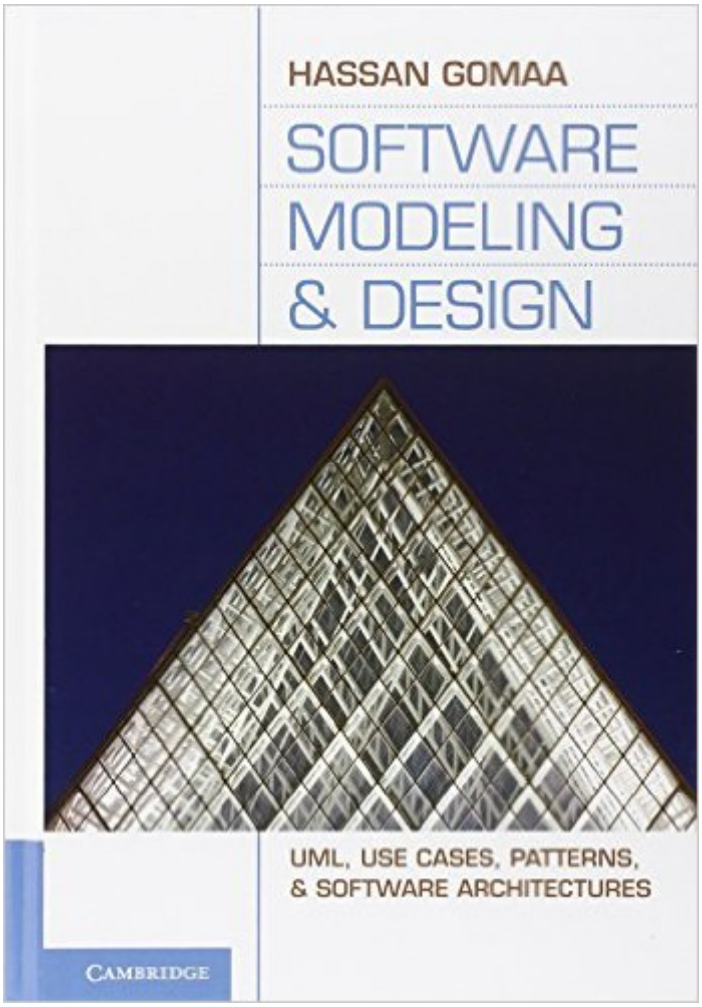
Software Modeling And Design: UML, Use Cases, Patterns, And Software Architectures



Synopsis

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.

Book Information

Hardcover: 578 pages

Publisher: Cambridge University Press; 1 edition (February 21, 2011)

Language: English

ISBN-10: 0521764149

ISBN-13: 978-0521764148

Product Dimensions: 8.5 x 1.3 x 10 inches

Shipping Weight: 2.5 pounds (View shipping rates and policies)

Average Customer Review: 4.3 out of 5 starsÂ Â See all reviewsÂ (6 customer reviews)

Best Sellers Rank: #182,725 in Books (See Top 100 in Books) #14 inÂ Books > Computers & Technology > Programming > Software Design, Testing & Engineering > UML #35 inÂ Books > Computers & Technology > Computer Science > Computer Simulation #103 inÂ Books > Computers & Technology > Computer Science > Systems Analysis & Design

Customer Reviews

If you want to learn to use UML as a communication tool on your software development projects, this is the book too own. It contains a ton of examples and covers every aspect of the UML you will need to know to successfully use it on your projects.The book starts out with an introduction to software architecture and object oriented analysis and design with UML.There is then a short

chapter on UML notation, a chapter on software development processes, and one on software design and architectural concepts. The last chapter in part one introduces COMET (Collaborative Object Modeling and Architectural Design Method), which is the author's software modeling and design method.To me COMET is not really that much different than the Unified Process, which is a great process. COMET just breaks out the testing activities a little differently. COMET is a very usable process and if used correctly should lead to successful software development projects.Part two of the book is all about modeling. There is a chapter on Use Case Modeling, Static Modeling, Object and Class Structuring, Dynamic Interaction Modeling, Finite State Machines, and State-Dependent Dynamic Interaction Modeling.By the time you are done with part two of this book you will know all you need to know to produce high quality diagrams that can be used between the different stakeholders on your projects as very effective communication tools.Part three of the book covers software architecture. There is a chapter on the Overview of Software Architecture, Software Subsystem Architectural Design, Designing Object-Oriented Software Architectures, Designing Client/Server Software Architectures, Designing Service-Oriented Architectures, Designing Component-Based Software Architectures, Designing Concurrent and Real-Time Software Architectures, Designing Software Product Line Architectures, and a chapter on Software Quality Attributes.If the chapter on Software Product Lines interests you, I would highly recommend buying the author's book tilted Designing Software Product Lines with UML: From Use Cases to Pattern-Based Software Architectures.I really the like the way part two introduces the different perspectives you need to have when considering the type of architecture you are building. The way the author accomplishes this is unique to this book. I have not seen it broken down this way before, and it really provides some great insight.Part three contains several case studies. Each one provides a detailed design of the system being discussed. These are great for seeing how well the design techniques in this book work. You get a complete understanding of each of the systems in the case studies by the time you are done reading the chapter.This book is really well written and organized. You can read it from front to back or use it as a reference. Each chapter ends with exercise questions. I usually just ignore these, but since the author has decided to include the answers I enjoyed trying to answer them.The book has an appendix which contains a nice catalog of software architectural patterns. It is a summary of architectural structure patterns, communication patterns, and transaction patterns. It contains a summary of the pattern and the location it is used in the book.All in all this is a very high quality book packed with very valuable information any architect at an level of experience will benefit from. Hi highly recommend this book!!!!

This book provides more than just the ordinary overview of the Unified Modeling Language (UML). Rather, this book is the rare exception that not only provides the novice with an introduction to UML (2), but also provides a comprehensive software design method aimed at modeling large scale, industrial software systems. Furthermore, the COMET method described in this book is augmented with several detailed case studies to aid comprehension and demonstrate the application of the software design method in real situations. This book is an excellent text for software design courses as well as an excellent reference for practicing software architects / designers.

i m new as software developer but i can say that you can find the logic of software architect in this book. Every think you need. :) Strongly recommended. Use cases and software modelling are main object that took my attention. This was the best among 10s books i red about soft arc.

One or two examples carry on along the book would had helped more than several disconnected examples. Too much repetition of same ideas, therefore a waste of time. Of the 100% I was expecting to learn from this book guess only 30% was provided by it. It worth just 1/3 of its prize.

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I think is a good book and it is useful for my course studying UML. I can’t tell more as I haven’t finished reading.

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