Software Modeling and Design: UML, Use Cases, Patterns, and Software Architectures

By Hassan Gomaa

Software Modeling and Design: UML, Use Cases, Patterns, and Software Architectures By Hassan Gomaa

This book covers all you need to know to model and design software applications from use cases to software architectures in UML and shows how to apply the COMET UML-based modeling and design method to real-world problems. The author describes architectural patterns for various architectures, such as broker, discovery, and transaction patterns for service-oriented architectures, and addresses software quality attributes including maintainability, modifiability, testability, traceability, scalability, reusability, performance, availability, and security. Complete case studies illustrate design issues for different software architectures: a banking system for client/server architecture, an online shopping system for service-oriented architecture, an emergency monitoring system for component-based software architecture, and an automated guided vehicle for real-time software architecture. Organized as an introduction followed by several short, self-contained chapters, the book is perfect for senior undergraduate or graduate courses in software engineering and design, and for experienced software engineers wanting a quick reference at each stage of the analysis, design, and development of large-scale software systems.

Software Modeling and Design: UML, Use Cases, Patterns, and Software Architectures

By Hassan Gomaa

Software Modeling and Design: UML, Use Cases, Patterns, and Software Architectures By Hassan Gomaa

This book covers all you need to know to model and design software applications from use cases to software architectures in UML and shows how to apply the COMET UML-based modeling and design method to real-world problems. The author describes architectural patterns for various architectures, such as broker, discovery, and transaction patterns for service-oriented architectures, and addresses software quality attributes including maintainability, modifiability, testability, traceability, scalability, reusability, performance, availability, and security. Complete case studies illustrate design issues for different software architectures: a banking system for client/server architecture, an online shopping system for service-oriented architecture, an emergency monitoring system for component-based software architecture, and an automated guided vehicle for real-time software architecture. Organized as an introduction followed by several short, self-contained chapters, the book is perfect for senior undergraduate or graduate courses in software engineering and design, and for experienced software engineers wanting a quick reference at each stage of the analysis, design, and development of large-scale software systems.

Software Modeling and Design: UML, Use Cases, Patterns, and Software Architectures By Hassan Gomaa Bibliography

- Sales Rank: #891549 in Books
- Brand: Brand: Cambridge University Press
- Published on: 2011-02-21
- Original language: English
- Number of items: 1
- Dimensions: 9.96" h x 1.26" w x 8.46" l, 2.55 pounds
- Binding: Hardcover
- 578 pages

⬇ **Download** Software Modeling and Design: UML, Use Cases, Patt ...pdf

🗎 **Read Online** Software Modeling and Design: UML, Use Cases, Pa ...pdf

Download and Read Free Online Software Modeling and Design: UML, Use Cases, Patterns, and Software Architectures By Hassan Gomaa

Editorial Review

Review
"In Software Modeling and Design, Hassan Gomaa provides a clear, lucid presentation of a comprehensive software design method, based on industry-standard design notation, and battletested in the context of graduate-level software engineering courses taught at George Mason University. The book includes four, diverse case studies, showing readers how to apply the method to solve industrial-scale software design problems. These traits make this book unique within the field of software design and engineering."
Kevin Mills, NIST

"This book presents a general, complete, and precise engineering solution, illustrated by many thorough examples, for model-based architecture and design. I strongly recommend it to anybody who wants to teach, or get acquainted with, the practice of modeling software. Beyond notation, this book focuses on fundamental and practical modeling and architecting principles."
Lionel Briand, Simula Research Laboratory and University of Oslo

"This is a 'must have' book for any senior technologist actively involved in the software development life cycle. It provides not only principles of software architecture, design and development but also practical examples of how to apply these techniques to produce high-quality, maintainable and extensible software. Dr. Gomaa, a recognized thought leader in software engineering, hits another home run with this volume."
Mark Gianturco, Intelligent Discovery Solutions

"Software modeling and designing are complex activities. Developing high quality models, particularly by novice analysts, requires a thorough understanding of the fundamentals of modeling as well as its nuances. This book provides a comprehensive coverage of modeling the static and dynamic aspects of software systems and architectures. It presents a fresh perspective on software modeling and design through the application of the UML based COMET (Collaborative Object Modeling and Architectural Design Method) approach to real world examples. Dr Gomaa has done an excellent job of presenting the material in a simple and elegant manner. The fundamental concepts have been explained with lots of examples and further solidified through several case studies presented at the end of the book. Overall, this is an excellent book on software modeling and design that will be valuable for not only software engineering students but also practitioners."
Vijayan Sugumaran, Oakland University, Rochester, Michigan

"Software modeling continues to dominate as a method of choice for practitioners to gain an in-depth understanding of complex systems. Gomaa's book stands out from other titles on software modeling in both its breadth and depth of coverage. Its detailed case studies are second to none when it comes to really seeing how modeling can be applied in practice."
Jon Whittle, Lancaster University

"The COMET method is a unique UML-based approach covering theories and practices for modeling and design of software systems. This book is the core of author's experiences and philosophy on software development."
Michael Shin, Texas Tech University

"This is a large book with interesting, well-presented material; it is particularly strong in its wealth of

examples, as well as its discussion of concurrency, which permeates the book. It is a strong contender for adoption as the textbook in advanced undergraduate and graduate courses in object-oriented analysis and design, particularly when architectural design is the focus. Practitioners will also find it to be a useful tutorial and reference."
Christopher Fox, Computing Reviews

"Software Modeling and Design is well written and concise, effectively describing a variety of software models and architectures. Gomaa has served in industry and academia; his research revolves around this book's topic, and he has made numerous contributions in the field. Possibly the best part of the book can be found toward the end, where the author presents a series of case studies."
D. Papamichail, Choice Magazine

About the Author
Hassan Gomaa is Professor and Chair of the Department of Computer Science at George Mason University. Gomaa has more than thirty years experience in software engineering, both in industry and academia. He has published more than 150 technical papers and is the author of three previous books: Designing Software Product Lines with UML; Designing Concurrent, Distributed, and Real-Time Applications with UML; and Software Design Methods for Concurrent and Real-Time Systems.

Users Review

From reader reviews:

Russell Belcher:

The book Software Modeling and Design: UML, Use Cases, Patterns, and Software Architectures gives you the sense of being enjoy for your spare time. You should use to make your capable much more increase. Book can to become your best friend when you getting tension or having big problem together with your subject. If you can make reading a book Software Modeling and Design: UML, Use Cases, Patterns, and Software Architectures being your habit, you can get a lot more advantages, like add your own personal capable, increase your knowledge about several or all subjects. It is possible to know everything if you like open and read a e-book Software Modeling and Design: UML, Use Cases, Patterns, and Software Architectures. Kinds of book are a lot of. It means that, science guide or encyclopedia or other individuals. So , how do you think about this publication?

James Drake:

Spent a free time and energy to be fun activity to complete! A lot of people spent their leisure time with their family, or their particular friends. Usually they undertaking activity like watching television, likely to beach, or picnic inside park. They actually doing same every week. Do you feel it? Do you wish to something different to fill your current free time/ holiday? Might be reading a book can be option to fill your free time/ holiday. The first thing that you'll ask may be what kinds of e-book that you should read. If you want to try out look for book, may be the reserve untitled Software Modeling and Design: UML, Use Cases, Patterns, and Software Architectures can be good book to read. May be it is usually best activity to you.

Joseph Davis:

People live in this new moment of lifestyle always attempt to and must have the extra time or they will get lots of stress from both daily life and work. So , if we ask do people have extra time, we will say absolutely yes. People is human not a robot. Then we consult again, what kind of activity have you got when the spare time coming to a person of course your answer can unlimited right. Then do you ever try this one, reading guides. It can be your alternative within spending your spare time, the actual book you have read will be Software Modeling and Design: UML, Use Cases, Patterns, and Software Architectures.

Virginia Berry:

In this period of time globalization it is important to someone to obtain information. The information will make someone to understand the condition of the world. The healthiness of the world makes the information easier to share. You can find a lot of referrals to get information example: internet, paper, book, and soon. You can view that now, a lot of publisher this print many kinds of book. The particular book that recommended to you is Software Modeling and Design: UML, Use Cases, Patterns, and Software Architectures this reserve consist a lot of the information on the condition of this world now. That book was represented so why is the world has grown up. The vocabulary styles that writer use to explain it is easy to understand. The writer made some investigation when he makes this book. Here is why this book acceptable all of you.

Download and Read Online Software Modeling and Design: UML, Use Cases, Patterns, and Software Architectures By Hassan Gomaa #2FJSMLN7IP8

Read Software Modeling and Design: UML, Use Cases, Patterns, and Software Architectures By Hassan Gomaa for online ebook

Software Modeling and Design: UML, Use Cases, Patterns, and Software Architectures By Hassan Gomaa Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Software Modeling and Design: UML, Use Cases, Patterns, and Software Architectures By Hassan Gomaa books to read online.

Online Software Modeling and Design: UML, Use Cases, Patterns, and Software Architectures By Hassan Gomaa ebook PDF download

Software Modeling and Design: UML, Use Cases, Patterns, and Software Architectures By Hassan Gomaa Doc

Software Modeling and Design: UML, Use Cases, Patterns, and Software Architectures By Hassan Gomaa Mobipocket

Software Modeling and Design: UML, Use Cases, Patterns, and Software Architectures By Hassan Gomaa EPub

2FJSMLN7IP8: Software Modeling and Design: UML, Use Cases, Patterns, and Software Architectures By Hassan Gomaa