CONTENTS

Foreword			XV
Preface			xix
Acknowledg	ments		xxiii
About the A	Author		xxv
PART I	Introduction		- 1
Chapter I	What Is Design and Ar	chitecture?	3
	The Goal?		0 7839864
	Case Study		5
	Conclusion		12
Chapter 2	A Tale of Two Values		13
	Behavior		14
	Architecture		14
	The Greater Value		15
	Eisenhower's Matrix		16
	Fight for the Architecture		18
	THE RESIDENCE OF THE PROPERTY		

PART II	Starting with the Bricks: Pro	ogramming Paradigms	19
Chapter 3	Paradigm Overview		21
	Structured Programming		22
	Object-Oriented Programming		22
	Functional Programming		22
	Food for Thought		23
	Conclusion		24
Chapter 4	Structured Programming		25
	Proof		27
	A Harmful Proclamation		28
	Functional Decomposition		29
	No Formal Proofs		30
	Science to the Rescue		30
	Tests		31
	Conclusion		31
Chapter 5	Object-Oriented Programm	ing	33
	Encapsulation?		34
	Inheritance?		37
	Polymorphism?		40
	Conclusion		47
Chapter 6	Functional Programming		49
	Squares of Integers		50
	Immutability and Architecture		52
	Segregation of Mutability		52
	Event Sourcing		C 76365 54
	Conclusion		56
PART III	Design Principles		57
Chapter 7	SRP: The Single Responsibili	ty Principle	61
	Symptom 1: Accidental Duplication	on	63
	Symptom 2: Merges		65
	Solutions		66
	Conclusion		67

Chapter 8	OCP: The Open-Closed Principle	69
	A Thought Experiment	70
	Directional Control	74
	Information Hiding	74
	Conclusion	75
Chapter 9	LSP: The Liskov Substitution Principle	77
	Guiding the Use of Inheritance	78
	The Square/Rectangle Problem	79
	LSP and Architecture	80
	Example LSP Violation	80
	Conclusion	82
Chapter 10	ISP: The Interface Segregation Principle	83
	ISP and Language	85
	ISP and Architecture	86
	Conclusion	86
Chapter II	DIP: The Dependency Inversion Principle	87
	Stable Abstractions	88
	Factories	89
	Concrete Components	91
	Conclusion	91
PART IV	Component Principles	93
I AIXI IV	Place / members	190
Chapter 12	Components	95
	A Brief History of Components	96
	Relocatability	99
	Linkers Are Menerous Spott and most	100
	Conclusion will de-quiere Cheshagobal	102
	Independent Deployability surrounders in ho story off	197
Chapter 13	Component Cohesion	103
	The Reuse/Release Equivalence Principle	104
	The Common Closure Principle	105
	The Common Reuse Principle	107
	The Tension Diagram for Component Cohesion	108
	Conclusion	110

Chapter 14	Component Coupling		Theorem 8
	The Acyclic Dependencies Princ	iple	112
	Top-Down Design		118
	The Stable Dependencies Princip	ole see le se le s	120
	The Stable Abstractions Principl	e makubaso	126
	Conclusion		132
	The State of the S		
PART V	Architecture		133
Chapter 15	What Is Architecture?		135
	Development		137
	Deployment		138
	Operation		138
	Maintenance		139
	Keeping Options Open	_ISP and Language	140
APPLICATION OF THE PROPERTY OF	Device Independence		142
	Junk Mail		144
	Physical Addressing		145
	Conclusion		146
Chapter 16	Independence		147
	Use Cases		148
	Operation		149
	Development		149
	Deployment		150
	Leaving Options Open		150
	Decoupling Layers		151
	Decoupling Use Cases		152
	Decoupling Mode		153
	Independent Develop-ability		153
	Independent Deployability		154
	Duplication		154
	Decoupling Modes (Again)		155
	Conclusion		158

Chapter 17	Boundaries: Drawing Lines		159
	A Couple of Sad Stories		160
	FitNesse	A Typical Scenario.	163
	Which Lines Do You Draw, and		165
	What About Input and Output?		169
	Plugin Architecture		170
	The Plugin Argument		172
	Conclusion		173
EIE	Edition had a Maria		
Chapter 18	Boundary Anatomy		175
	Boundary Crossing		176
	The Dreaded Monolith		176
	Deployment Components Threads		178 179
	Local Processes		179
	Services		180
	Conclusion		181
	p. The Database is a Detail.		101
Chapter 19	Policy and Level		183
	Level		184
	Conclusion		187
Chapter 20	Business Rules		189
	Entities		190
	Use Cases		191
	Request and Response Models		193
	Conclusion		194
Chapter 21	Screaming Architecture		195
	The Theme of an Architecture		196
	The Purpose of an Architecture		197
	But What About the Web?		197
	Frameworks Are Tools, Not Way	vs of Life	198
	Testable Architectures		198
	Conclusion		199

Chapter 22	The Clean Architecture		201
	The Dependency Rule		203
	A Typical Scenario		207
	Conclusion		209
1931			
Chapter 23	Presenters and Humble	Objects	211
	The Humble Object Pattern		212
	Presenters and Views		212
	Testing and Architecture		213
	Database Gateways		214
	Data Mappers		214
	Service Listeners		215
	Conclusion		215
			13/
Chapter 24	Partial Boundaries	Local Processes	217
	Skip the Last Step		218
	One-Dimensional Boundaries	Conclusion	219
	Facades		220
	Conclusion		220
Mist			
Chapter 25	Layers and Boundaries		221
	Hunt the Wumpus		222
	Clean Architecture?		223
	Crossing the Streams		226
	Splitting the Streams		227
	Conclusion		228
161	Decoupling Linear		
Chapter 26	The Main Component		231
	The Ultimate Detail		232
	Conclusion		237
Ch 27		The Purpose of an Architecture	220
Chapter 27	Services: Great and Sma	But What About the Web?	239
			240
	Service Benefits?		240
	The Kitty Problem		242
	Objects to the Rescue		244

	Component-Based Services	245
	Cross-Cutting Concerns	246
	Conclusion	247
	ase Study: Video Sales	
Chapter 28	The Test Boundary	249
nest in the second	Tests as System Components	250
	Design for Testability	251
	The Testing API	252
	Conclusion	253
Chapter 29	Clean Embedded Architecture	255
	App-titude Test	258
	The Target-Hardware Bottleneck	261
	Conclusion Sangels A Day 27%	273
PART VI	Details almost nonemental and metalivast ar	
Chapter 30	The Database Is a Detail	277
	Relational Databases	278
	Why Are Database Systems So Prevalent?	279
	What If There Were No Disk?	280
	Details	281
	But What about Performance?	281
	Anecdote	281
	Conclusion	283
Chapter 31	The Web Is a Detail	285
AND LINE	The Endless Pendulum	286
	The Upshot	288
	Conclusion	289
Chapter 32	Frameworks Are Details	291
	Framework Authors	292
	Asymmetric Marriage	292
	The Risks	293
	The Solution	294

	I Now Pronounce You		295
	Conclusion		295
Chapter 33	Case Study: Video Sales		297
	The Product		298
	Use Case Analysis		298
	Component Architecture		300
	Dependency Management		302
	Conclusion		302
Cha 24	The Missies Chartes		202
Chapter 34	The Missing Chapter		303
	Package by Layer		304
	0		306
	Ports and Adapters		308
	Package by Component		310
	The Devil Is in the Implementa		315
	Organization versus Encapsula	ition	316
	Other Decoupling Modes		319
	Conclusion: The Missing Advi	ce	321
A.C. 1			222
Afterword			323
PART VII	Assendiv		327
PARI VII	Appendix		327
Appendix A	Architecture Archaeology		329
Appendix A	Architecture Archaeology		327
Index			379
SHS			249