

Contents

Acknowledgments	xiii
Introduction	xv
Game Design and the Scope of This Text	xv
Classroom Use	xvii
Note on Exercises	xviii
Note on Style	xviii
Note on Definitions	xix
1 Elements	1
Design Process	2
<i>Games as Machines</i>	2
<i>Game Design Is User-Centered</i>	3
Motivating Example: <i>Poker</i>	3
Model Description	5
<i>Designer's Role</i>	6
<i>Designer's Process</i>	6
<i>Player's Experience</i>	8
<i>Elements of Games Outside This Model</i>	9
The Practice of Game Design	10
<i>Game Design, Systems Design, Content Design</i>	11
<i>Discipline Interactions</i>	12
Summary	13
Further Reading	14
<i>Formal Tools</i>	14
MDA	15
<i>The Practice of Design</i>	16
Individual Exercises	16
2 Player Experience	19
Experience Is Relative	19
What Do You Enjoy?	21

Building a Naive Taxonomy	23
Player Theories	24
<i>Designer Theories</i>	24
<i>The Bartle Model</i>	25
<i>The Koster Model</i>	26
User Personas	27
Empirical Models	28
<i>The Big Five Personality Model</i>	29
<i>Yee's Gamer Motivation Profiles</i>	30
<i>Player Motivations and the Big Five</i>	33
Experience Design	34
<i>Questions to Guide Experience Design</i>	34
<i>Experience Archetypes and Genres</i>	36
Summary	37
Further Reading	38
<i>Player Psychology</i>	38
<i>Designer Theories</i>	39
Individual Exercises	39

3 Mechanics 41

Mechanics as Building Blocks	41
<i>Composition of Mechanics</i>	42
<i>The Language Metaphor</i>	44
<i>Example: Exploring Monopoly</i>	45
Games as State Spaces	46
<i>Game State</i>	46
<i>State Spaces</i>	47
<i>Action Spaces</i>	49
<i>Perceived Action Spaces</i>	50
<i>Explicit and Implicit Mechanics</i>	51
Examples of Families of Mechanics	53
<i>Control Mechanics</i>	55
<i>Progression Mechanics</i>	58
<i>Uncertainty Mechanics</i>	60
<i>Resource Management Mechanics</i>	63
<i>Beyond the Four Families</i>	68
Mechanics Design	68
<i>Design Heuristics</i>	69
<i>Primary and Derived Mechanics</i>	71
Summary	72
Further Reading	73
<i>History of Mechanics</i>	73

	<i>Taxonomies</i>	74
	<i>In-depth Explorations</i>	74
	Individual Exercises	75
	Group Exercises	76
4	Systems	79
	Motivating Example: <i>Diablo</i>	79
	Game Systems	81
	<i>Setting and Systems</i>	82
	<i>Layering</i>	83
	<i>Thinking in Systems</i>	84
	Mechanic Chains and Loops	85
	<i>Conversion Chains</i>	85
	<i>Calculating Exchange Rates</i>	86
	<i>Conversion Loops</i>	87
	Feedback Loops	91
	<i>Positive Feedback</i>	91
	<i>Negative Feedback</i>	93
	<i>Effects of Positive Feedback</i>	95
	<i>Effects of Negative Feedback</i>	99
	Emergence and Chaos	100
	<i>Emergent Behavior</i>	100
	<i>Chaotic Systems</i>	102
	Systems Design	104
	<i>From User Stories to Systems</i>	105
	System Tuning	108
	<i>Approaches</i>	109
	<i>The Role of Tuning in the Production Process</i>	111
	Summary	111
	Further Reading	113
	Individual Exercises	113
	Group Exercises	114
5	Gameplay	117
	Motivating Example: <i>The Sims</i>	118
	Gameplay Loops	119
	<i>Loop Frequencies</i>	120
	<i>Onion Diagrams</i>	121
	<i>The Core Loop</i>	123
	<i>Layering</i>	123
	<i>Loops and Systems</i>	125

Player Motivation	126
<i>Intrinsic and Extrinsic Motivation</i>	127
Intrinsic Motivation: Flow and Learning	128
<i>Flow Theory</i>	128
<i>Learning and Challenge Escalation</i>	130
<i>Learning to Overcome Uncertainty</i>	131
<i>Dominant Strategies and “Solving the Game”</i>	135
<i>Loops and Challenges</i>	136
Extrinsic Motivation: Work and Rewards	137
<i>Progression and Rewards</i>	137
<i>Reward Schedules</i>	138
<i>Types of Schedules</i>	139
<i>Game Examples</i>	141
<i>Changing Workload</i>	142
<i>Related Topic: Gamification</i>	144
Gameplay Loop Design Heuristics	145
<i>From User Stories to Gameplay Loops</i>	145
<i>Playtesting Loops</i>	146
Summary	146
Further Reading	148
<i>Gameplay Loops</i>	148
<i>Motivation</i>	148
Individual Exercises	149
Group Exercises	150
6 Macrostructure	151
Motivating Example: <i>The Witcher</i>	151
Game Fiction	153
<i>Fantasy</i>	154
<i>Story</i>	155
<i>Story and Agency</i>	156
<i>Consistency</i>	157
Macrostructure and Content Arcs	159
<i>The Three-Act Model</i>	159
<i>Story Arc and Episodes</i>	160
<i>Three-Act Model and Non-story Games</i>	162
Narrative Patterns	163
<i>Linear Narrative</i>	164
<i>Branching Choices</i>	165
<i>Branch and Merge</i>	166
<i>Branching with State</i>	167
<i>Hub and Spokes</i>	168

	<i>Narrative Composition and Quests</i>	168
	<i>Open Worlds</i>	169
	<i>Open Worlds and Quest Design</i>	171
	<i>Simulated Worlds</i>	173
	Pacing	174
	Metagame	176
	<i>Mastery Metagame</i>	177
	<i>Social Metagame</i>	177
	<i>Game Modding</i>	179
	<i>Benefits of Metagame</i>	180
	Summary	180
	Further Reading	181
	Individual Exercises	182
	Group Exercises	183
7	Prototyping and Playtesting	185
	Motivating Example: <i>Project Highrise</i>	186
	Production Stages	187
	Game Concept	188
	<i>Understanding the Game Idea</i>	189
	<i>Understanding the Market</i>	190
	<i>Forming a Game Pitch</i>	192
	From Concept to Prototyping: Kelly Guidelines	193
	Prototyping	196
	<i>Playable Prototypes</i>	197
	<i>Iterative Process</i>	198
	<i>Playtesting</i>	201
	<i>Documenting Design</i>	204
	<i>Finishing Iteration</i>	204
	Production and Beyond	205
	Ideas for Student Prototyping	207
	<i>Shorter Production Cycle</i>	208
	<i>Scaling Prototyping Scope</i>	208
	<i>Supporting Portfolio Development</i>	209
	Summary	210
	Further Reading	211
	Group Exercises	212
	Conclusion	213
	References	215
	Index	221