

Use Case Driven Object Modeling With Uml Theory And Practice

Overviews the process of building and compiling executable UML models for software development. The book focuses on the BridgePoint tool suite and object action language developed by Project Technology. The authors discuss identifying system requirements, diagramming classes and attributes, constraints on the class diagram, ways of building sets of communicating statechart diagrams, and model verification. Annotation copyrighted by Book News, Inc., Portland, OR.

Discusses how to define and organize use cases that model the user requirements of a software application. The approach focuses on identifying all the parties who will be using the system, then writing detailed use case descriptions and structuring the use case model. An ATM example runs throughout the book. The authors work at Rational Software. Annotation copyrighted by Book News, Inc., Portland, OR

* Examples are easy to understand; diagrams aren't overly busy. * Written in user-friendly style author is known for. * Condensed, distilled presentation of the UML Superstructure document will get you up to speed with UML 2.0.

This book focuses on recent developments in representational and processing aspects of complex data-intensive applications. Until recently, information systems have been designed around different business functions, such as accounts payable and inventory control. Object-oriented modeling, in contrast, structures systems around the data--the objects--that make up

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the various business functions. Because information about a particular function is limited to one place--to the object--the system is shielded from the effects of change. Object-oriented modeling also promotes better understanding of requirements, clear designs, and more easily maintainable systems. This book focuses on recent developments in representational and processing aspects of complex data-intensive applications. The chapters cover "hot" topics such as application behavior and consistency, reverse engineering, interoperability and collaboration between objects, and work-flow modeling. Each chapter contains a review of its subject, followed by object-oriented modeling techniques and methodologies that can be applied to real-life applications. Contributors F. Casati, S. Ceri, R. Cicchetti, L. M. L. Delcambre, E. F. Ecklund, D. W. Embley, G. Engels, J. M. Gagnon, R. Godin, M. Gogolla, L. Groenewegen, G. S. Jensen, G. Kappel, B. J. Krämer, S. W. Liddle, R. Missaoui, M. Norrie, M. P. Papazoglou, C. Parent, B. Perniei, P. Poncelet, G. Pozzi, M. Schreft, R. T. Snodgrass, S. Spaccapietra, M. Stumptner, M. Teisseire, W. J. van den Heuevel, S. N. Woodfield Larman covers how to investigate requirements, create solutions and then translate designs into code, showing developers how to make practical use of the most significant recent developments. A summary of UML notation is included

Based on Objectory which is the first commercially available comprehensive object-oriented process for developing large scale industrial systems.

This guide will help readers learn how to employ the significant power of use cases to their software development efforts. It provides a practical methodology, presenting key use case concepts.

Use Case Driven Object Modeling with UML Theory and Practice shows how to drive an object-

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oriented software design from use case all the way through coding and testing, based on the minimalist, UML-based ICONIX process. In addition to a comprehensive explanation of the foundations of the approach, the book makes extensive use of examples and provides exercises at the back of each chapter.· Introduction to ICONIX Process· Domain Modeling· Use Case Modeling· Requirements Review· Robustness Analysis· Preliminary Design Review· Technical Architecture· Sequence Diagrams· Critical Design Review· Implementation: Getting from Detailed Design to Code· Code Review and Model Update· Design-Driven Testing· Addressing Requirements

A bold and all-embracing exploration of the nature and progress of knowledge from one of today's great thinkers. Throughout history, mankind has struggled to understand life's mysteries, from the mundane to the seemingly miraculous. In this important new book, David Deutsch, an award-winning pioneer in the field of quantum computation, argues that explanations have a fundamental place in the universe. They have unlimited scope and power to cause change, and the quest to improve them is the basic regulating principle not only of science but of all successful human endeavor. This stream of ever improving explanations has infinite reach, according to Deutsch: we are subject only to the laws of physics, and they impose no upper boundary to what we can eventually understand, control, and achieve. In his previous book, *The Fabric of Reality*, Deutsch describe the four deepest strands of existing knowledge-the theories of evolution,

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quantum physics, knowledge, and computation-arguing jointly they reveal a unified fabric of reality. In this new book, he applies that worldview to a wide range of issues and unsolved problems, from creativity and free will to the origin and future of the human species. Filled with startling new conclusions about human choice, optimism, scientific explanation, and the evolution of culture, *The Beginning of Infinity* is a groundbreaking book that will become a classic of its kind.

More than 300,000 developers have benefited from past editions of *UML Distilled*. This third edition is the best resource for quick, no-nonsense insights into understanding and using UML 2.0 and prior versions of the UML. Some readers will want to quickly get up to speed with the UML 2.0 and learn the essentials of the UML. Others will use this book as a handy, quick reference to the most common parts of the UML. The author delivers on both of these promises in a short, concise, and focused presentation. This book describes all the major UML diagram types, what they're used for, and the basic notation involved in creating and deciphering them. These diagrams include class, sequence, object, package, deployment, use case, state machine, activity, communication, composite structure, component, interaction overview, and timing diagrams. The examples are clear and the explanations cut to the fundamental design logic.

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Includes a quick reference to the most useful parts of the UML notation and a useful summary of diagram types that were added to the UML 2.0. If you are like most developers, you don't have time to keep up with all the new innovations in software engineering. This new edition of Fowler's classic work gets you acquainted with some of the best thinking about efficient object-oriented software design using the UML--in a convenient format that will be essential to anyone who designs software professionally.

Introduces the Unified Modeling Language, explains the fundamentals of modeling elements, structures, and the behaviors of object-oriented software systems, and offers real-world examples.

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

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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.

ICONIX Process has a long track record of helping companies avoid analysis paralysis on a multitude of projects, and is best suited for developing Web and GUI-based systems. This resource contains a treasure-trove of tailored roadmaps, proven on demanding real-life projects.

The acclaimed beginner's book on object technology now presents UML 2.0, Agile Modeling, and the latest in object development techniques.

Social scientists, whether earnest graduate students or tenured faculty members, clearly know the rules that govern good writing. But for some reason they choose to ignore those guidelines and churn out turgid, pompous, and obscure prose.

Distinguished sociologist Howard S. Becker, true to his calling, looks for an explanation for this bizarre behavior not in the psyches of his colleagues but in the structure of his profession. In this highly personal and inspirational volume he

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considers academic writing as a social activity. Both the means and the reasons for writing a thesis or article or book are socially structured by the organization of graduate study, the requirements for publication, and the conditions for promotion, and the pressures arising from these situations create the writing style so often lampooned and lamented. Drawing on his thirty-five years' experience as a researcher, writer, and teacher, Becker exposes the foibles of the academic profession to the light of sociological analysis and gentle humor. He also offers eminently useful suggestions for ways to make social scientists better and more productive writers. Among the topics discussed are how to overcome the paralyzing fears of chaos and ridicule that lead to writer's block; how to rewrite and revise, again and again; how to adopt a persona compatible with lucid prose; how to deal with that academic bugaboo, "the literature." There is also a chapter by Pamela Richards on the personal and professional risks involved in scholarly writing. In recounting his own trials and errors Becker offers his readers not a model to be slavishly imitated but an example to inspire. Throughout, his focus is on the elusive work habits that contribute to good writing, not the more easily learned rules of grammar and punctuation. Although his examples are drawn from sociological literature, his conclusions apply to all fields of social science, and indeed to all areas of scholarly endeavor. The message is clear: you don't

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have to write like a social scientist to be one.

Venturing beyond C++ programming, this text shows how to engineer software products using object-oriented principles. It covers gathering requirements, specifying objects, object verification, defining relations between objects, translating object design into code, object testing, and software maintenance. This book offers a unique insight into a revolution in software development that allows model specifications to be fully and efficiently translated into code. Using the most widely adopted, industry standard, software modelling language, UML, the reader will learn how to build robust specifications based on OMG's Model Driven Architecture (MDA). From there, the authors describe the steps needed to translate the Executable UML (xUML) models to any platform-specific implementation. The benefits of this approach go well beyond simply reducing or eliminating the coding stage - it also ensures platform independence, avoids obsolescence (programming languages may change, the model doesn't) and allows full verification of the models by executing them in a test and debug xUML environment. This is an excellent reference for anyone embarking on what is surely the future of software development for medium and large scale projects. Conallen introduces architects and designers and client/server systems to issues and techniques of developing software for the Web. He expects readers to be

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familiar with object-oriented principles and concepts, particularly with UML (unified modeling language), and at least one Web application architecture or environment. The second edition incorporates both technical developments and his experience since 1999. He does not provide a bibliography. Annotation copyrighted by Book News, Inc., Portland, OR

You want increased customer satisfaction, faster development cycles, and less wasted work. Domain-driven design (DDD) combined with functional programming is the innovative combo that will get you there. In this pragmatic, down-to-earth guide, you'll see how applying the core principles of functional programming can result in software designs that model real-world requirements both elegantly and concisely - often more so than an object-oriented approach. Practical examples in the open-source F# functional language, and examples from familiar business domains, show you how to apply these techniques to build software that is business-focused, flexible, and high quality. Domain-driven design is a well-established approach to designing software that ensures that domain experts and developers work together effectively to create high-quality software. This book is the first to combine DDD with techniques from statically typed functional programming. This book is perfect for newcomers to DDD or functional programming - all the techniques you need will be introduced and

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explained. Model a complex domain accurately using the F# type system, creating compilable code that is also readable documentation---ensuring that the code and design never get out of sync. Encode business rules in the design so that you have "compile-time unit tests," and eliminate many potential bugs by making illegal states unrepresentable. Assemble a series of small, testable functions into a complete use case, and compose these individual scenarios into a large-scale design. Discover why the combination of functional programming and DDD leads naturally to service-oriented and hexagonal architectures. Finally, create a functional domain model that works with traditional databases, NoSQL, and event stores, and safely expose your domain via a website or API. Solve real problems by focusing on real-world requirements for your software. What You Need: The code in this book is designed to be run interactively on Windows, Mac and Linux. You will need a recent version of F# (4.0 or greater), and the appropriate .NET runtime for your platform. Full installation instructions for all platforms at fsharp.org.

"This is the fourth report on mothers and babies in NSW to combine the annual reports of the NSW Midwives Data Collection (MDC), the Neonatal Intensive Care Units' Data Collection and the NSW Birth Defects Register."--Page 9. Enterprise Integration Patterns provides an invaluable catalog of sixty-five

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patterns, with real-world solutions that demonstrate the formidable of messaging and help you to design effective messaging solutions for your enterprise. The authors also include examples covering a variety of different integration technologies, such as JMS, MSMQ, TIBCO ActiveEnterprise, Microsoft BizTalk, SOAP, and XSL. A case study describing a bond trading system illustrates the patterns in practice, and the book offers a look at emerging standards, as well as insights into what the future of enterprise integration might hold. This book provides a consistent vocabulary and visual notation framework to describe large-scale integration solutions across many technologies. It also explores in detail the advantages and limitations of asynchronous messaging architectures. The authors present practical advice on designing code that connects an application to a messaging system, and provide extensive information to help you determine when to send a message, how to route it to the proper destination, and how to monitor the health of a messaging system. If you want to know how to manage, monitor, and maintain a messaging system once it is in use, get this book. For nearly ten years, the Unified Modeling Language (UML) has been the industry standard for visualizing, specifying, constructing, and documenting the artifacts of a software-intensive system. As the de facto standard modeling language, the UML facilitates communication and reduces confusion among

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project stakeholders. The recent standardization of UML 2.0 has further extended the language's scope and viability. Its inherent expressiveness allows users to model everything from enterprise information systems and distributed Web-based applications to real-time embedded systems. In this eagerly anticipated revision of the best-selling and definitive guide to the use of the UML, the creators of the language provide a tutorial to its core aspects in a two-color format designed to facilitate learning. Starting with an overview of the UML, the book explains the language gradually by introducing a few concepts and notations in each chapter. It also illustrates the application of the UML to complex modeling problems across a variety of application domains. The in-depth coverage and example-driven approach that made the first edition of *The Unified Modeling Language User Guide* an indispensable resource remain unchanged. However, content has been thoroughly updated to reflect changes to notation and usage required by UML 2.0. Highlights include: A new chapter on components and internal structure, including significant new capabilities for building encapsulated designs; New details and updated coverage of provided and required interfaces, collaborations, and UML profiles; Additions and changes to discussions of sequence diagrams, activity diagrams, and more; Coverage of many other changes introduced by the UML 2.0 specification. With this essential guide, you

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will quickly get up to speed on the latest features of the industry standard modeling language and be able to apply them to your next software project. From the beginning of software time, people have wondered why it isn't possible to accelerate software projects by simply adding staff. This is sometimes known as the "nine women can't make a baby in one month" problem. The most famous treatise declaring this to be impossible is Fred Brooks' 1975 book *The Mythical Man-Month*, in which he declares that "adding more programmers to a late software project makes it later," and indeed this has proven largely true over the decades. Aided by a domain-driven code generator that quickly creates database and API code, Parallel Agile (PA) achieves significant schedule compression using parallelism: as many developers as necessary can independently and concurrently develop the scenarios from initial prototype through production code. Projects can scale by elastic staffing, rather than by stretching schedules for larger development efforts. Schedule compression with a large team of developers working in parallel is analogous to hardware acceleration of compute problems using parallel CPUs. PA has some similarities with and differences from other Agile approaches. Like most Agile methods, PA "gets to code early" and uses feedback from executable software to drive requirements and design. PA uses technical prototyping as a risk-mitigation

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strategy, to help sanity-check requirements for feasibility, and to evaluate different technical architectures and technologies. Unlike many Agile methods, PA does not support "design by refactoring," and it doesn't drive designs from unit tests. Instead, PA uses a minimalist UML-based design approach (Agile/ICONIX) that starts out with a domain model to facilitate communication across the development team, and partitions the system along use case boundaries, which enables parallel development. Parallel Agile is fully compatible with the Incremental Commitment Spiral Model (ICSM), which involves concurrent effort of a systems engineering team, a development team, and a test team working alongside the developers. The authors have been researching and refining the PA process for several years on multiple test projects that have involved over 200 developers. The book's example project details the design of one of these test projects, a crowdsourced traffic safety system.

As organizations and research institutions continue to emphasize model-driven engineering (MDE) as a first-class approach in the software development process of complex systems, the utilization of software in multiple domains and professional networks is becoming increasingly vital. *Advances and Applications in Model-Driven Engineering* explores this relatively new approach in software development that can increase the level of abstraction of development of tasks.

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This publication covers the issues of bridging the gaps between various disciplines within software engineering and computer science. Professionals, researchers, and students will discover the most current tools and techniques available in the field to maximize efficiency of model-driven software development.

Object technology pioneer Wirfs-Brock teams with expert McKean to present a thoroughly updated, modern, and proven method for the design of software. The book is packed with practical design techniques that enable the practitioner to get the job done.

In a futuristic military adventure a recruit goes through the roughest boot camp in the universe and into battle with the Terran Mobile Infantry in what historians would come to call the First Interstellar War

Describes ways to incorporate domain modeling into software development.

Stephens and Rosenberg examine XP in the context of existing methodologies and processes such as RUP, ICONIX, Spiral, RAD, DSDM, etc – and show how XP goals can be achieved using these existing processes.

A look at how new technologies can be put to use in the creation of a more just society.

Artificial Intelligence (AI) is not likely to make humans redundant. Nor will it create superintelligence anytime soon. But it will make huge advances in the next two decades, revolutionize medicine, entertainment, and transport, transform jobs and markets, and vastly increase the amount of information that governments and companies have about individuals.

AI for Good leads off with economist and best-selling author Daron Acemoglu, who argues that

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there are reasons to be concerned about these developments. AI research today pays too much attention to the technological hurdles ahead without enough attention to its disruptive effects on the fabric of society: displacing workers while failing to create new opportunities for them and threatening to undermine democratic governance itself. But the direction of AI development is not preordained. Acemoglu argues for its potential to create shared prosperity and bolster democratic freedoms. But directing it to that task will take great effort: It will require new funding and regulation, new norms and priorities for developers themselves, and regulations over new technologies and their applications. At the intersection of technology and economic justice, this book will bring together experts--economists, legal scholars, policy makers, and developers--to debate these challenges and consider what steps tech companies can do take to ensure the advancement of AI does not further diminish economic prospects of the most vulnerable groups of population.

*Describes an agile process that works on large projects *Ideal for hurried developers who want to develop software in teams *Incorporates real-life C#/.NET web project; can compare this with cases in book

A classic treatise that defined the field of applied demand analysis, *Consumer Demand in the United States: Prices, Income, and Consumption Behavior* is now fully updated and expanded for a new generation. Consumption expenditures by households in the United States account for about 70% of America's GDP. The primary focus in this book is on how households adjust these expenditures in response to changes in price and income. Econometric estimates of price and income elasticities are obtained for an exhaustive array of goods and services using data from surveys conducted by the Bureau of Labor Statistics, providing a better

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understanding of consumer demand. Practical models for forecasting future price and income elasticities are also demonstrated. Fully revised with over a dozen new chapters and appendices, the book revisits the original Taylor-Houthakker models while examining new material as well, such as the use of quantile regression and the stationarity of consumer preference. It also explores the emerging connection between neuroscience and consumer behavior, integrating the economic literature on demand theory with psychology literature. The most comprehensive treatment of the topic to date, this volume will be an essential resource for any researcher, student or professional economist working on consumer behavior or demand theory, as well as investors and policymakers concerned with the impact of economic fluctuations.

The groundbreaking book Design Driven Testing brings sanity back to the software development process by flipping around the concept of Test Driven Development (TDD)—restoring the concept of using testing to verify a design instead of pretending that unit tests are a replacement for design. Anyone who feels that TDD is “Too Damn Difficult” will appreciate this book. Design Driven Testing shows that, by combining a forward-thinking development process with cutting-edge automation, testing can be a finely targeted, business-driven, rewarding effort. In other words, you’ll learn how to test smarter, not harder. Applies a feedback-driven approach to each stage of the project lifecycle. Illustrates a lightweight and effective approach using a core subset of UML. Follows a real-life example project using Java and Flex/ActionScript. Presents bonus chapters for advanced DDTers covering unit-test antipatterns (and their opposite, “test-conscious” design patterns), and showing how to create your own test transformation templates in Enterprise Architect.

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The first UML book to cover Rational Rose 2000, this brand-new edition reviews the three key interrelated components of state-of-the-art software system design: the Rational Unified process, the Unified Modeling Language, and Rational Rose 2000. Then, through a simplified case study, it walks developers through a real-world business system. Includes screen shots demonstrating UML at work in the Rational Rose 2000 modeling tool.

The Practical, Start-to-Finish Guide to Planning and Leading Iterative Software Projects

Iterative processes have gained widespread acceptance because they help software developers reduce risk and cost, manage change, improve productivity, and deliver more effective, timely solutions. But conventional project management techniques don't work well in iterative projects, and newer iterative management techniques have been poorly documented. Managing Iterative Software Development Projects is the solution: a relentlessly practical guide to planning, organizing, estimating, staffing, and managing any iterative project, from start to finish. Leading iterative development experts Kurt Bittner and Ian Spence introduce a proven, scalable approach that improves both agility and control at the same time, satisfying the needs of developers, managers, and the business alike. Their techniques are easy to understand, and easy to use with any iterative methodology, from Rational Unified Process to Extreme Programming to the Microsoft Solutions Framework. Whatever your role—team leader, program manager, project manager, developer, sponsor, or user representative—this book will help you

Understand the key drivers of success in iterative projects
Leverage “time boxing” to define project lifecycles and measure results
Use Unified Process phases to facilitate controlled iterative development
Master core concepts of iterative project management, including layering and evolution
Create project roadmaps, including release plans
Discover key patterns of risk

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management, estimation, organization, and iteration planning Understand what must be controlled centrally, and what you can safely delegate Transition smoothly to iterative processes Scale iterative project management from the smallest to the largest projects Align software investments with the needs of the business Whether you are interested in software development using RUP, OpenUP, or other agile processes, this book will help you reduce the anxiety and cost associated with software improvement by providing an easy, non-intrusive path toward improved results—without overwhelming you and your team.

Diagramming and process are important topics in today's software development world, as the UML diagramming language has come to be almost universally accepted. Yet process is necessary; by themselves, diagrams are of little use. Use Case Driven Object Modeling with UML - Theory and Practice combines the notation of UML with a lightweight but effective process - the ICONIX process - for designing and developing software systems. ICONIX has developed a growing following over the years. Sitting between the free-for-all of Extreme Programming and overly rigid processes such as RUP, ICONIX offers just enough structure to be successful.

"Highlights of this book include: the MDA framework, including the Platform Independent Model (PIM) and Platform Special Model (PSM); OMG standards and the use of UML; MDA and Agile, Extreme Programming, and Rational Unified Process (RUP) development; how to apply MDA, including PIM-to-PSM and PSM-to-code transformations for Relational, Enterprise JavaBean (EJB), and Web models; transformations, including controlling and tuning, traceability, incremental consistency, and their implications; metamodeling; and relationships between different standards, including Meta Object Facility (MOF), UML, and Object Constraint

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Language (OCL)."--Jacket.

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