuro-Hype" Trap

2

1.2 What This Book Is about and Who It Is for

3

Part I • Understanding the Brain

Chapter 2 • Overview about the Brain

9

2.1 Brain and Mind Myths

9

2.2 Cognitive Biases

13

2.3 Mental Models and the Player-Centered Approach

16

2.4 How the Brain Works in a Nutshell

17

Chapter 3 • Perception

21

3.1 How Perception Works

21

3.2 Limitations of Human Perception

22

3.3 Application to Games

26

3.4 What You Need to Remember about Perception

36

Chapter 4 • Memory

37

- 4.1 How Memory Works 37
- 4.2 Limitations of Human Memory 43
- 4.3 Application to Games 46
- 4.4 What You Need to Remember about Memory 52

Chapter 5 • Attention

53

- 5.1 How Attention Works 53
- 5.2 Limitations of Human Attention 54
- 5.3 Application to Games 58
- 5.4 What You Need to Remember about Attention 62

Chapter 6 • Motivation

63

- 6.1 Implicit Motivation and Biological Drives 64
- 6.2 Environmental-Shaped Motivation and Learned Drives 65
- 6.3 Intrinsic Motivation and Cognitive Needs 69
- 6.4 Personality and Individual Needs 74
- 6.5 Application to Games 76
- 6.6 Quick Note on the Importance of Meaning 78
- 6.7 What You Need to Remember about Motivation 79

Chapter 7 • Emotion

81

- 7.1 Main Theories of Emotion 82
- 7.2 When Emotion Guides Our Cognition 85
- 7.3 When Emotions “Trick” Us 88
- 7.4 Application to Games 90
- 7.5 What You Need to Remember about Emotion 92

Chapter 8 • Learning Principles	93
8.1 Behavioral Psychology Principles	93
8.2 Cognitive Psychology Principles	96
8.3 Constructivist Principles	97
8.4 Application to Games: Learning by Doing with Meaning	98
8.5 What You Need to Remember about Learning Principles	101
Chapter 9 • Understanding the Brain: Takeaway	103
9.1 Perception	104
9.2 Memory	104
9.3 Attention	105
9.4 Motivation	105
9.5 Emotion	106
9.6 Learning Principles	106
Part II • A UX Framework for Video Games	
Chapter 10 • Game User Experience: Overview	109
10.1 A Short History of UX	109
10.2 Debunking UX Misconceptions	111
10.3 A Definition of Game UX	117
Chapter 11 • Usability	121
11.1 Usability Heuristics in Software and Video Games	122
11.2 Seven Usability Pillars for Game UX	126
11.3 What You Need to Remember about Usability	145

Chapter 12 • Engageability	147
12.1 Three Engageability Pillars for Game UX	147
12.2 Motivation	149
12.3 Emotion	165
12.4 Game Flow	173
12.5 What You Need to Remember about Engageability	183
Chapter 13 • Design Thinking	185
13.1 Iterative Cycle	187
13.2 Affordances	189
13.3 Onboarding Plan	190
13.4 What You Need to Remember about Design Thinking	197
Chapter 14 • Game User Research	199
14.1 The Scientific Method (Hypothetico-Deductive Model)	199
14.2 User Research Methodologies and Tools	202
14.3 Final UX Research Tips	213
14.4 What You Need to Remember about Game User Research	214
Chapter 15 • Game Analytics	215
15.1 The Wonders and Dangers of Telemetry	215
15.2 UX and Analytics	220
15.3 What You Need to Remember about Game Analytics	224
Chapter 16 • UX Strategy	225
16.1 UX at the Project Team Level	225
16.2 UX in the Production Pipeline	226
16.3 UX at the Studio Level	229
16.4 What You Need to Remember about UX Strategy	233

Chapter 17 • Ethics	235
17.1 Dark Patterns	236
17.2 The Attention Economy and Videogame “Addiction”	242
17.3 Violence and Other Problematic Content	245
17.4 Toward an Ethical Game Industry	247
17.5 What You Need to Remember about Ethics	249
Chapter 18 • UX across Various Products: From VR to AI to “Gamification”	251
18.1 Some UX Challenges Specific to XR Games	253
18.2 The Metaverse and Blockchain Technology	257
18.3 Artificial Intelligence (AI)	259
18.4 Playful Learning, Game-Based Learning, and Gamification	268
18.5 What You Need to Remember	272
Chapter 19 • To Conclude	275
19.1 Key Takeaways	276
19.2 Tips for Students Interested in Game UX	278
19.3 Parting Words	280
Acknowledgment	281
References	285
Index	303