Practical Object Oriented Design

"This book manages to convey the practical use of UML 2 in clear and understandable terms with many examples and guidelines. Even for people not working with the Unified Process, the book is still of great use. UML 2 and the Unified Process, Second Edition is a must-read for every UML 2 beginner and a helpful guide and reference for the experienced practitioner." --Roland Leibundgut, Technical Director, Zuehlke Engineering Ltd. "This book is a good starting point for organizations and individuals who are adopting UP and need to understand how to provide visualization of the different aspects needed to satisfy it. " --Eric Naiburg, Market Manager, Desktop Products, IBM Rational Software This thoroughly revised edition provides an indispensable and practical guide to the complex process of object-oriented analysis and design using UML 2. It describes how the process of OO analysis and design fits into the software development lifecycle as defined by the Unified Process (UP). UML 2 and the Unified Process contains a wealth of practical, powerful, and useful techniques that you can apply immediately. As you progress through the text, you will learn OO analysis and design techniques, UML syntax and semantics, and the relevant aspects of the UP. The book provides you with an accurate and succinct

summary of both UML and UP from the point of view of the OO analyst and designer. This book provides Chapter roadmaps, detailed diagrams, and margin notes allowing you to focus on your needs Outline summaries for each chapter, making it ideal for revision, and a comprehensive index that can be used as a reference New to this edition: Completely revised and updated for UML 2 syntax Easy to understand explanations of the new UML 2 semantics More real-world examples A new section on the Object Constraint Language (OCL) Introductory material on the OMG's Model Driven Architecture (MDA) The accompanying website provides A complete example of a simple e-commerce system Open source tools for requirements engineering and use case modeling Industrial-strength UML course materials based on the book

Although the theory of object-oriented programming languages is far from complete, this book brings together the most important contributions to its development to date, focusing in particular on how advances in type systems and semantic models can contribute to new language designs.The fifteen chapters are divided into five parts: Objects and Subtypes, Type Inference, Coherence, Record Calculi, and Inheritance. The chapters are organized approximately in order of increasing complexity of the programming language constructs they consider - beginning with variations on Pascal- and Algol-like languages,

developing the theory of illustrative record object models, and concluding with research directions for building a more comprehensive theory of object-oriented programming languages.Part I discusses the similarities and differences between "objects" and algebraic-style abstract data types, and the fundamental concept of a subtype. Parts II-IV are concerned with the "record model" of object-oriented languages. Specifically, these chapters discuss static and dynamic semantics of languages with simple object models that include a type or class hierarchy but do not explicitly provide what is often called dynamic binding. Part V considers extensions and modifications to record object models, moving closer to the full complexity of practical object-oriented languages.Carl A. Gunter is Professor in the Department of Computer and Information Science at the University of Pennsylvania. John C. Mitchell is Professor in the Department of Computer Science at Stanford University.

An introduction to object-oriented design aimed particularly programmers with little or no design experience. The book looks at the computer programmes using the techniques of object-oriented design, object modelling - Rumbaugh Method, and also features code examples in C++. Emphasis is placed on connections between design and programme code. Design notations and how they provide a suitable vehicle for discussing software architecture are examined. Included are

chapter exercises, a complete worked example with implementation and other case studies.

Object-Oriented Design with Applications has long been the essential reference to object-oriented technology, which, in turn, has evolved to join the mainstream of industrial-strength software development. In this third edition--the first revision in 13 years--readers can learn to apply object-oriented methods using new paradigms such as Java, the Unified Modeling Language (UML) 2.0, and .NET. The authors draw upon their rich and varied experience to offer improved methods for object development and numerous examples that tackle the complex problems faced by software engineers, including systems architecture, data acquisition, cryptoanalysis, control systems, and Web development. They illustrate essential concepts, explain the method, and show successful applications in a variety of fields. You'll also find pragmatic advice on a host of issues, including classification, implementation strategies, and cost-effective project management. New to this new edition are An introduction to the new UML 2.0, from the notation's most fundamental and advanced elements with an emphasis on key changes New domains and contexts A greatly enhanced focus on modeling--as eagerly requested by readers--with five chapters that each delve into one phase of the overall development lifecycle. Fresh approaches to

reasoning about complex systems An examination of the conceptual foundation of the widely misunderstood fundamental elements of the object model, such as abstraction, encapsulation, modularity, and hierarchy How to allocate the resources of a team of developers and mange the risks associated with developing complex software systems An appendix on object-oriented programming languages This is the seminal text for anyone who wishes to use object-oriented technology to manage the complexity inherent in many kinds of systems. Sidebars Preface Acknowledgments About the Authors Section I: Concepts Chapter 1: Complexity Chapter 2: The Object Model Chapter 3: Classes and Objects Chapter 4: Classification Section II: Method Chapter 5: Notation Chapter 6: Process Chapter 7: Pragmatics Chapter 8: System Architecture: Satellite-Based Navigation Chapter 9: Control System: Traffic Management Chapter 10: Artificial Intelligence: Cryptanalysis Chapter 11: Data Acquisition: Weather Monitoring Station Chapter 12: Web Application: Vacation Tracking System Appendix A: Object-Oriented Programming Languages Appendix B: Further Reading Notes Glossary Classified Bibliography Index

It is a pleasure to present the proceedings of the 22nd European Conference on Object-Oriented Programming (ECOOP 2008) held in Paphos, Cyprus. The conference continues to serve a broad object-oriented community with a tech- cal

program spanning theory and practice and a healthy mix of industrial and academic participants. This year a strong workshop and tutorial program c-plementedthemaintechnicaltrack.Wehad13workshopsand8tutorials,aswell as the co-located Dynamic Language Symposium (DLS). Finally, the program was rounded out with a keynote by Rachid Guerraoui and a banquet speech by James Noble. As in previous years, two Dahl-Nygaard awards were selected by AITO, and for the ?rst time, the ECOOP Program Committee gave a best paper award. Theproceedingsinclude27papersselectedfrom138submissions.Thepapers werereviewed in a single-blind process with three to ?ve reviews per paper. P-liminaryversionsofthereviewsweremadeavailabletotheauthorsaweekbefore the PC meeting to allow for short (500 words or less) author responses. The - sponses were discussed at the PC meeting and were instrumental in reaching decisions. The PC discussions followed Oscar Nierstrasz'Champion pattern. PC papers had ?ve reviews and were held at a higher standard.

Take a step beyond syntax to discover the true art of software design, with Java as your paintbrush and objects on your palette. This in-depth discussion of how, when, and why to use objects enables you to create programs that not only work smoothly, but are easy to maintain and upgrade using Java of any other object-oriented language! Companion CD software Pc.zip (8.4MB) Unix.zip (541K)

The Art of Objects offers an extensive overview of 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

Introduction: What does it mean to be object-oriented, anyway? Object-orientation - Who ordered that? Object-oriented design notation. The basic notation for classes em methods. Inheritance and aggregation diagrams. The

object-communication diagram. State-transition diagrams. Additional OODN diagrams. The principles of object-oriented design: Encapsulation and connascence. Domains, encumbrance, and cohesion. Properties of classes and subclasses. The perils of inheritance and polymorphism. Class interfaces. Appendix A: Checklist for an object-oriented design walkthrough. Appendix B: The Object-oriented design owner's manual. Appendix C: Blitz guide to object-oriented terminology.

Practical Object Oriented Design deals with the designing of software systems in the 'solution space' using the Unified Modelling Language (UML 2.0). This book builds on the analysis models created in its precursor, Practical Object Oriented Analysis, and iteratively creates architectural and solution models.

This is a comprehensive guide to all types of natural and man made disasters and their effect on buildings. It gives overall guidance and a basic technical understanding of prevention, mitigation and management of disaster, and outlines a checklist of preventive design elements for each situation. Every category is illustrated with a case study which pin points the essential information that is crucial to architects and engineers in designing buildings with disaster prevention in mind. The aim of the book is to give a clear understanding of the nature of events and problems, and to enable readers to respond with knowledge to the unique demands placed on their designs. A special emphasis is also placed on re-building as an opportunity to start again. For the

specialists this is a process of constant learning and improving techniques in the light of events past.

Learn everything you need to know about object-oriented programming with the latest features of Kotlin 1.3 Key Features A practical guide to understand objects and classes in Kotlin Learn to write asynchronous, non-blocking codes with Kotlin coroutines Explore Encapsulation, Inheritance, Polymorphism, and Abstraction in Kotlin Book Description Kotlin is an object-oriented programming language. The book is based on the latest version of Kotlin. The book provides you with a thorough understanding of programming concepts, object-oriented programming techniques, and design patterns. It includes numerous examples, explanation of concepts and keynotes. Where possible, examples and programming exercises are included. The main purpose of the book is to provide a comprehensive coverage of Kotlin features such as classes, data classes, and inheritance. It also provides a good understanding of design pattern and how Kotlin syntax works with object-oriented techniques. You will also gain familiarity with syntax in this book by writing labeled for loop and when as an expression. An introduction to the advanced concepts such as sealed classes and package level functions and coroutines is provided and we will also learn how these concepts can make the software development easy. Supported libraries for serialization, regular expression and testing are also covered in this book. By the end of the book, you would have learnt building robust and maintainable software with object oriented design patterns in Kotlin.

What you will learn Get an overview of the Kotlin programming language Discover Object-oriented programming techniques in Kotlin Understand Object-oriented design patterns Uncover multithreading by Kotlin way Understand about arrays and collections Understand the importance of object-oriented design patterns Understand about exception handling and testing in OOP with Kotlin Who this book is for This book is for programmers and developers who wish to learn Object-oriented programming principles and apply them to build robust and scalable applications. Basic knowledge in Kotlin programming is assumed

A friendly and brief guide to the essentials of hypnosis. Popular author Bill O'Hanlon offers an inviting and reassuring guide to the essentials of hypnosis, alleviating the newcomer's anxieties about how to make the most of this clinical tool. This brief book illustrates the benefits of solution-oriented hypnosis, which draws on the work of the pioneering therapist Milton Erickson (with whom O'Hanlon studied) and emphasizes doing what is needed to get results—which, more often than not, means trusting that the client holds within him- or herself answers or knowledge that need only be tapped or released by the therapist. O'Hanlon covers the key aspects of hypnosis, including: using possibility words and phrases; using passive language; and inducing trance. O'Hanlon offers practical tips and friendly encouragement for the novice hypnotherapist—in his characteristic warm, reassuring, and humorous style.

This is the digital version of the printed book (Copyright 2007). Virtually all business,

scientific, and engineering applications are heavily reliant on numeric data items. C++ and Java offer object-oriented programmers unique flexibility and control over the computations required within such applications. However, most books on object-oriented programming gloss over such numeric data items, emphasizing instead one-dimensional containers or collections and components of the graphical user interface. Object-Oriented Computation in C++ and Java fills the gap left by such books. Drawing on more than twenty years' experience as a software developer, tester, consultant, and professor, Conrad Weisert shows readers how to use numeric objects effectively. Not limited to any language or methodology, the concepts and techniques discussed in this book are entirely independent of one's choice of design and coding methodology. Practitioners of Extreme Programming, UML-driven design, agile methods, incremental development, and so on will all develop these same data classes. Whether you are a seasoned professional or an advanced computer science student, this book can teach you techniques that will improve the quality of your programming and the efficiency of your applications. The exercises (and answers) presented in this book with teach you new ways to implement the computational power of C++, Java, and numeric data items. Topics include taxonomy of data types developing and using object-oriented classes for numeric data design patterns for commonly occurring numeric data types families of interacting numeric data types choosing efficient and flexible internal data representations techniques for exploiting pattern reuse in C++ conventions for

arithmetic operations in Java numeric vectors and matrices

Fundamentals of Object-Oriented Design in UML shows aspiring and experienced programmers alike how to apply design concepts, the UML, and the best practices in OO development to improve both their code and their success rates with object-based projects.

A programmer's complete guide to Visual Basic .NET. Starting with a sample application and a high-level map, the book jumps right into showing how the parts of .NET fit with Visual Basic .NET. Topics include the common language runtime, Windows Forms, ASP.NET, Web Forms, Web Services, and ADO.NET.

Learn how to write object-oriented programs in R and how to construct classes and class hierarchies in the three object-oriented systems available in R. This book gives an introduction to object-oriented programming in the R programming language and shows you how to use and apply R in an object-oriented manner. You will then be able to use this powerful programming style in your own statistical programming projects to write flexible and extendable software. After reading Advanced Object-Oriented Programming in R, you'll come away with a practical project that you can reuse in your own analytics coding endeavors. You'll then be able to visualize your data as objects that have state and then manipulate those objects with polymorphic or generic methods. Your projects will benefit from the high degree of flexibility provided by polymorphism, where the choice of concrete method to execute depends on the type of

data being manipulated. What You'll Learn Define and use classes and generic functions using R Work with the R class hierarchies Benefit from implementation reuse Handle operator overloading Apply the S4 and R6 classes Who This Book Is For Experienced programmers and for those with at least some prior experience with R programming language. /div

Provides information on analyzing, designing, and writing object-oriented software.

Practical Object-oriented Design in RubyAn Agile PrimerPearson Education

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.

Learn the tools and techniques needed to design and implement moderate-sized software systems! Do you want to gain the necessary skills to effectively write moderate-sized (10,000 to 50,000 line) programs? Would you like to develop a more advanced understanding of object-oriented design and learn how to implement important design and style rules? Do you want to be able to take a project from the concept stage to completion? This is all possible with Steven Reiss's innovative text, A Pracical Introduction to Software Design with C++.

Reiss provides you with all the tools and techniques to enable you to design and implement moderate-sized software systems alone or in a team. The book details the proper use of inheritance, design notations using a simplified form of OMT to describe designs, the use of object libraries such as STL, creating library classes, and the use of design patterns. You'll also find useful discussions on advanced language and programming features such as exception handling, interprocess communication, and debugging tools and techniques.

The Complete Guide to Writing Maintainable, Manageable, Pleasing, and Powerful Object-Oriented Applications Object-oriented programming languages exist to help you create beautiful, straightforward applications that are easy to change and simple to extend. Unfortunately, the world is awash with object-oriented (OO) applications that are difficult to understand and expensive to change. Practical Object-Oriented Design, Second Edition, immerses you in an OO mindset and teaches you powerful, real-world, object-oriented design techniques with simple and practical examples. Sandi Metz demonstrates how to build new applications that can “survive success” and repair existing applications that have become impossible to change. Each technique is illustrated with extended examples in the easy-to-understand Ruby programming language, all downloadable from the companion website, poodr.com. Fully updated for Ruby

2.5, this guide shows how to Decide what belongs in a single class Avoid entangling objects that should be kept separate Define flexible interfaces among objects Reduce programming overhead costs with duck typing Successfully apply inheritance Build objects via composition Whatever your previous object-oriented experience, this concise guide will help you achieve the superior outcomes you're looking for. Register your book for convenient access to downloads, updates, and/or corrections as they become available. See inside book for details.

Programming in an Object-Oriented Environment provides an in-depth look at the concepts behind the technology of object-oriented programming. This book explains why object-oriented programming has the potential to vastly improve the productivity of programmers and how to apply this technology in a practical environment. Many programming examples are included, focusing on how different programming languages support the core of object-oriented concepts. C++ is used as the main sample language throughout this text. This monograph consists of two major parts. Part I provides an introduction to object-oriented concepts, their rationale and their implementation in programming languages. The object-oriented approach to programming in an object-oriented environment is discussed in Part II. This publication is intended for software professionals who

are interested in learning the fundamental concepts of object-oriented programming and how to apply these concepts in a practical computer environment.

Practical OO development tips for the C++ and Java programmer Practical Object-Oriented Development in C++ and Java offers advice on real-world ways to use these powerful programming languages and techniques. Using the Unified Modeling Language (UML) methodology, expert Cay S. Horstmann gives you clear, concise explanations of object-oriented design, C++, and Java in a way that makes these potentially daunting operations more accessible than they've ever been before. Horstmann compares and contrasts features of C++ and Java to give you a deeper understanding of OO design. He separates the genuinely useful C++, Java, and UML features from the less effective and potentially harmful ones. Horstmann shows you how to determine the best programming practice for whatever application you're in; provides the kind of eye-opening design tips and style rules that can only come from experience; and demystifies advanced topics like frameworks and object persistence. Dozens of illuminating programming examples are readily accessible through the accompanying Web site. Useful code is available for smart pointers, easy output formatting in C++ and Java, a set of classes that makes STL safe to use, and a nifty utility that

automatically extracts header files. This unique book: * Offers over 100 practical design hints for good class design * Covers the essential OO features of Java 1.1-like serialization and reflection * Uses the C++ Standard Template Library (STL) throughout * Covers CRC cards in addition to UML

The Complete Guide to Writing More Maintainable, Manageable, Pleasing, and Powerful Ruby Applications Ruby's widely admired ease of use has a downside: Too many Ruby and Rails applications have been created without concern for their long-term maintenance or evolution. The Web is awash in Ruby code that is now virtually impossible to change or extend. This text helps you solve that problem by using powerful real-world object-oriented design techniques, which it thoroughly explains using simple and practical Ruby examples. Sandi Metz has distilled a lifetime of conversations and presentations about object-oriented design into a set of Ruby-focused practices for crafting manageable, extensible, and pleasing code. She shows you how to build new applications that can survive success and repair existing applications that have become impossible to change. Each technique is illustrated with extended examples, all downloadable from the companion Web site,poodr.info. The first title to focus squarely on object-oriented Ruby application design, Practical Object-Oriented Design in Ruby will guide you to superior outcomes, whatever your previous Ruby experience. Novice Ruby

programmers will find specific rules to live by; intermediate Ruby programmers will find valuable principles they can flexibly interpret and apply; and advanced Ruby programmers will find a common language they can use to lead development and guide their colleagues. This guide will help you Understand how object-oriented programming can help you craft Ruby code that is easier to maintain and upgrade Decide what belongs in a single Ruby class Avoid entangling objects that should be kept separate Define flexible interfaces among objects Reduce programming overhead costs with duck typing Successfully apply inheritance Build objects via composition Design cost-effective tests Solve common problems associated with poorly designed Ruby code

Offers a discussion of all the advanced and object-oriented features of C++. Hands-on examples show how features are used in real programming situations. Contains a coding style guide that shows users how to program more effectively and enables them to gain experience with professional style guides. Chapter two provides a crash course which is accessible to programmers in any procedural language.

Cay Horstmann offers readers an effective means for mastering computing concepts and developing strong design skills. This book introduces object-oriented fundamentals critical to designing software and shows how to implement design techniques. The author's clear, hands-on presentation and outstanding writing style help readers to

better understand the material.· A Crash Course in Java· The Object-Oriented Design Process· Guidelines for Class Design· Interface Types and Polymorphism· Patterns and GUI Programming· Inheritance and Abstract Classes· The Java Object Model· Frameworks· Multithreading· More Design Patterns

Object-Oriented Programming under Windows presents object-oriented programming (OOP) techniques that can be used in Windows programming. The book is comprised of 15 chapters that tackle an area in OOP. Chapter 1 provides an introductory discourse about OOP, and Chapter 2 covers the programming languages. Chapter 3 deals with the Windows environment, while Chapter 4 discusses the creation of application. Windows and dialogue boxes, as well as controls and standard controls, are tackled. The book then covers menus and event response. Graphics operation, clipboard, bitmaps, icons, and cursors are also dealt with. The book also tackles disk file access, and then discusses the help file system. The last chapter covers data transfer. The text will be of great use to individuals who want to write Windows based programs.

Praise for Design Patterns in Ruby " Design Patterns in Ruby documents smart ways to resolve many problems that Ruby developers commonly encounter. Russ Olsen has done a great job of selecting classic patterns and augmenting these with newer patterns that have special relevance for Ruby. He clearly explains each idea, making a wealth of experience available to Ruby developers for their own daily work." —Steve

Metsker, Managing Consultant with Dominion Digital, Inc. "This book provides a great demonstration of the key 'Gang of Four' design patterns without resorting to overly technical explanations. Written in a precise, yet almost informal style, this book covers enough ground that even those without prior exposure to design patterns will soon feel confident applying them using Ruby. Olsen has done a great job to make a book about a classically 'dry' subject into such an engaging and even occasionally humorous read." —Peter Cooper "This book renewed my interest in understanding patterns after a decade of good intentions. Russ picked the most useful patterns for Ruby and introduced them in a straightforward and logical manner, going beyond the GoF's patterns. This book has improved my use of Ruby, and encouraged me to blow off the dust covering the GoF book." —Mike Stok " Design Patterns in Ruby is a great way for programmers from statically typed objectoriented languages to learn how design patterns appear in a more dynamic, flexible language like Ruby." —Rob Sanheim, Ruby Ninja, Relevance Most design pattern books are based on C++ and Java. But Ruby is different—and the language's unique qualities make design patterns easier to implement and use. In this book, Russ Olsen demonstrates how to combine Ruby's power and elegance with patterns, and write more sophisticated, effective software with far fewer lines of code. After reviewing the history, concepts, and goals of design patterns, Olsen offers a quick tour of the Ruby language—enough to allow any experienced software developer to immediately utilize patterns with Ruby. The book especially calls attention

to Ruby features that simplify the use of patterns, including dynamic typing, code closures, and "mixins" for easier code reuse. Fourteen of the classic "Gang of Four" patterns are considered from the Ruby point of view, explaining what problems each pattern solves, discussing whether traditional implementations make sense in the Ruby environment, and introducing Ruby-specific improvements. You'll discover opportunities to implement patterns in just one or two lines of code, instead of the endlessly repeated boilerplate that conventional languages often require. Design Patterns in Ruby also identifies innovative new patterns that have emerged from the Ruby community. These include ways to create custom objects with metaprogramming, as well as the ambitious Rails-based "Convention Over Configuration" pattern, designed to help integrate entire applications and frameworks. Engaging, practical, and accessible, Design Patterns in Ruby will help you build better software while making your Ruby programming experience more rewarding.

Goes from the basics of classes, inheritance and interfaces to advanced concepts such as reflection, object persistence, design patterns and refactoring.

The Complete Guide to Building Highly Scalable, Services-Based Rails Applications Ruby on Rails deployments are growing, and Rails is increasingly being adopted in larger environments. Today, Rails developers and architects need better ways to interface with legacy systems, move into the cloud, and scale to handle higher volumes and greater complexity. In Service-Oriented Design with Ruby and Rails, Paul Dix

introduces a powerful, services-based design approach geared toward overcoming all these challenges. Using Dix's techniques, readers can leverage the full benefits of both Ruby and Rails, while overcoming the difficulties of working with larger codebases and teams. Dix demonstrates how to integrate multiple components within an enterprise application stack; create services that can easily grow and connect; and design systems that are easier to maintain and upgrade. Key concepts are explained with detailed Ruby code that was built using open source libraries such as ActiveRecord, Sinatra, Nokogiri, and Typhoeus. The book concludes with coverage of security, scaling, messaging, and interfacing with third-party services. Service-Oriented Design with Ruby and Rails will help you Build highly scalable, Ruby-based service architectures that operate smoothly in the cloud or with legacy systems Scale Rails systems to handle more requests, larger development teams, and more complex code bases Master new best practices for designing and creating services in Ruby Use Ruby to glue together services written in any language Use Ruby libraries to build and consume RESTful web services Use Ruby JSON parsers to quickly represent resources from HTTP services Write lightweight, well-designed API wrappers around internal or external services Discover powerful non-Rails frameworks that simplify Ruby service implementation Implement standards-based enterprise messaging with Advanced Message Queuing Protocol (AMQP) Optimize performance with load balancing and caching Provide for security and authentication

OOAD Cookbook: Introduction to Practical System Modeling is a modern, practical, and approachable guide to help students design and develop code that is modular, maintainable, and extensible. Whether you are a developer, devops, QA tester, systems analyst, or IT, this book will introduce the concepts to build a strong foundation in object-oriented methodologies. Step-by-Step instructions along with vivid examples and illustrations offer a fresh, practical, and approachable plan to learn object-oriented design. Students will learn and be exposed to efficient design through methodical analysis, UML diagrams, system architectures, and essential design principles so that they can design software pragmatically.

The projects tackled by the software development industry have grown in scale and complexity. Costs are increasing along with the number of developers. Power bills for distributed projects have reached the point where optimisations pay literal dividends. Over the last 10 years, a software development movement has gained traction, a movement founded in games development. The limited resources and complexity of the software and hardware needed to ship modern game titles demanded a different approach. Data-oriented design is inspired by high-performance computing techniques, database design, and functional programming values. It provides a practical methodology that reduces complexity while improving performance of both your development team and your product. Understand the goal, understand the data, understand the hardware, develop the solution. This book presents foundations and

principles helping to build a deeper understanding of data-oriented design. It provides instruction on the thought processes involved when considering data as the primary detail of any project.

Conquer your fear and anxiety learning how the concepts behind object-oriented design apply to the ABAP programming environment. Through simple examples and metaphors this book demystifies the object-oriented programming model. Object-Oriented Design with ABAP presents a bridge from the familiar procedural style of ABAP to the unfamiliar object-oriented style, taking you by the hand and leading you through the difficulties associated with learning these concepts, covering not only the nuances of using object-oriented principles in ABAP software design but also revealing the reasons why these concepts have become embraced throughout the software development industry. More than simply knowing how to use various object-oriented techniques, you'll also be able to determine whether a technique is applicable to the task the software addresses. This book: div Shows how object-oriented principles apply to ABAP program design Provides the basics for creating component design diagrams Teaches how to incorporate design patterns in ABAP programs What You'll Learn Write ABAP code using the object-oriented model as comfortably and easily as using the procedural model Create ABAP design diagrams based on the Unified Modeling Language Implement object-oriented design patterns into ABAP programs Reap the benefits of spending less time designing and maintaining ABAP programs Recognize

those situations where design patterns can be most helpful Avoid long and exhausting searches for the cause of bugs in ABAP programs Who This Book Is For Experienced ABAP programmers who remain unfamiliar with the design potential presented by the object-oriented aspect of the language

Summary The Well-Grounded Rubyist, Third Edition is a beautifully written tutorial that begins with your first Ruby program and takes you all the way to sophisticated topics like reflection, threading, and recursion. Ruby masters David A. Black and Joe Leo distill their years of knowledge for you, concentrating on the language and its uses so you can use Ruby in any way you choose. Updated for Ruby 2.5. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Designed for developer productivity, Ruby is an easy-to-learn dynamic language perfect for creating virtually any kind of software. Its famously friendly development community, countless libraries, and amazing tools, like the Rails framework, have established it as the language of choice for high-profile companies, including GitHub, SlideShare, and Shopify. The future is bright for the well-grounded Rubyist! About the Book In The Well-Grounded Rubyist, Third Edition, expert authors David A. Black and Joseph Leo deliver Ruby mastery in an easy-to-read, casual style. You'll lock in core principles as you write your first Ruby programs. Then, you'll progressively build up to topics like reflection, threading, and recursion, cementing your knowledge with high-value exercises to practice your skills along the

way. What's Inside Basic Ruby syntax Running Ruby extensions FP concepts like currying, side-effect-free code, and recursion Ruby 2.5 updates About the Reader For readers with beginner-level programming skills. About the Authors David A. Black is an internationally known Ruby developer and author, and a cofounder of Ruby Central. Ruby teacher and advocate Joseph Leo III is the founder of Def Method and lead organizer of the Gotham Ruby Conference. Table of Contents PART 1 RUBY FOUNDATIONS Bootstrapping your Ruby literacy Objects, methods, and local variables Organizing objects with classes Modules and program organization The default object (self), scope, and visibility Control-flow techniques PART 2 BUILT-IN CLASSES AND MODULES Built-in essentials Strings, symbols, and other scalar objects Collection and container objects Collections central: Enumerable and Enumerator Regular expressions and regexp-based string operations File and I/O operations PART 3 RUBY DYNAMICS Object individuation Callable and runnable objects Callbacks, hooks, and runtime introspection Ruby and functional programming Written by the most well known face of India s IT literacy movement, this book is designed for the first course in C# taken by undergraduate students in Computers and Information Technology. The revised edition maintains the lucid flow and continuity which has been the strength of the book.

In OBJECT THINKING, esteemed object technologist David West contends that the mindset makes the programmer--not the tools and techniques. Delving into the history,

philosophy, and even politics of object-oriented programming, West reveals how the best programmers rely on analysis and conceptualization--on thinking--rather than formal process and methods. Both provocative and pragmatic, this book gives form to what's primarily been an oral tradition among the field's revolutionary thinkers--and it illustrates specific object-behavior practices that you can adopt for true object design and superior results. Gain an in-depth understanding of: Prerequisites and principles of object thinking. Object knowledge implicit in eXtreme Programming (XP) and Agile software development. Object conceptualization and modeling. Metaphors, vocabulary, and design for object development. Learn viable techniques for: Decomposing complex domains in terms of objects. Identifying object relationships, interactions, and constraints. Relating object behavior to internal structure and implementation design. Incorporating object thinking into XP and Agile practice.

This practical book tells readers how to actually build object-oriented models using UML notation, and how to implement these models using Java. The authors introduce all of the basic fundamentals necessary to start applying and understanding the object-oriented paradigm without having to be an expert in computer science or advanced mathematics. It can help the reader to make the right decisions to meet their individual business needs. Using cases, recommended approach scenarios, and examples, this clearly-written book covers a multitude of topics: managing complexity, principles of Object-Orientation, specification models, current techniques, behaviors, relationships,

rules, design, Java background and fundamentals, multi-tasking, JAR files, security, Swing Applets, class and interface, internationalization, and implementing generalization and specialization. For professional software analysts and developers who work on large systems, and others in the field of computer science.

The Object-Oriented Thought Process Third Edition Matt Weisfeld An introduction to object-oriented concepts for developers looking to master modern application practices. Object-oriented programming (OOP) is the foundation of modern programming languages, including C++, Java, C#, and Visual Basic .NET. By designing with objects rather than treating the code and data as separate entities, OOP allows objects to fully utilize other objects' services as well as inherit their functionality. OOP promotes code portability and reuse, but requires a shift in thinking to be fully understood. Before jumping into the world of object-oriented programming languages, you must first master The Object-Oriented Thought Process. Written by a developer for developers who want to make the leap to object-oriented technologies as well as managers who simply want to understand what they are managing, The Object-Oriented Thought Process provides a solution-oriented approach to object-oriented programming. Readers will learn to understand object-oriented design with inheritance or composition, object aggregation and association, and the difference between interfaces and implementations. Readers will also become more efficient and better thinkers in terms of object-oriented development. This revised edition focuses on interoperability across various

technologies, primarily using XML as the communication mechanism. A more detailed focus is placed on how business objects operate over networks, including client/server architectures and web services. “Programmers who aim to create high quality software–as all programmers should–must learn the varied subtleties of the familiar yet not so familiar beasts called objects and classes. Doing so entails careful study of books such as Matt Weisfeld’s The Object-Oriented Thought Process.” –Bill McCarty, author of Java Distributed Objects, and Object-Oriented Design in Java Matt Weisfeld is an associate professor in business and technology at Cuyahoga Community College in Cleveland, Ohio. He has more than 20 years of experience as a professional software developer, project manager, and corporate trainer using C++, Smalltalk, .NET, and Java. He holds a BS in systems analysis, an MS in computer science, and an MBA in project management. Weisfeld has published many articles in major computer trade magazines and professional journals.

This is a revised and updated edition of this title, which provides a practical introduction to the design of object-oriented programs using UML. It includes detailed coverage of modelling techniques and notation, with worked examples throughout. The book contains substantial code examples in Java. It clearly connects design concepts with code, and is useful for people with programming experience who wish to learn about design. It is also useful for computer science and software engineering undergraduates taking courses covering object-oriented techniques. The book provides explanations of

UML and OCL notation emphasis on transitions from design to code, as well as including complete case studies with code, and many exercises.