About the Author	7
About the Technical Reviewers	7
Acknowledgments	8
Introduction	9
Patterns and the UML	10
Levels and Shared Idioms	
Using This Book	
Resources, Sources, and References	
Chapter 1. Pattern Essentials	17
1.1 Patterns and Paradigms	
1.2 Elements of Patterns	20
1.3 Interpreting the Patterns in This Book	23
Chapter 2. The Unified Modeling Language	26
2.1 The UML, Briefly Put	27
2.2 Roots	
2.3 Understanding the UML	33
2.3 Understanding the UML	34
Chapter 3. UML Essentials, Elements, and Artifacts	38
3.1 Elements, Viewpoints, and Views	
3.2 Packages	
3.3 Extensions	47
3.4 Symbols	49
3.5 Lines	55
3.6 Diagrams	60
3.7 Further Reading	69
Chapter 4. Patterns of Style	71
Context	71
Common Forces	71
Discussion	72
Summary	90
Chapter 5. Patterns of Substance	92
Context	92
Common Forces	93
Discussion	93
Summary	105
Chapter 6. Domain Patterns	107
Context	107
Common Forces	108
Discussion	108
Summary	115
Chapter 7. Product Patterns	
Context	117
Forces	118
Discussion	118
Chapter 8. Component Patterns	
Context	130

Discussion	130
Summary	139
Chapter 9. Patterns in Context	141
9.1 A Little Starting Context	142
9.2 The Pattern Idea	
9.3 Patterns as Literature	151
9.4 Types of Software Patterns	
9.5 The Roots: Alexander on Patterns and Pattern Languages	160
9.6 A Note on This Language	162
9.7 The Importance of Patterns	163
9.8 Where Is It All Going?	
Chapter 10. The UML in Context	168
10.1 Why Make System Models?	
10.2 Every Picture Tells a Story: The UML as a Modeling Language	170
10.3 The UML Specification and Metamodel	
10.4 What Do We Model?	174
10.5 Abstraction and Architecture Made Simple	180
10.6 Perspectives: A Generic Modeling Framework	
Chapter 11. Putting It All Together: Reflecting on the Work of Design	187
11.1 The Work of Design	187
11.2 Elements of Reflective Design	191
11.3 To Be Continued	
References	199