

# chris crawford

## on interactive storytelling



New  
Riders

NR9

# Table of Contents

	Introduction.....	xvi
<b>PART I</b>	<b>From Story to Interactive Storytelling.....</b>	<b>1</b>
<b>Chapter 1</b>	<b>Story.....</b>	<b>3</b>
	The Development of Storytelling.....	4
	Mental Modules Interact.....	4
	At Last, Narrative.....	6
	The Nature of Stories.....	13
	Strong Structure.....	14
	People.....	15
	Conflict.....	16
	Puzzles.....	17
	Choices.....	17
	Spectacle.....	18
	The Tyranny of the Visual.....	19
	Spatial Thinking.....	20
	Temporal Discontinuity.....	22
<b>Chapter 2</b>	<b>Interactivity.....</b>	<b>25</b>
	How Wrong Art Thou? Let Me Count the Ways.....	26
	My Definition of Interactivity.....	29
	Second-Person Insight.....	31
	A Model for Human Understanding.....	33
	Discipline.....	35
	Degrees of Interactivity.....	36
	Speed.....	37
	Depth.....	39

	Choice .....	40
	So What? .....	42
	Incentive #1: Basis of Competitive Advantage .....	42
	Incentive #2: Revolutionary .....	43
	Incentive #3: Power .....	44
<b>Chapter 3</b>	<b>Interactive Storytelling .....</b>	<b>45</b>
	Extrapolation from Games .....	46
	Interactivized Movies .....	48
	Plot Versus Interactivity .....	49
	It's Different .....	52
	How Do You Generate Enough Interesting Decisions? .....	53
	How Do You Pare Away the Boring Decisions? .....	55
	How Do You Keep the Storyworld Interesting? .....	56
	Atoms of Interactive Storytelling .....	58
	The Ideal Scale of Dramatic Resolution .....	59
	What Can't Be Part of Interactive Storytelling .....	61
<b>PART II</b>	<b>Styles of Thinking .....</b>	<b>65</b>
<b>Chapter 4</b>	<b>Two Cultures, No Hits, No Runs .....</b>	<b>67</b>
	Techies: Programmers and Games People .....	69
	Artsies: The New Media People .....	72
	Bubble Intellectualism .....	73
	Cross-disciplinary Futility .....	75
	Neurophysiological Basis .....	76
	Exhortations and Prognostications .....	77
<b>Chapter 5</b>	<b>Abstraction .....</b>	<b>81</b>
	Justice .....	82
	Science .....	83
	Pulling It Together .....	84
	Playing God .....	86

<b>Chapter 6</b>	<b>Verb Thinking</b> .....	<b>91</b>
	Verb Thinking Versus Noun Thinking .....	92
	Case in Point: Multimedia .....	97
	Getting Started with Verb Thinking .....	100
	Causal Relationships .....	102
	Modeling as Metaphor .....	104
	Aside: Quantifying Humanity.....	110
	The Artist's Mathematical Palette .....	112
	Weighting Factors .....	115
	How to Set Values .....	118
<b>PART III</b>	<b>Strategies for Interactive Storytelling.....</b>	<b>121</b>
<b>Chapter 7</b>	<b>Simple Strategies That Don't Work.....</b>	<b>123</b>
	Branching Trees .....	124
	Foldback Schemes .....	126
	Constipated Stories .....	130
	Kill 'Em If They Stray .....	130
	Storified Games .....	130
<b>Chapter 8</b>	<b>Environmental Strategies .....</b>	<b>135</b>
	Emergent Story .....	137
	Possible Extensions .....	138
	Extending the Size of the Three-dimensional World.....	138
	More Props .....	140
	More Agents .....	140
	Smarter Agents .....	140
	More and Better Puzzles .....	141
	A Journey Structure.....	141
	All of the Above .....	142
	Storytelling in The Sims .....	142

<b>Chapter 9</b>	<b>Data-Driven Strategies</b> .....	145
	Story Components .....	146
	Connectivity Data .....	146
	A Short Digression .....	147
	The Aarne-Thompson Catalogues .....	148
	Applications .....	152
	Vladimir Propp .....	153
	An Application .....	156
	Georges Polti .....	156
<b>Chapter 10</b>	<b>Language-Based Strategies</b> .....	161
	An Inside-Out Approach .....	162
	Language and Reality .....	162
	Vocabulary .....	164
	Grammars .....	169
	Meaning .....	170
	Inverse Parsing .....	172
	Semantic Networks .....	173
	Graphical Languages .....	174
	Basic English .....	176
	Pictorial Languages .....	177
<b>PART IV</b>	<b>Core Technologies for Interactive Storytelling</b> .....	179
<b>Chapter 11</b>	<b>Personality Models</b> .....	181
	Factors in Developing a Personality Model .....	182
	Completeness .....	182
	Conciseness .....	183
	Orthogonality .....	183
	Tied to Behavior .....	185
	Overspecificity .....	185
	Types of Personality Variables .....	186
	Polarity of Variables .....	188
	Moods .....	189

My Preferred Personality Model . . . . .	190
Intrinsic Variables . . . . .	190
Mood Variables . . . . .	191
Volatility Variables . . . . .	191
Accordance Variables . . . . .	192
Relationship Variables . . . . .	192
Automatic Relationship Adjustment . . . . .	194
Calculating with Personality Variables . . . . .	196
Putting a Personality Model to Work: An Exercise . . . . .	199
<b>Chapter 12</b> Drama Managers . . . . .	<b>201</b>
Listen . . . . .	203
Think . . . . .	204
Speak . . . . .	205
Environmental Manipulation . . . . .	205
Goal Injection . . . . .	206
Shifting Personalities . . . . .	207
The Ticking Clock of Doom . . . . .	207
Dropping the Fourth Wall . . . . .	208
“Correcting” the Player . . . . .	209
Scoring Systems . . . . .	212
Example: An Arthurian Storyworld . . . . .	212
Tragedy . . . . .	214
<b>Chapter 13</b> Verbs and Events . . . . .	<b>217</b>
Verb Counts . . . . .	218
Specific Versus Generalized Verb Handling . . . . .	219
Events . . . . .	221
Chomskian, or Recursive, Data Structures . . . . .	224
Flat Data Structures . . . . .	225
<b>Chapter 14</b> HistoryBooks and Gossip . . . . .	<b>227</b>
HistoryBooks . . . . .	228
Gossip . . . . .	230
Recording Events . . . . .	231

Constructing Tales .....	231
Finding a Gossip-Mate .....	234
Lies .....	238
Intent to Harm Relationships .....	238
Gain Benefit Through Misdirection .....	239
Defensive Denial .....	240
Secrets .....	240
The Grapevine .....	241
<b>Chapter 15 Anticipation .....</b>	<b>245</b>
Including Anticipation .....	246
Choosing Verbs .....	250
Including Logical Inferences .....	251
Inference Engines .....	251
Tree Analysis .....	253
<b>Chapter 16 Roles and Sequencing .....</b>	<b>255</b>
Selecting Options .....	256
Hard-wired Versus Soft-wired Approaches .....	256
Roles .....	257
From Plan to Execution .....	262
Deferred Reactions .....	264
<b>Chapter 17 Development Environments .....</b>	<b>267</b>
Historical Background .....	268
The Importance of Development Environments .....	271
Elements of Development Environments .....	271
Algorithmic Entry .....	271
Some Suggestions .....	274
Setting the Context .....	280
Threadtests and Rehearsals .....	280
ComeFrom Analysis .....	282
Debuggers .....	286
A Programming Note .....	286
Script Editing .....	287

<b>PART V</b>	<b>Applications.....</b>	<b>295</b>
<b>Chapter 18</b>	<b>The Erasmatron.....</b>	<b>297</b>
	Early Efforts.....	298
	The Erasmatron Engine.....	299
	Data Types.....	300
	Roles.....	301
	Scripts.....	301
	Inclination Formulae.....	302
	Time in the Erasmatron.....	304
	Plan Execution.....	304
	Movement and Space.....	304
	Additional Odds and Ends in the Engine.....	305
	Future Directions.....	306
<b>Chapter 19</b>	<b>Research.....</b>	<b>307</b>
	Generic Issues.....	308
	Hammers and Nails.....	309
	Boolean Thinking.....	309
	The Oz Project.....	314
	Experience Management.....	315
	Story Traces.....	317
	Façade.....	318
	The Dr. K- Project.....	319
	HEFTI.....	320
	IDTension.....	323
	The Virtual Storyteller.....	326
	InterTale.....	327
	Story Grammars.....	327
	Interactive Drama Architecture.....	329
	DraMachina.....	329
	Personal Narrative Agents.....	329
	HTN- and HSP-Based Technologies.....	330



<b>Chapter 20</b>	<b>Distant Relatives</b> .....	<b>335</b>
	Interactive Fiction .....	336
	Hypertext Fiction .....	337
	Digital Storytelling .....	338
	Scriptwriting Software .....	339
	Role-Playing Games .....	340
	Simulations .....	341
	Narrative Intelligence .....	342
<b>Chapter 21</b>	<b>Prognostications</b> .....	<b>343</b>
	The Evolutionary School .....	344
	The Wrong Verbs .....	344
	The Wrong Themes .....	345
	Market Factors .....	345
	A Marketing Fairy Tale .....	345
	A Marketing Nightmare .....	346
	The Revolutionary School .....	348
	Implications of the Market-Driven Approach .....	350
	Increasing Awareness .....	350
	Predictions .....	351
	<b>Index</b> .....	<b>353</b>