

Use Case Driven Object Modeling With UML Theory And Practice

This book constitutes thoroughly revised and selected papers from the 8th International Conference on Model-Driven Engineering and Software Development, MODELSWARD 2020, held in Valletta, Malta, in February 2020. The 15 revised and extended papers presented in this volume were carefully reviewed and selected from 66 submissions. They present recent research results and development activities in using models and model driven engineering techniques for software development. The papers are organized in topical sections on? methodologies, processes and platforms; applications and software development; modeling languages, tools and architectures.

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

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

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

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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.

A Brief Guide to the Standard Object Modeling Language
An Annotated E-commerce Example
Extreme Programming Refactored
Domain-driven Design
A Practical Approach

***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**
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.

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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. This compact book helps application developers bridge the gap between the theory of the newly created Unified Software Development Process and the practical realities necessary to design and build a software system. The authors present the key ingredients of the Unified Process and demonstrate how the process was conceived to work with UML, emphasizing the application of Use Cases as a primary design tool. The book incorporates a wealth of practical experience showcased by four case studies -- a hospital information system, a video on demand system, a portfolio management system, and a vehicle navigation (IVHS) system.

An Introduction

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**Real Time UML Workshop for Embedded Systems
8th International Conference, MODELSWARD 2020,
Valletta, Malta, February 25–27, 2020, Revised Selected
Papers**

**Model Driven Architecture with Executable UML
Model-Driven Engineering and Software Development
Applying Use Cases**

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 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

Social Movements is a comprehensive introduction and critical analysis of collective action in society today. In this new edition, the authors have updated all chapters with the most recent scientific literature, expanded on topics such as individual motivations, new media, public policies, and governance. Draws on research and empirical work across the social sciences to address the key questions in this international field. New edition expands on topics such as individual motivations, new media, public policies, and governance. Has been redesigned in a more user-friendly format. 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

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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.

This is both the first authoritative treatment of OOUi and a book which will help designers, developers, analysts, and many others understand and apply object-oriented analysis to user interfaces. Collins delivers a single conceptual model to guide both external and internal design of the user interface. A set of figures, examples, and case studies illustrates the development of new applications and functions & --both stand-alone and integrated & --with existing environments. Throughout, the methodology is grounded in object-oriented principles that are consistent with other object-oriented methodologies for system and database design.

A Use Case Driven Approach

Parallel Agile - faster delivery, fewer defects, lower cost

**Designing Object-oriented User Interfaces
The Unified Modeling Language Reference
Manual**

**The Application Developer's Guide to Object-
Orientation and the UML
Iconix Process Roadmaps**

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

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

Object-Oriented Design with UML and Java provides an integrated introduction to object-oriented design with the Unified Modelling Language (UML) and the Java programming language. The book demonstrates how Java applications, no matter how small, can benefit from some design during their construction. Fully road-tested by students on the authors' own courses, the book shows how these complementary technologies can be used effectively to create quality software. It requires no prior knowledge of object orientation, though readers must have some

experience of Java or other high level programming language. This book covers object technology; object-oriented analysis and design; and implementation of objects with Java. It includes two case studies dealing with library applications. The UML has been incorporated into a graphical design tool called ROME, which can be downloaded from the book's website. This object modelling environment allows readers to prepare and edit various UML diagrams. ROME can be used alongside a Java compiler to generate Java code from a UML class diagram then compile and run the resulting application for hands-on learning. This text would be a valuable resource for undergraduate students taking courses on O-O analysis and design, O-O modelling, Java programming, and modelling with UML. * Integrates design and implementation, using Java and UML * Includes case studies and exercises * Bridges the gap between programming texts and high level analysis books on design

"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.

**The Unified Software Development Process
The Object Primer**

**Use Case Driven Object Modeling with UML
Applying Use Case Driven Object Modeling
with UML**

**Object-oriented Design and Architecture
Tackling Complexity in the Heart of Software**

This book shows how to apply pattern ideas in business applications. It presents more than 20 structural and behavioral business patterns that use the REA (resources, events, agents) pattern as a common backbone. The developer working on business frameworks can use the patterns to derive the right abstractions and to design and ensure that the meta-rules are followed by the developers of the actual applications. The application developer can use these patterns to design a business application, to ensure that it does not violate the domain rules, and to adapt the application to changing requirements without the need to change the overall architecture.

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.

From the beginning of software time, people have wondered why it isn't possible to accelerate

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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 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

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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.

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,

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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. 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.

Object-Oriented Programming Using C++, 2/E

Agile Development with ICONIX Process

A Business Logic Framework Linking Business and Technology

People, Process, and Pragmatism

The Decision Model

Executable UML

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.

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** 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.*

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.

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 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

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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 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.

An Annotated E-commerce Example

The Art of Objects

A Foundation for Model-driven Architecture

Software Modeling and Design

UML Distilled

Object-Oriented Design with UML and Java

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.

This practical new book provides much-needed, practical, hands-on experience capturing analysis and design in UML. It holds the hands of engineers making the difficult leap from developing in C to the higher-level and more robust Unified Modeling Language, thereby supporting professional development for engineers looking to broaden their skill-sets in order to become more saleable in the job market. It provides a laboratory environment through a series of progressively more complex exercises that act as building blocks, illustrating the various aspects of UML and its application to real-time and embedded systems. With its focus on

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gaining proficiency, it goes a significant step beyond basic UML overviews, providing both comprehensive methodology and the best level of supporting exercises available on the market. Each exercise has a matching solution which is thoroughly explained step-by-step in the back of the book. The techniques used to solve these problems come from the author's decades of experience designing and constructing real-time systems. After the exercises have been successfully completed, the book will act as a desk reference for engineers, reminding them of how many of the problems they face in their designs can be solved. Tutorial style text with keen focus on in-depth presentation and solution of real-world example problems Highly popular, respected and experienced author

Conallen introduces architects and designers and client/server systems to issues and techniques of developing software for the Web. He expects readers to be 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

The Art of Objects offers an extensive overview of

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*the long-standing principles of object technology, along with leading-edge developments in the field. It will give you a greater understanding of design patterns and the know-how to use them to find effective solutions to a wide range of design challenges. And because the book maintains an approach independent of specific programming languages, the concepts and techniques presented here can be applied to any object-oriented development environment. Using the Unified Modeling Language (UML), The Art of Objects examines numerous static and dynamic practical object design patterns, illustrated by real-life case studies that demonstrate how to put the patterns to work. You will also find discussion of basic concepts of database management and persistent objects, and an introduction to advanced topics in object modeling and interface design patterns. Moving beyond the design level, the book also covers important concepts in object-oriented architecture. Specific topics include: *Object creation and destruction, associations and links, aggregation, inheritance, and other object design fundamentals *UML notation basics for static and dyna*

Fast Track UML 2.0

APPLYING UML & PATTERNS 3RD EDITION

Design Driven Testing

Use Case Modeling

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Social Movements

A Practical Guide

*Use Case Driven Object Modeling with
UML Theory and Practice Theory and
Practice Apress*

*"If you are a serious user of UML,
there is no other book quite like this
one. I have been involved with the UML
specification process for some time,
but I still found myself learning
things while reading through this book-
especially on the changes and new
capabilities that have come with UML."*

*-Ed Seidewitz, Chief Architect,
IntelliData Technologies Corporation*

*The latest version of the Unified
Modeling Language-UML 2.0-has increased
its capabilities as the standard
notation for modeling software-
intensive systems. Like most standards
documents, however, the official UML
specification is difficult to read and
navigate. In addition, UML 2.0 is far
more complex than previous versions,
making a thorough reference book more
essential than ever. In this
significantly updated and expanded
edition of the definitive reference to
the standard, James Rumbaugh, Ivar*

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Jacobson, and Grady Booch—the UML's creators—clearly and completely describe UML concepts, including major revisions to sequence diagrams, activity models, state machines, components, internal structure of classes and components, and profiles. Whether you are capturing requirements, developing software architectures, designing implementations, or trying to understand existing systems, this is the book for you. Highlights include:

- Alphabetical dictionary of articles covering every UML concept*
- Integrated summary of UML concepts by diagram type*
- Two-color diagrams with extensive annotations in blue*
- Thorough coverage of both semantics and notation, separated in each article for easy reference*
- Further explanations of concepts whose meaning or purpose is obscure in the original specifications*
- Discussion sections offering usage advice and additional insight into tricky concepts*
- Notation summary, with references to individual articles*
- An enhanced online index available on the book's web site allowing readers to quickly and easily search the entire*

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text for specific topics The result is an indispensable resource for anyone who needs to understand the inner workings of the industry standard modeling language.

Introduces CRC (Class, Responsibility, Collaborator) cards and describes how they can be used in interactive sessions to develop an object-oriented model of an application.

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

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Testing. Addressing Requirements

Building Web Applications with UML

Theory and Practice

The Case Against XP

Object-oriented Software Engineering

Using CRC Cards

Use Case Driven Object Modeling with UML Theory and Practice

Use case analysis is a methodology for defining the outward features of a software system from the user's point of view. *Applying Use Cases, Second Edition*, offers a clear and practical introduction to this cutting-edge software development technique. Using numerous realistic examples and a detailed case study, you are guided through the application of use case analysis in the development of software systems. This new edition has been updated and expanded to reflect the Unified Modeling Language (UML) version 1.3. It also includes more complex and precise examples, descriptions of the pros and cons of various use case documentation techniques, and discussions on how other modeling approaches relate to use cases. *Applying Use Cases, Second Edition*, walks you through the software development process, demonstrating how use cases apply to project inception, requirements and risk analysis, system architecture, scheduling, review and testing, and documentation. Key topics include:

- Identifying use cases and describing actors
- Writing the flow of events, including basic and alternative paths
- Reviewing use cases for completeness and correctness

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Diagramming use cases with activity diagrams and sequence diagrams
Incorporating user interface description and data description documents
Testing architectural patterns and designs with use cases
Applying use cases to project planning, prototyping, and estimating
Identifying and diagramming analysis classes from use cases
Applying use cases to user guides, test cases, and training material
An entire section of the book is devoted to identifying common mistakes and describing their solutions. Also featured is a handy collection of documentation templates and an abbreviated guide to UML notation. You will come away from this book with a solid understanding of use cases, along with the skills you need to put use case analysis to work.

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.

Scott Ambler, author of Building Object Applications that Work, Process Patterns, and More Process Patterns, has revised his acclaimed first book, The Object Primer.

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Long prized in its original edition by both students and professionals as the best introduction to object-oriented technology, now this book is completely up-to-date with new material in every chapter. There are also new chapters on good OO programming techniques and OO software testing. All modeling notation has been rewritten in UML notation. Review questions at the end of each chapter allow readers to test their newly acquired knowledge. In addition, the author takes time to reflect on the lessons learned over the past few years by discussing the proven benefits and drawbacks of the technology. This is the perfect book for any software development professional or student seeking an introduction to the concepts and terminology of object technology.

In the current fast-paced and constantly changing business environment, it is more important than ever for organizations to be agile, monitor business performance, and meet with increasingly stringent compliance requirements. Written by pioneering consultants and bestselling authors with track records of international success, *The Decision Model: A Business Logic Framework Linking Business and Technology* provides a platform for rethinking how to view, design, execute, and govern business logic. The book explains how to implement the Decision Model, a stable, rigorous model of core business logic that informs current and emerging technology. The authors supply a strong theoretical foundation, while succinctly defining the path needed to incorporate agile and iterative techniques for developing a model that will be the cornerstone for continual growth.

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Because the book introduces a new model with tentacles in many disciplines, it is divided into three sections:

Section 1: A Complete overview of the Decision Model and its place in the business and technology world

Section 2: A Detailed treatment of the foundation of the Decision Model and a formal definition of the Model

Section 3: Specialized topics of interest on the Decision Model, including both business and technical issues

The Decision Model provides a framework for organizing business rules into well-formed decision-based structures that are predictable, stable, maintainable, and normalized. More than this, the Decision Model directly correlates business logic to the business drivers behind it, allowing it to be used as a lever for meeting changing business objectives and marketplace demands. This book not only defines the Decision Model and but also demonstrates how it can be used to organize decision structures for maximum stability, agility, and technology independence and provide input into automation design.

An Informal Approach to Object-Oriented Development
Model-Driven Design Using Business Patterns

The Unified Modeling Language User Guide

Agile Model-Driven Development with UML 2.0

Step-By-Step Guidance for Soa, Embedded, and Algorithm-Intensive Systems

UML, Use Cases, Patterns, and Software Architectures

Describes ways to incorporate domain modeling into software development.

Test Smarter, Not Harder

Advances in Object-oriented Data Modeling

Use Case Driven Object Modeling With Uml: Theory

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And Practice
UML Explained