

Software Development With Uml

Explore the fundamental concepts behind modern, object-oriented software design best practices. Learn how to work with UML to approach software development more efficiently. In this comprehensive book, instructor Károly Nyisztor helps to familiarize you with the fundamentals of object-oriented design and analysis. He introduces each concept using simple terms, avoiding confusing jargon. He focuses on the practical application, using hands-on examples you can use for reference and practice. Throughout the book, Károly walks you through several examples to familiarize yourself with software design and UML. Plus, he walks you through a case study to review all the steps of designing a real software system from start to finish. Topics include:- Understanding software development methodologies- Choosing the right methodology: Waterfall vs. Agile- Fundamental object-Orientation concepts: Abstraction, Polymorphism and more- Collecting requirements- Mapping requirements to technical descriptions- Unified Modeling Language (UML)- Use case, class, sequence, activity, and state diagrams- Designing a Note-Taking App from scratch You will acquire professional and technical skills together with an understanding of object-orientation principles and concepts. After completing this book, you'll be able to understand the inner workings of object-oriented software systems. You will communicate easily and effectively with other developers using object-orientation terms and UML diagrams. About the Author Károly Nyisztor is a veteran mobile developer and instructor. He has built several successful iOS apps and games--most of which were featured by Apple--and is the founder at LEAKKA, a software development, and tech consulting company. He's worked with companies such as Apple, Siemens, SAP, and Zen Studios. Currently, he spends most of his days as a professional software engineer and IT architect. In addition, he teaches object-oriented software design, iOS, Swift, Objective-C, and UML. As an instructor, he aims to share his 20+ years of software development expertise and change the lives of students throughout the world. He's passionate about helping people reveal hidden talents, and guide them into the world of startups and programming. You can find his courses and books on all major platforms including Amazon, Lynda, LinkedIn Learning, Pluralsight, Udemy, and iTunes.

The essentials of UML 2.0 and how to use it in one concise volume.

Software Engineering with UML CRC Press

Covering the breadth of a large topic, this book provides a thorough grounding in object-oriented concepts, the software development process, UML and multi-tier technologies. After covering some basic ground work underpinning OO software projects, the book follows the steps of a typical development project (Requirements Capture - Design - Specification &

Test), showing how an abstract problem is taken through to a concrete solution. The book is programming language agnostic - so code is kept to a minimum to avoid detail and deviation into implementation minutiae. A single case study running through the text provides a realistic example showing development from an initial proposal through to a finished system. Key artifacts such as the requirements document and detailed designs are included. For each aspect of the case study, there is an exercise for the reader to produce similar documents for a different system.

UML 2.0 in a Nutshell

Software Development with UML

Object-oriented Software Engineering with UML

J2EE Design Patterns

Practical Software Development Using UML and Java

Developing Applications with Java and UML

This is an introductory book to information modelling with UML, for entry level university students. It assumes no previous knowledge of UML on the part of the reader, and uses a case-based approach to present the material clearly and accessibly. It harmonises the UML notation with a full software development approach, from project conception through to testing, deployment and enhancement. The author is an experienced tutor, who also practices as a UML professional, and the cases are based upon his own experience. The book is accompanied by a website that provides solutions to end-of-chapter exercises, a password-protected tutor's file of further exercises with solutions, slides to accompany the book, and other support material. This book is suitable for all undergraduate computing and information systems, or Software Engineering courses. First year students will find it particularly helpful for modules on systems development or analysis and design.

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

Software Engineering Techniques Applied to Agricultural Systems presents cutting-edge software engineering techniques for designing and implementing better agricultural software systems based on the object-oriented paradigm and the Unified Modeling Language (UML). The book is divided in two parts: the first part presents concepts of the object-oriented paradigm and the UML notation of these concepts, and the second part provides a number of examples of applications that use the material presented in the first part. The examples presented illustrate the techniques discussed, focusing on how to construct better models using objects and UML diagrams. More advanced concepts such as distributed systems and examples of how to build these systems are presented in the last chapter of the book. The book presents a step-by-step approach for modeling agricultural systems, starting with a conceptual diagram representing elements of the system and their relationships. Furthermore, diagrams such as sequential and collaboration diagrams are used to explain the dynamic and static aspects of the software system.

The book describes a method for developing the testing of components in parallel with their functionality based on models. UML models are used to derive the testing

architecture for an application, the testing interfaces and the component testers. The method provides a process and guidelines for modeling and developing these artifacts. The book also discusses the implications of built-in contract testing with other component-based development technologies such as product-line engineering, middleware platforms, reuse principles etc. Still further, it describes a new method for specifying and checking real-time properties of object-oriented, component-based real-time systems that are based on dynamic execution time analysis with optimization algorithms.

The Unified Software Development Process

Component-Based Software Testing with UML

VB6 UML

Modeling with UML

Service- and Component-based Development Using Select Perspective and UML

"...(an) exceptionally balanced and informative text." --Rich Dragan The Unified Modeling Language (UML) is a third generation method for specifying, visualizing, and documenting an object-oriented system under development. It unifies the three leading object-oriented methods and others to serve as the basis for a common, stable, and expressive object-oriented development notation. As the complexity of software applications increases, so does the developer's need to design and analyze applications before developing them. This practical introduction to UML provides software developers with an overview of this powerful new design notation, and teaches Java programmers to analyse and design object-oriented applications using the UML notation. + Apply the basics of UML to your applications immediately, without having to wade through voluminous documentation + Use the simple Internet example as a prototype for developing object-oriented applications of your own + Follow a real example of an Intranet sales reporting system written in Java that is used to drive explanations throughout the book + Learn from an example application modeled both by hand and with the use of Popkin Software's SA/Object Architect O-O visual modeling tool.

For courses in Software Engineering, Software Development, or Object-Oriented Design and Analysis at the Junior/Senior or Graduate level. This text can also be utilized in short technical courses or in short, intensive management courses. Object-Oriented Software Engineering Using UML, Patterns, and Java, 3e, shows readers how to use both the principles of software engineering and the practices of various object-oriented tools, processes, and products. Using a step-by-step case study to illustrate the concepts and topics in each chapter, Bruegge and Dutoit emphasize learning object-oriented software engineer through practical experience: readers can apply the techniques learned in class by implementing a real-world software project. The third edition addresses new trends, in particular agile project management (Chapter 14 Project Management) and agile methodologies (Chapter 16 Methodologies).

The Model Driven Architecture defines an approach where the specification of the functionality of a system can be separated from its implementation on a particular

*technology platform. The idea being that the architecture will be able to easily be adapted for different situations, whether they be legacy systems, different languages or yet to be invented platforms. MDA is therefore, a significant evolution of the object-oriented approach to system development. Advanced System Design with Java, UML and MDA describes the factors involved in designing and constructing large systems, illustrating the design process through a series of examples, including a Scrabble player, a jukebox using web streaming, a security system, and others. The book first considers the challenges of software design, before introducing the Unified Modelling Language and Object Constraint Language. The book then moves on to discuss systems design as a whole, covering internet systems design, web services, Flash, XML, XSLT, SOAP, Servlets, Javascript and JSP. In the final section of the book, the concepts and terminology of the Model Driven Architecture are discussed. To get the most from this book, readers will need introductory knowledge of software engineering, programming in Java and basic knowledge of HTML. * Examines issues raised by the Model-Driven Architecture approach to development * Uses easy to grasp case studies to illustrate complex concepts * Focused on the internet applications and technologies that are essential for students in the online age*

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.

Component-based Product Line Engineering with UML

From Use Cases to Pattern-based Software Architectures

UML, Use Cases, Patterns, and Software Architectures

Agile Modeling with UML

Software Engineering with UML

Software Modeling and Design

The extension UMLsec of the Unified Modeling Language for secure systems development is presented in this text. The book is written in a way which keeps the first part accessible to anyone with a basic background on object-oriented systems. The second part covers the mathematical tools needed to use the UMLsec approach to verify UML specifications against security requirements. It can also be used as part of a general course on applying UML or on computer security. A practically relevant example is used throughout the book

to demonstrate the presented methods.

Annotation The instruction put forth in this new book is all related to successfully using *Select Perspective*, a process conceived and marketed by *Select Business solutions*, a division of *Aonix*. *Select Perspective* is a pragmatic, component-based software development process that can be implemented by all roles in software development, and includes the business people that specify, accept, verify and use software solutions. Every individual who is involved in the specification, acceptance, construction, testing, delivery or budgetary control of software solutions will benefit from this book. The authors have helped organizations realize the benefit of component-based development with *Select Perspective*, and this book shows how it can be done, taking into account varying team sizes, uneven skill levels, and different industries. The book uses the UML for expression of designs, and will allow the reader to meet the demands of web services.

This book presents the analysis, design, documentation, and quality of software solutions based on the *OMG UML v2.5*. Notably it covers 14 different modelling constructs including use case diagrams, activity diagrams, business-level class diagrams, corresponding interaction diagrams and state machine diagrams. It presents the use of UML in creating a *Model of the Problem Space (MOPS)*, *Model of the Solution Space (MOSS)* and *Model of the Architectural Space (MOAS)*. The book touches important areas of contemporary software engineering ranging from how a software engineer needs to invariably work in an Agile development environment through to the techniques to model a Cloud-based solution. "Designing Software Product Lines with UML is well-written, informative, and addresses a very important topic. It is a valuable contribution to the literature in this area, and offers practical guidance for software architects and engineers." --Alan Brown Distinguished Engineer, Rational Software, IBM Software Group "Gomaa's process and UML extensions allow development teams to focus on feature-oriented development and provide a basis for improving the level of reuse across multiple software development efforts. This book will be valuable to any software development professional who needs to manage across projects and wants to focus on creating software that is consistent, reusable, and modular in nature." --Jeffrey S Hammond Group Marketing Manager, Rational Software, IBM Software Group "This book brings together a good range of concepts for understanding software product lines and provides an organized method for developing product lines using object-oriented techniques with the UML. Once again, Hassan has done an excellent job in balancing the needs of both experienced and novice software engineers." --Robert G. Pettit IV, Ph.D. Adjunct Professor of Software Engineering, George Mason University "This breakthrough book provides a comprehensive step-by-step approach on how to develop software product lines, which is of great strategic benefit to industry. The development of software product lines enables significant reuse of software architectures. Practitioners will benefit from the well-defined PLUS process and rich case studies." --Hurley V. Blankenship II Program Manager, Justice and Public Safety, Science Applications International Corporation "The Product Line UML based Software engineering (PLUS) is leading edge. With the author's wide experience and deep knowledge, PLUS is well harmonized with architectural and design pattern technologies." --Michael Shin Assistant Professor, Texas Tech University Long a standard practice in traditional manufacturing, the concept of product lines is quickly earning recognition in the software industry. A software product line is a family of systems that shares a common set of core technical assets with preplanned extensions and variations to address the needs of specific customers or market segments. When skillfully implemented, a product line strategy can yield enormous gains in productivity, quality, and time-to-market. Studies indicate that if three or more systems with a degree of common functionality are to be developed, a product-line approach is significantly more cost-effective. To model and design families of

systems, the analysis and design concepts for single product systems need to be extended to support product lines. *Designing Software Product Lines with UML* shows how to employ the latest version of the industry-standard Unified Modeling Language (UML 2.0) to reuse software requirements and architectures rather than starting the development of each new system from scratch. Through real-world case studies, the book illustrates the fundamental concepts and technologies used in the design and implementation of software product lines. This book describes a new UML-based software design method for product lines called PLUS (Product Line UML-based Software engineering). PLUS provides a set of concepts and techniques to extend UML-based design methods and processes for single systems in a new dimension to address software product lines. Using PLUS, the objective is to explicitly model the commonality and variability in a software product line. Hassan Gomaa explores how each of the UML modeling views--use case, static, state machine, and interaction modeling--can be extended to address software product families. He also discusses how software architectural patterns can be used to develop a reusable component-based architecture for a product line and how to express this architecture as a UML platform-independent model that can then be mapped to a platform-specific model. Key topics include: Software product line engineering process, which extends the Unified Development Software Process to address software product lines Use case modeling, including modeling the common and variable functionality of a product line Incorporating feature modeling into UML for modeling common, optional, and alternative product line features Static modeling, including modeling the boundary of the product line and information-intensive entity classes Dynamic modeling, including using interaction modeling to address use-case variability State machines for modeling state-dependent variability Modeling class variability using inheritance and parameterization Software architectural patterns for product lines Component-based distributed design using the new UML 2.0 capability for modeling components, connectors, ports, and provided and required interfaces Detailed case studies giving a step-by-step solution to real-world product line problems *Designing Software Product Lines with UML* is an invaluable resource for all designers and developers in this growing field. The information, technology, and case studies presented here show how to harness the promise of software product lines and the practicality of the UML to take software design, quality, and efficiency to the next level. An enhanced online index allows readers to quickly and easily search the entire text for specific topics.

APPLYING UML & PATTERNS 3RD EDITION

Object-oriented Software Engineering

Agile Model-Based Development Using UML-RSDS

An Object-Oriented and UML Approach

UML Distilled

The Developer's Guide

This text provides an introduction to the process of software engineering. The revision concentrates on updating the book to reflect the most current trends and innovations in the field. The Universal Modeling Language (UML) has become an industry standard and now permeates this new edition. In this text, it is used for object-oriented analysis and design as well as when diagrams depict objects and their interrelationships. Design patterns, frameworks and software architecture have also become a popular topic in the field of software engineering and are part of a new chapter on reuse, portability, and inoperability. The inoperability material includes sections on such hot topics as OLE, COM, and CORBA. Some material from the 3rd edition has been reorganized into a new chapter on planning and estimating, including feature points and COCOMO II. While the text has been updated, the traditional features which have defined the previous three editions of Schach's book have been retained. These include a

balanced coverage of the object-oriented model along with the classical model (as reflected in the title) and an emphasis on metrics. The special considerations of object-oriented life-cycle models, object-oriented analysis, and object-oriented design are also retained in this edition. This book focuses on the methodological treatment of UML/P and addresses three core topics of model-based software development: code generation, the systematic testing of programs using a model-based definition of test cases, and the evolutionary refactoring and transformation of models. For each of these topics, it first details the foundational concepts and techniques, and then presents their application with UML/P. This separation between basic principles and applications makes the content more accessible and allows the reader to transfer this knowledge directly to other model-based approaches and languages. After an introduction to the book and its primary goals in Chapter 1, Chapter 2 outlines an agile UML-based approach using UML/P as the primary development language for creating executable models, generating code from the models, designing test cases, and planning iterative evolution through refactoring. In the interest of completeness, Chapter 3 provides a brief summary of UML/P, which is used throughout the book. Next, Chapters 4 and 5 discuss core techniques for code generation, addressing the architecture of a code generator and methods for controlling it, as well as the suitability of UML/P notations for test or product code. Chapters 6 and 7 then discuss general concepts for testing software as well as the special features which arise due to the use of UML/P. Chapter 8 details test patterns to show how to use UML/P diagrams to define test cases and emphasizes in particular the use of functional tests for distributed and concurrent software systems. In closing, Chapters 9 and 10 examine techniques for transforming models and code and thus provide a solid foundation for refactoring as a type of transformation that preserves semantics. Overall, this book will be of great benefit for practical software development, for academic training in the field of Software Engineering, and for research in the area of model-based software development. Practitioners will learn how to use modern model-based techniques to improve the production of code and thus significantly increase quality. Students will find both important scientific basics as well as direct applications of the techniques presented. And last but not least, the book will offer scientists a comprehensive overview of the current state of development in the three core topics it covers.

This book covers the essential knowledge and skills needed by a student who is specializing in software engineering. Readers will learn principles of object orientation, software development, software modeling, software design, requirements analysis, and testing. The use of the Unified Modelling Language to develop software is taught in depth. Many concepts are illustrated using complete examples, with code written in Java.

This comprehensive guide has been fully revised to cover UML 2.0, today's standard method for modelling software systems. Filled with concise information, it's been crafted to help IT professionals read, create, and understand system artefacts expressed using UML. Includes an example-rich tutorial for those who need familiarizing with the system.

Topological UML Modeling

Model-driven Software Development with UML and Java

UML for Java Programmers

Code Generation, Testing, Refactoring

Object-oriented Analysis and Design in Practice

Advanced Systems Design with Java, UML and MDA

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. 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.

The author of *Developing Applications with Visual Basic and UML* (Addison-Wesley, 2000), a consultant on object-oriented distributed systems, presents a large-scale application to explain the lifecycle of building robust Java applications with the Unified Modeling Language using Rational's Software's Unified Plan. Reed also makes a short detour into his Synergy Process. Appends material on the Unified Plan and the BEA WebLogic application server. Assumes programmers' knowledge of Java and a willingness to evolve past a cavalier attitude toward project planning.

A cutting-edge, UML-based approach to software development and maintenance that integrates component-based and product-line engineering methods. - ripe market: development of component-based technologies is a major growth area - CBD viewed as a faster, more flexible way of building systems that can easily be adapted to meet rapidly-changing business needs and integrate legacy and new applications (e.g. Forrester report in June 1998 predicted that by 2001 "half of packaged apps vendors will deliver component-based apps"; e.g. Butler Group Management Briefing (2000): "Butler Group is now advising that all new-build and significant modification activity should be based on component architectures...Butler Group believes that Component-Based Development is one of the most important events in the evolution of information technology" e.g. Gartner Group estimates that "by 2003, 70% of new applications will be deployed as a combination of pre-assembled and newly created components integrated to form complex business-systems. The book defines, describes and shows how to use a method for component-based product-line engineering, supported by UML. This method aims to dramatically increase the level of reuse in software development by integrating the strengths of both of these approaches. UML is used to describe components during the analysis, design & implementation stages and capture their characteristics and relationships. This method includes two new kinds of extensions to the UML: new stereotypes to capture Kobra-specific concepts and new metamodel elements to capture variabilities. The method makes

components the focus of the entire software development process, not just the implementation and deployment phases. The method has grown out of work by two companies in industry (Softlab & Psipenta) and two research organizations (GMD FIRST & Fraunhofer IESE) called the Kobra project. It is influenced by a number of successful existing methods e.g. Fusion method, Cleanroom method, Catalysis & Rational Unified Process, integrated with new ideas in an innovative way. Benefits for the reader: - gain a clear understanding of the product-line and component-based approaches to software development - learn how to use UML to describe components in analysis, design and implementation of components - learn how to develop and apply component-based frameworks in product-lines - learn how to build new systems from pre-existing components and ensure that components are of a high quality The book also includes: - case studies: library system example running throughout the chapters; ERP/business software system as appendix or separate chapter - bibliography - glossary - appendices covering: UML profiles, concise process description in the form of UML activity diagrams, refinement/translation patterns AUDIENCE Software engineers, architects & project managers. Software engineers working in the area of distributed/enterprise systems who want a method for applying a component-based or product-line engineering approach in practice. The object-oriented paradigm supplements traditional software engineering by providing solutions to common problems such as modularity and reusability. Objects can be written for a specific purpose acting as an encapsulated black-box API that can work with other components by forming a complex system. This book provides a comprehensive overview of the many facets of the object-oriented paradigm and how it applies to software engineering. Starting with an in-depth look at objects, the book naturally progresses through the software engineering life cycle and shows how object-oriented concepts enhance each step. Furthermore, it is designed as a roadmap with each chapter, preparing the reader with the skills necessary to advance the project. This book should be used by anyone interested in learning about object-oriented software engineering, including students and seasoned developers. Without overwhelming the reader, this book hopes to provide enough information for the reader to understand the concepts and apply them in their everyday work. After learning about the fundamentals of the object-oriented paradigm and the software engineering life cycle, the reader is introduced to more advanced topics such as web engineering, cloud computing, agile development, and big data. In recent years, these fields have been rapidly growing as many are beginning to realize the benefits of developing on a highly scalable, automated deployment system. Combined with the speed and effectiveness of agile development, legacy systems are beginning to make the transition to a more adaptive environment. Core Features: 1. Provides a thorough exploration of the object-oriented paradigm. 2. Provides a detailed look at each step of the software engineering life cycle. 3. Provides supporting examples and documents. 4. Provides a detailed look at emerging technology and standards in object-oriented software engineering.

Understanding System Development with UML 2.0

A Brief Guide to the Standard Object Modeling Language

Software Engineering Techniques Applied to Agricultural Systems

Language, Concepts, Methods

Classical and Object-oriented Software Engineering with UML and C++

Designing Software Product Lines with UML

With its clear introduction to the Unified Modeling Language (UML) 2.0, this tutorial offers a solid understanding of each topic, covering foundational concepts of object-orientation and an introduction to each of the UML diagram types.

Topological UML Modeling: An Improved Approach for Domain Modeling and Software Development presents a specification for Topological UML® that combines the formalism of the Topological Functioning Model (TFM) mathematical topology with a specified software analysis and design method. The analysis of problem domain and design of desired solutions within software development processes has a major impact on the achieved result – developed software. While there are many tools and different techniques to create detailed specifications of the solution, the proper analysis of problem domain functioning is ignored or covered insufficiently. The design of object-oriented software has been led for many years by the Unified Modeling Language (UML®), an approved industry standard modeling notation for visualizing, specifying, constructing, and documenting the artifacts of a software-intensive system, and this comprehensive book shines new light on the many advances in the field. Presents an approach to formally define, analyze, and verify functionality of existing processes and desired processes to track incomplete or incorrect functional requirements Describes the path from functional and nonfunctional requirements specification to software design with step-by-step creation and transformation of diagrams and models with very early capturing of security requirements for software systems. Defines all modeling constructs as extensions to UML®, thus creating a new UML® profile which can be implemented in existing UML® modeling tools and toolsets

The Unified Modeling Language has become the industry standard for the expression of software designs. The Java programming language continues to grow in popularity as the language of choice for the serious application developer. Using UML and Java together would appear to be a natural marriage, one that can produce considerable benefit. However, there are nuances that the seasoned developer needs to keep in mind when using UML and Java together. Software expert Robert Martin presents a concise guide, with numerous examples, that will help the programmer leverage the power of both development concepts. The author ignores features of UML that do not apply to java programmers, saving the reader time and effort. He provides direct guidance and points the reader to real-world usage scenarios. The overall practical approach of this book brings key information related to Java to the many presentations. The result is an highly practical guide to using the UML with Java.

Aimed at 2nd and 3rd year/MSc courses, Model Driven Software Development using UML and Java introduces MDD, MDA and UML, and shows how UML can be used to specify, design, verify and implement software systems using an MDA approach.

Structured to follow two lecture courses, one intermediate (UML, MDA, specification, design, model transformations) and one advanced (software engineering of web applications and enterprise information systems), difficult concepts are illustrated with numerous examples, and exercises with worked solutions are provided throughout.

Using UML, Patterns, and Java

Developing Software with UML

A Hands-on Approach

UML and Object-Oriented Design Foundations

Software Engineering with Objects and Components

Secure Systems Development with UML

For courses in Software Engineering, Software Development, or Object-Oriented Design Analysis at the Junior/Senior or Graduate level. This text can also be utilized in short term courses or in short, intensive management courses. Shows students how to use both the principles of software engineering and the practices of various object-oriented tools, products. Using a step-by-step case study to illustrate the concepts and topics in each chapter, Bruegge and Dutoit emphasize learning object-oriented software engineering through practical experience: students can apply the techniques learned in class by implementing a real world software project. The third edition addresses new trends, in particular agile project management (Chapter 14 Project Management) and agile methodologies (Chapter 16 Methodologies).

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 rules 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 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 programs, the requirements for publication, and the conditions for promotion, and the pressures 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 faults 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 develop a persona compatible with lucid prose; how to deal with that academic bugaboo, "the lit test." 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 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 have to write like a social scientist to be one.

Architects of buildings and architects of software have more in common than most people think. Both professions require attention to detail, and both practitioners will see their work around them if they make too many mistakes. It's impossible to imagine a world in which buildings get built without blueprints, but it's still common for software applications to be designed and built without blueprints, or in this case, design patterns. A software design pattern can be identified as "a recurring solution to a recurring problem." Using design patterns in software development makes sense in the same way that architectural design patterns make sense--if it works well in one place, why not use it in another? But developers have hundreds of books that simply catalog design patterns without extending into new areas, and books that are so theoretical that you can't actually do anything better after reading them than you could before you started. Crawford and Kaplan's J2EE Design Patterns approaches the subject

unique, highly practical and pragmatic way. Rather than simply present another catalog of design patterns, the authors broaden the scope by discussing ways to choose design patterns when building an enterprise application from scratch, looking closely at the real world constraints that Java developers must weigh when architecting their applications. Then they go on to show how to apply the patterns when writing realworld software. They also extend design patterns into areas not covered in other books, presenting original patterns for data modeling, transaction / process modeling, and interoperability. J2EE Design Patterns offers extensive coverage of the five problem areas enterprise developers face: Maintenance (Extensibility) Performance (System Scalability) Data Modeling (Business Object Modeling) Transaction Management (process Modeling) Messaging (Interoperability) And with its careful balance between theory and practice, J2EE Design Patterns will give developers new to the Java enterprise development arena a solid understanding of how to approach a wide variety of architectural and programming problems, and will give experienced J2EE pros an opportunity to extend and improve on their existing experience.

Reed's guide includes detailed coverage of architecting VB enterprise applications and working examples and step-by-step instructions for planning and development of an object-oriented system, detailing do's and don't's for analysis, design and construction. CD-ROM contains several templates for applying UML, as well as complete Rational Rose models for the applications.

Object-Oriented Analysis and Design

Design and Development

Understanding Object-Oriented Programming and the Unified Modeling Language

Object-Oriented Software Engineering Using UML, Patterns, and Java: Pearson New International Edition

Using UML

An Improved Approach for Domain Modeling and Software Development

This book presents a variant of UML that is especially suitable for agile development of high-quality software. It adjusts the language UML profile, called UML/P, for optimal assistance for the design, implementation, and agile evolution to facilitate its use especially in agile, yet model based development methods for data intensive or control driven systems. After a general introduction to UML and the choices made in the development of UML/P in Chapter 1, Chapter 2 includes a definition of the language elements of class diagrams and their forms of use as views and representations. Next, Chapter 3 introduces the design and semantic facets of the Object Constraint Language (OCL), which is conceptually improved and syntactically adjusted to Java for better comfort. Subsequently, Chapter 4 introduces object diagrams as an independent, exemplary notation in UML/P, and Chapter 5 offers a detailed introduction to UML/P Statecharts. Lastly, Chapter 6 presents a simplified form of sequence diagrams for exemplary descriptions of object interactions. For completeness, appendixes A–C describe the full syntax of UML/P, and appendix D explains a sample application from the E-commerce domain, which is used in all chapters. This book is ideal for introductory courses for students and practitioners alike.

This book shows us how to use UML and apply it in object-oriented software development. Part 1 of the book guides the reader step-by-step through the development process while part 2 explains the basics of UML in detail.

This book describes the concepts and application of model-based development (MBD), model transformations, and Agile MBD to a wide range of software systems. It covers systems requirements engineering, system specification and design, verification, reuse, and system composition in the context of Agile MBD. Examples of applications in finance, system migration, internet systems and software refactoring are given. An established open-source MBD technology, UML-RSDS, is used throughout to

illustrate the concepts. The book is suitable for industrial practitioners who need training in Agile MBD, and those who need to understand the issues to be considered when introducing MBD in an industrial context. It is also suitable for academic researchers, and for use as text for undergraduate or postgraduate courses in MBD. Examples for educational use of UML-RSDS are included in the book.

Developing Applications with Visual Basic and UML

A UML Pattern Language

Model-Driven Development with Executable UML

Patterns in the Real World

Understanding UML

Learning UML 2.0