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Additional Volumes in Preparation
The Patterns Handbook: Techniques, Strategies, and Applications

COLLECTED AND INTRODUCED BY
LINDA RISING
For all the patterns fans at AG Communication Systems.
This is your story.
About the Editor

Linda Rising (risingl@agcs.com) is a member of the Technical Resource Center at AG Communication Systems. She has a Ph.D. from Arizona State University in the area of object-based design metrics. Her background includes university teaching experience as well as work in industry in the areas of telecommunications, avionics, and strategic weapons systems. She has been working with object technologies since 1983. Some of her publications including “A Training Experience with Patterns” in the October 1996 issue of Communications of the ACM, “Patterns: Spreading the Word” in the December 1996 issue of Object Magazine, and “The Road, Christopher Alexander, and Good Software Design” in the March 1997 issue of Object Magazine.

Linda and her husband, Karl Rehmer, are avid cyclists. They commute to work (a 20-mile round trip), even in temperatures of 100+ degrees. Linda is the director of the Utopia Road Recorder Consortium, a group of software-developer Renaissance wannabes who gather to sing and play just for fun and to perform at AG Communication Systems a couple of times a year.
Foreword

As someone prone to choosing cute titles (which my editors never allow), I would have called this book “The Patterns Storybook.”

Everybody loves a story. Bob Hannmer notes that good patterns are like a story: they engage the reader's interest early or they develop intrigue and conflict through their forces and catharsis in their solution, and they echo the relaxed discussion of the postproduction coffeehouse discussion in their rationales and in the resulting context sections. Of course, not all stories are patterns, but that makes them no less powerful as sources of wisdom. And there are many stories to be told about the pattern community: stories about its history and even stories about its dark side. This is a book of those stories, stories that were in the form of conference papers, journal articles, essays, book chapters, patterns, and all the other forms that engineers and scientists use to disguise the stories they write. This collection weaves several story lines together. It is, at one level, the story of one organization's quest or, really, of its multiple quests, for patterns. The storyteller, Linda Rising, is a big-picture person in that organization. She tells how the organization—AGCS—both had to grow into the pattern community and then grow with the pattern community. The story has replayed itself in several companies and in several cultures, which all have wrestled with the pattern value system. If you've lived such a story, you'll find comfort and perhaps will learn something in this telling.

In his book Haroun and the Sea of Stories,1 Salman Ruhdie paints a beautiful image of stories that intertwine like multicolored streams water from a common spring. The AGCS story in this book intertwines with many stories from outside AGCS, stories that influenced the work and direction inside the company. Some of these stories bear retelling; among these are the seeds of the folklore and the classics of a community or culture. Many of the chapters that follow are like that: they have appeared before, perhaps to a different audience, or perhaps in a different age, as judged by the time scales of rapidly evolving technology. Some among them are frequently cited today; others should be.

Just as these stories challenged, guided, and intrigued the AGCS folks on their journey, they remain good prods for introspection today. That, I
Foreword

think, is the major value of this volume. Read about others’ perspectives and contrast them with your own. You won’t agree with everything that appears on the pages that follow. The authors don’t agree with each other on everything. But they share a dialogue, a thought process, and an evasive but discernible set of values and principles that define the pattern community. By reading their works, you will gain new insights into this dialogue, these processes, and these values, regardless of your level of experience with patterns. And the dissonance between the diverse views will resonate anew through you, the reader, in the forums you participate in.

There are fresh stories, too, many of them less than a year old at this writing. Some are hot-off-the-press pattern stories, some are new distillations and tutorials for readers who are pattern novices. And among both the old and the new stories are detailed accounts of pattern history and application. These stories offer practical food for thought for the practitioner or manager wondering how patterns would, could, or should play out in your own enterprise.

Of course, there are patterns here, too—groupings that form little stories in their own right. This is the stuff of patterns, the living literature of our disciplines. As living literature, I wish these pages were in a loose-leaf section. Polish your introspection again; think how you would contribute your experiences to the pattern, how you would have the authors improve the pattern, how you would adapt the pattern to your situation. You might even write the authors with your suggestions and become part of the community of colleagues supporting each other by sharing important design knowledge across our disciplines.

George Platts attends most of the PLoP conferences (the main pattern conference series) as a Lateral Thinking Coordinator. He muses that PLoP isn’t really about patterns, it’s about people. This book is, too. It reflects the thoughts of more contributors than I can easily count, and distills the expert knowledge of thousands more. It tells their stories. After you’re done with this book, think what you’re going to do with the results of your own introspection and where you fit into this large network of people. I’ll be looking for your patterns and for your stories about how you found, refined, shared, and used them.

—James Coplien

REFERENCE

Preface

You are about to read an extraordinary book. It is extraordinary because it is a collection of stories by a group of people who work for the same company and share not only their place of employment, but a focused interest in patterns. If you don’t know much about patterns, this is a good place to begin. If you’re an experienced patterns person, I hope you’ll find some new information and insight that will increase your understanding and appreciation of this exciting new technology.

This is a book you will enjoy if you are a developer looking for a basic understanding of patterns and pointers to more detailed knowledge. This book will also be useful if you are in a managerial role. There is information on process and organizational patterns that you will find useful. Finally, there are suggestions for those of you who do technical training, to help you in your vital role in bringing patterns to an organization.

The book comprises three parts. The first two parts contain work by AG Communication Systems authors. Part One contains a collection of articles that provide an introduction to patterns. In Part Two, there are articles that describe our patterns experiences. Part Three is a collection of articles that function as resources. The appendices consist of an annotated bibliography and a list of useful Web sites for more information.

This book combines resources not found anywhere else. It is not only an organizational success story, but it also provides you with the means to begin your own journey to patterns accomplishments! How can I be so sure that what worked for us will work for you? I guess my feeling is that success, like patterns themselves, is infectious. There’s nothing more interesting to members in a corporate setting than stories of what others are doing to improve their business. I’ve found two interesting references that have helped me understand this. The first is Tell Me a Story by Roger Schank, which describes how we learn from each other by sharing stories. I’ll tell you more about this intriguing book in an article on writing patterns in Part Two. Managing by Storying Around: A New Method of Leadership is a collection
xii Preface

of stories by David Armstrong, the fourth generation of his family to lead Armstrong International. These two books don’t talk about patterns—not directly—but they reinforce the underlying theme of this collection of stories; the effectiveness of shared experience.

Let me introduce you to our company. AG Communication Systems is based in Phoenix, Arizona, my home. The company is a joint venture of Lucent Technologies and GTE and is a leading developer and manufacturer of advanced telecommunications products and services, including switching, intelligent network, access, and wireless products. The company’s core product, the GTD-5 digital central-office switching system, has an installed base of more than 17 million lines serving business, government, and industry, as well as residential subscribers serviced by the public telephone network. AG Communication Systems employs 2,000 people, about 700 of them in software development.

My role at this company is an unusual one. I’m the patterns “champion” or the self-proclaimed patterns “princess.” I “do” patterns all day long! Sometimes I’ll make a trip to another company to give a noontime presentation for a resident group of OO developers to help them answer the question, “What are patterns all about?” I see this book as something I would like to have had for all the trips I’ve made so far and will certainly use for all those I will make in the future. If I leave this book behind at another company, it will help “grow” the seeds I’ve planted and explain what we’ve been doing at AG Communication Systems. It’s a handbook of our pattern adventures, complete with a collection of references.

REFERENCES

SYSTEM TESTERS
Back row, left to right:
Jim Kurth. Front row:
Ed Nuerenberg, Carl Gilmour

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David DeLano. Front row:
Russell Corfman,
Mike Duell
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Thanks to all the good folks at SIGS, especially Don Jackson. Though he is no longer at SIGS, this book began as a gleam in his eye. He cheered me on every step of the way and held my hand, figuratively, when I wasn’t sure where I was going. Special thanks to Peter Arnold. I know this book would never have been completed without him.

Finally, thanks to my husband, Karl—patient, understanding, loving, the best friend this writer ever had!
Contents

About the Editor vii
Foreword James Coplien ix
Preface xi
Acknowledgments xv

PART I • OVERVIEW

Design Patterns: Elements of Reusable Architectures
Linda Rising 9
An Overview of Patterns Russell Corfman 19
Patterns: Spreading the Word Linda Rising 31
A Training Experience with Patterns Brandon Goldfedder and
Linda Rising 37
Patterns: The New Building Blocks for Reusable Software
Architectures Diane Saunders 45

PART II • EXAMPLES AND EXPERIENCE

Experience in Applying Design Patterns to Decouple Object
Interactions in the INgage™ IP Prototype Michael Duell 59
Pattern Writing Linda Rising 69
Writers Workshop Format 83
AGCS Pattern Template 85
Patterns Mining David E. DeLano 87
System Test Pattern Language David E. DeLano and Linda Rising 97
Improving Software Development with Process and
Organizational Patterns Patricia Genualdi 121
Organizational Patterns at AG Communication Systems
Norm Janoff 131

xvii
xviii  CONTENTS

HandsInView  Don Olson  139
Patterns on the Fly  Don S. Olson  141
A Pocket-Sized Broker  Don S. Olson  171
Frameworks and Design Patterns  Ben H. Richards  183

PART III  • RESOURCES AND MORE INFORMATION  187

Fault-Tolerant Telecommunication System Patterns
Michael Adams, James Coplien, Robert Gamoke,
Robert Hanmer, Fred Keeve, and Keith Nicodemus  189

Industrial Experience with Design Patterns
Kent Beck, James O. Coplien, Ron Crocker, Lutz Dominick,
Gerard Meszaros, Frances Paulisch, and John Vlissides  203

Sorting Through the Plethora: The “Unofficial” JOOP
Book Awards  Steven Bilow  229

Patterns  Grady Booch  237

A Generative Development—Process Pattern Language
James O. Coplien  243

Setting the Stage  James O. Coplien  301

Software Design Patterns: Common Questions and Answers
James O. Coplien  311

Software Development as Science, Art, and Engineering
James O. Coplien  321

The Failure of Pattern Languages  Richard P. Gabriel  333

Potential Pattern Pitfalls, or How to Jump on the Patterns
Bandwagon Without the Wheels Coming Off
Neil B. Harrison  345

An Introduction to Patterns  Ralph E. Johnson  353
How Patterns Work in Teams  Ralph E. Johnson  361

A Report on PLoP’94  Ralph E. Johnson  369

Patterns and Frameworks  Ralph E. Johnson  375

Patterns and Antipatterns  Andrew Koenig  383

Design Reuse: Chemical Engineering vs. Software Engineering
Paul Kogut  391

Christopher Alexander: An Introduction for Object-Oriented
Designers  Doug Lea  407

Patterns: PLoP, PLoF, Fizz, Fizz  Robert Martin  423

A Design Patterns Experience Report  Russell L. Ramirez  435
CONTENTS  xix

Design Patterns to Construct the Hot Spots of a Manufacturing Framework  Hans Albrecht Schmid  443
Using Design Patterns to Evolve System Software from UNIX to Windows NT  Douglas C. Schmidt and Paul Stephenson  471
Pattern Hatching—Perspectives from the “Gang of Four”  John Vlissides  505

APPENDIX A: ANNOTATED BIBLIOGRAPHY  515

APPENDIX B: WEB SITES  537

INDEX  541