

Growing Object Oriented Software Guided By Tests

Steve Freeman

”Demystifies object-oriented programming, and lays out how to use it to design truly secure and performant applications.” —Charles Soetan, Plum.io Key Features Dozens of techniques for writing object-oriented code that’s easy to read, reuse, and maintain Write code that other programmers will instantly understand Design rules for constructing objects, changing and exposing state, and more Examples written in an instantly familiar pseudocode that’s easy to apply to Java, Python, C#, and any object-oriented language Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About The Book Well-written object-oriented code is easy to read, modify, and debug. Elevate your coding style by mastering the universal best practices for object design presented in this book. These clearly presented rules, which apply to any OO language, maximize the clarity and durability of your codebase and increase productivity for you and your team. In Object Design Style Guide, veteran developer Matthias Noback lays out design rules for constructing objects, defining methods, and much more. All examples use instantly familiar pseudocode, so you can follow along in the language you prefer. You’ll go case by case through important scenarios and challenges for object design and then walk through a simple web application that demonstrates how different types of objects can work together effectively. What You Will Learn Universal design rules for a wide range of

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objects Best practices for testing objects A catalog of common object types Changing and exposing state Test your object design skills with exercises This Book Is Written For For readers familiar with an object-oriented language and basic application architecture. **About the Author Matthias Noback** is a professional web developer with nearly two decades of experience. He runs his own web development, training, and consultancy company called “Noback’s Office.” **Table of Contents:** 1 | Programming with objects: A primer 2 | Creating services 3 | Creating other objects 4 | Manipulating objects 5 | Using objects 6 | Retrieving information 7 | Performing tasks 8 | Dividing responsibilities 9 | Changing the behavior of services 10 | A field guide to objects 11 | Epilogue

Tap into the wisdom of experts to learn what every programmer should know, no matter what language you use. With the 97 short and extremely useful tips for programmers in this book, you'll expand your skills by adopting new approaches to old problems, learning appropriate best practices, and honing your craft through sound advice. With contributions from some of the most experienced and respected practitioners in the industry--including Michael Feathers, Pete Goodliffe, Diomidis Spinellis, Cay Horstmann, Verity Stob, and many more--this book contains practical knowledge and principles that you can apply to all kinds of projects. A few of the 97 things you should know: "Code in the Language of the Domain" by Dan North "Write Tests for People" by Gerard Meszaros "Convenience Is Not an -ility" by Gregor Hohpe "Know Your IDE" by Heinz Kabutz "A Message to the Future" by Linda Rising "The Boy Scout Rule" by Robert C. Martin (Uncle Bob) "Beware the Share" by Udi Dahan

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Describes ways to incorporate domain modeling into software development. If you program in C++ you've been neglected. Test-driven development (TDD) is a modern software development practice that can dramatically reduce the number of defects in systems, produce more maintainable code, and give you the confidence to change your software to meet changing needs. But C++ programmers have been ignored by those promoting TDD--until now. In this book, Jeff Langr gives you hands-on lessons in the challenges and rewards of doing TDD in C++. Modern C++ Programming With Test-Driven Development, the only comprehensive treatment on TDD in C++ provides you with everything you need to know about TDD, and the challenges and benefits of implementing it in your C++ systems. Its many detailed code examples take you step-by-step from TDD basics to advanced concepts. As a veteran C++ programmer, you're already writing high-quality code, and you work hard to maintain code quality. It doesn't have to be that hard. In this book, you'll learn: how to use TDD to improve legacy C++ systems how to identify and deal with troublesome system dependencies how to do dependency injection, which is particularly tricky in C++ how to use testing tools for C++ that aid TDD new C++11 features that facilitate TDD As you grow in TDD mastery, you'll discover how to keep a massive C++ system from becoming a design mess over time, as well as particular C++ trouble spots to avoid. You'll find out how to prevent your tests from being a maintenance burden and how to think in TDD without giving up your hard-won C++ skills. Finally, you'll see how to grow and sustain TDD in your team. Whether you're a complete unit-testing novice or an experienced tester, this book will lead you to mastery of test-driven development

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in C++. What You Need A C++ compiler running under Windows or Linux, preferably one that supports C++11. Examples presented in the book were built under gcc 4.7.2. Google Mock 1.6 (downloadable for free; it contains Google Test as well) or an alternate C++ unit testing tool. Most examples in the book are written for Google Mock, but it isn't difficult to translate them to your tool of choice. A good programmer's editor or IDE. cmake, preferably. Of course, you can use your own preferred make too. CMakeLists.txt files are provided for each project. Examples provided were built using cmake version 2.8.9. Various freely-available third-party libraries are used as the basis for examples in the book. These include: cURL JsonCpp Boost (filesystem, date_time/gregorian, algorithm, assign) Several examples use the boost headers/libraries. Only one example uses cURL and JsonCpp.

Object-oriented Software Engineering

Growing Object-oriented Software

Designing Fine-Grained Systems

50 Years of Lisp

Head First Object-Oriented Analysis and Design

Behaviour Driven Development with RSpec, Cucumber, and Friends

Write clean code that works with the help of this groundbreaking software method. Example-driven teaching is the basis of Beck's step-by-step instruction that will have readers using TDD to further their projects.

Software testing is indispensable and is one of the most discussed topics in

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software development today. Many companies address this issue by assigning a dedicated software testing phase towards the end of their development cycle. However, quality cannot be tested into a buggy application. Early and continuous unit testing has been shown to be crucial for high quality software and low defect rates. Yet current books on testing ignore the developer's point of view and give little guidance on how to bring the overwhelming amount of testing theory into practice. Unit Testing in Java represents a practical introduction to unit testing for software developers. It introduces the basic test-first approach and then discusses a large number of special issues and problem cases. The book instructs developers through each step and motivates them to explore further. Shows how the discovery and avoidance of software errors is a demanding and creative activity in its own right and can build confidence early in a project. Demonstrates how automated tests can detect the unwanted effects of small changes in code within the entire system. Discusses how testing works with persistency, concurrency, distribution, and web applications. Includes a discussion of testing with C++ and Smalltalk. Winner of the 2011 Jolt Excellence Award! Getting software released to users is often a painful, risky, and time-consuming process. This groundbreaking new book sets out the principles and technical practices that enable rapid, incremental

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delivery of high quality, valuable new functionality to users. Through automation of the build, deployment, and testing process, and improved collaboration between developers, testers, and operations, delivery teams can get changes released in a matter of hours— sometimes even minutes—no matter what the size of a project or the complexity of its code base. Jez Humble and David Farley begin by presenting the foundations of a rapid, reliable, low-risk delivery process. Next, they introduce the “deployment pipeline,” an automated process for managing all changes, from check-in to release. Finally, they discuss the “ecosystem” needed to support continuous delivery, from infrastructure, data and configuration management to governance. The authors introduce state-of-the-art techniques, including automated infrastructure management and data migration, and the use of virtualization. For each, they review key issues, identify best practices, and demonstrate how to mitigate risks. Coverage includes

- Automating all facets of building, integrating, testing, and deploying software
- Implementing deployment pipelines at team and organizational levels
- Improving collaboration between developers, testers, and operations
- Developing features incrementally on large and distributed teams
- Implementing an effective configuration management strategy
- Automating acceptance testing, from analysis to implementation
- Testing capacity and other non-functional

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requirements • Implementing continuous deployment and zero-downtime releases • Managing infrastructure, data, components and dependencies • Navigating risk management, compliance, and auditing Whether you're a developer, systems administrator, tester, or manager, this book will help your organization move from idea to release faster than ever—so you can deliver value to your business rapidly and reliably.

Growing Object-Oriented Software, Guided by Tests Pearson Education

Java to Kotlin

Agile Java™

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Pattern-Oriented Software Architecture, A System of Patterns

Learning Behavior-driven Development with JavaScript

Software Architecture in Practice

Let Over Lambda is one of the most hardcore computer programming books out there. Starting with the fundamentals, it describes the most advanced features of the most advanced language: Common Lisp. Only the top percentile of programmers use lisp and if you can understand this book you are in the top percentile of lisp programmers. If you are looking for a dry coding manual that re-hashes common-sense techniques in whatever langue du jour, this book is not for you. This book is

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about pushing the boundaries of what we know about programming. While this book teaches useful skills that can help solve your programming problems today and now, it has also been designed to be entertaining and inspiring. If you have ever wondered what lisp or even programming itself is really about, this is the book you have been looking for. Test-Driven Development (TDD) is now an established technique for delivering better software faster. TDD is based on a simple idea: Write tests for your code before you write the code itself. However, this "simple" idea takes skill and judgment to do well. Now there's a practical guide to TDD that takes you beyond the basic concepts. Drawing on a decade of experience building real-world systems, two TDD pioneers show how to let tests guide your development and "grow" software that is coherent, reliable, and maintainable. Steve Freeman and Nat Pryce describe the processes they use, the design principles they strive to achieve, and some of the tools that help them get the job done. Through an extended worked example, you'll learn how TDD works at multiple levels, using tests to drive the features and the object-oriented structure of the code, and using Mock Objects to discover and then describe relationships between objects. Along the way, the book systematically addresses challenges that development teams encounter with TDD—from integrating TDD into your processes to testing your most difficult features. Coverage includes Implementing

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TDD effectively: getting started, and maintaining your momentum throughout the project Creating cleaner, more expressive, more sustainable code Using tests to stay relentlessly focused on sustaining quality Understanding how TDD, Mock Objects, and Object-Oriented Design come together in the context of a real software development project Using Mock Objects to guide object-oriented designs Succeeding where TDD is difficult: managing complex test data, and testing persistence and concurrency

This is the eBook version of the printed book. If the print book includes a CD-ROM, this content is not included within the eBook version. Test-Driven Development (TDD) is now an established technique for delivering better software faster. TDD is based on a simple idea: Write tests for your code before you write the code itself. However, this "simple" idea takes skill and judgment to do well. Now there's a practical guide to TDD that takes you beyond the basic concepts. Drawing on a decade of experience building real-world systems, two TDD pioneers show how to let tests guide your development.

This book is ideal for any JavaScript developer who is interested in producing well-tested code. If you have no prior experience with testing, Node.js, or any other tool, do not worry, as they will be explained from scratch.

xUnit Test Patterns

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Modern C++ Programming with Test-Driven Development

An Agile Primer

Developing Real World Applications with TDD

Implementation Patterns

Test-driven Development

TL;DR Compound variable names, validators, private static literals, configurable objects, inheritance, annotations, MVC, dependency injection containers, reflection, ORM and even algorithms are our enemies.

You want increased customer satisfaction, faster development cycles, and less wasted work. Domain-driven design (DDD) combined with functional programming is the innovative combo that will get you there. In this pragmatic, down-to-earth guide, you'll see how applying the core principles of functional programming can result in software designs that model real-world requirements both elegantly and concisely - often more so than an object-oriented approach. Practical examples in the open-source F# functional language, and examples from familiar business domains, show you how to apply these techniques to build software that is business-focused, flexible, and high quality. Domain-driven design is a well-established approach to designing software that ensures that domain experts and developers work together effectively to create high-quality software. This book is the first to combine DDD with techniques from statically typed functional programming. This book is perfect for newcomers to DDD or functional programming - all the techniques you need will be introduced and explained. Model a complex domain accurately using the F# type system, creating compilable code that is also readable documentation---ensuring that the code and design never get out of sync. Encode

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business rules in the design so that you have "compile-time unit tests," and eliminate many potential bugs by making illegal states unrepresentable. Assemble a series of small, testable functions into a complete use case, and compose these individual scenarios into a large-scale design. Discover why the combination of functional programming and DDD leads naturally to service-oriented and hexagonal architectures. Finally, create a functional domain model that works with traditional databases, NoSQL, and event stores, and safely expose your domain via a website or API. Solve real problems by focusing on real-world requirements for your software. What You Need: The code in this book is designed to be run interactively on Windows, Mac and Linux. You will need a recent version of F# (4.0 or greater), and the appropriate .NET runtime for your platform. Full installation instructions for all platforms at fsharp.org.

Kotlin has raised the bar for programming languages on the Java Virtual Machine with its compatibility, readability, efficiency, and tool support. But adopting a new language can be daunting, especially when you're working with business-critical Java code that must meet changing requirements. This book takes a novel approach to introducing Kotlin to Java programmers: showing you how to gradually refactor Java code to idiomatic Kotlin while continuing to evolve its functionality. But converting Java to Kotlin is just the starting point. Kotlin has many features beyond Java. Using worked examples, authors Duncan McGregor and Nat Pryce guide you through honing the converted code to make it simpler, more efficient, more expressive, and easier to change. You'll learn how to take advantage of functional constructs to improve program structure, reliability, and error handling. Once you finish this book, you'll be confident writing Kotlin from scratch, converting your existing Java when

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appropriate, and managing a mixed Java-Kotlin codebase as it evolves over time.

"Head First Object Oriented Analysis and Design is a refreshing look at subject of OOAD. What sets this book apart is its focus on learning. The authors have made the content of OOAD accessible, usable for the practitioner." Ivar Jacobson, Ivar Jacobson Consulting "I just finished reading HF OOA&D and I loved it! The thing I liked most about this book was its focus on why we do OOA&D-to write great software!" Kyle Brown, Distinguished Engineer, IBM "Hidden behind the funny pictures and crazy fonts is a serious, intelligent, extremely well-crafted presentation of OO Analysis and Design. As I read the book, I felt like I was looking over the shoulder of an expert designer who was explaining to me what issues were important at each step, and why." Edward Sciore, Associate Professor, Computer Science Department, Boston College Tired of reading Object Oriented Analysis and Design books that only makes sense after you're an expert? You've heard OOA&D can help you write great software every time- software that makes your boss happy, your customers satisfied and gives you more time to do what makes you happy. But how? Head First Object-Oriented Analysis & Design shows you how to analyze, design, and write serious object-oriented software: software that's easy to reuse, maintain, and extend; software that doesn't hurt your head; software that lets you add new features without breaking the old ones. Inside you will learn how to: Use OO principles like encapsulation and delegation to build applications that are flexible Apply the Open-Closed Principle (OCP) and the Single Responsibility Principle (SRP) to promote reuse of your code Leverage the power of design patterns to solve your problems more efficiently Use UML, use cases, and diagrams to ensure that all stakeholders are communicating clearly to help you deliver the right software that meets everyone's needs. By exploiting how your brain works,

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Head First Object-Oriented Analysis & Design compresses the time it takes to learn and retain complex information. Expect to have fun, expect to learn, expect to be writing great software consistently by the time you're finished reading this!

Crafting Code with Test-Driven Development

Tackling Complexity in the Heart of Software

A Use Case Driven Approach

Working Effectively with Legacy Code

Professional Test Driven Development with C#

Object Thinking

Radically improve your testing practice and software quality with new testing styles, good patterns, and reliable automation. Key Features A practical and results-driven approach to unit testing Refine your existing unit tests by implementing modern best practices Learn the four pillars of a good unit test Safely automate your testing process to save time and money Spot which tests need refactoring, and which need to be deleted entirely Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About The Book Great testing practices maximize your project quality and delivery speed by identifying bad code early in the development process. Wrong tests will break your code, multiply bugs, and increase time and costs. You owe it to yourself—and your projects—to learn how to do excellent unit testing. Unit Testing Principles, Patterns and Practices teaches you to design and write tests that target

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key areas of your code including the domain model. In this clearly written guide, you learn to develop professional-quality tests and test suites and integrate testing throughout the application life cycle. As you adopt a testing mindset, you'll be amazed at how better tests cause you to write better code. What You Will Learn Universal guidelines to assess any unit test Testing to identify and avoid anti-patterns Refactoring tests along with the production code Using integration tests to verify the whole system This Book Is Written For For readers who know the basics of unit testing. Examples are written in C# and can easily be applied to any language. About the Author Vladimir Khorikov is an author, blogger, and Microsoft MVP. He has mentored numerous teams on the ins and outs of unit testing. Table of Contents: PART 1 THE BIGGER PICTURE 1 | The goal of unit testing 2 | What is a unit test? 3 | The anatomy of a unit test PART 2 MAKING YOUR TESTS WORK FOR YOU 4 | The four pillars of a good unit test 5 | Mocks and test fragility 6 | Styles of unit testing 7 | Refactoring toward valuable unit tests PART 3 INTEGRATION TESTING 8 | Why integration testing? 9 | Mocking best practices 10 | Testing the database PART 4 UNIT TESTING ANTI-PATTERNS 11 | Unit testing anti-patterns

Master Java 5.0 and TDD Together: Build More Robust, Professional Software Master Java 5.0, object-oriented design, and Test-Driven Development (TDD) by learning them together. Agile Java weaves all three into a single coherent approach to building

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professional, robust software systems. Jeff Langr shows exactly how Java and TDD integrate throughout the entire development lifecycle, helping you leverage today's fastest, most efficient development techniques from the very outset. Langr writes for every programmer, even those with little or no experience with Java, object-oriented development, or agile methods. He shows how to translate oral requirements into practical tests, and then how to use those tests to create reliable, high-performance Java code that solves real problems. Agile Java doesn't just teach the core features of the Java language: it presents coded test examples for each of them. This TDD-centered approach doesn't just lead to better code: it provides powerful feedback that will help you learn Java far more rapidly. The use of TDD as a learning mechanism is a landmark departure from conventional teaching techniques. Presents an expert overview of TDD and agile programming techniques from the Java developer's perspective Brings together practical best practices for Java, TDD, and OO design Walks through setting up Java 5.0 and writing your first program Covers all the basics, including strings, packages, and more Simplifies object-oriented concepts, including classes, interfaces, polymorphism, and inheritance Contains detailed chapters on exceptions and logging, math, I/O, reflection, multithreading, and Swing Offers seamlessly-integrated explanations of Java 5.0's key innovations, from generics to annotations Shows how TDD impacts system design, and vice versa Complements any agile or traditional methodology, including Extreme

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Programming (XP)

Hands-on guidance to creating great test-driven development practice Test-driven development (TDD) practice helps developers recognize a well-designed application, and encourages writing a test before writing the functionality that needs to be implemented. This hands-on guide provides invaluable insight for creating successful test-driven development processes. With source code and examples featured in both C# and .NET, the book walks you through the TDD methodology and shows how it is applied to a real-world application. You'll witness the application built from scratch and details each step that is involved in the development, as well as any problems that were encountered and the solutions that were applied. Clarifies the motivation behind test-driven development (TDD), what it is, and how it works Reviews the various steps involved in developing an application and the testing that is involved prior to implementing the functionality Discusses unit testing and refactoring Professional Test-Driven Development with C# shows you how to create great TDD processes right away.

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.

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Continuous Delivery

Domain Modeling Made Functional

Improving Software Quality and Reducing Risk

Object Design Style Guide

The RSpec Book

A Brain Friendly Guide to OOA&D

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.

Annotation Over the past 10 years, distributed systems have become more fine-grained. From the large multi-million line long monolithic applications, we are now seeing the benefits of smaller self-contained services. Rather than heavy-weight, hard to change Service Oriented Architectures, we are now seeing systems consisting of collaborating microservices. Easier to change, deploy, and if required retire, organizations which are in the right position to take advantage of them are yielding significant benefits. This book takes an holistic view of the things you need to be cognizant of in order to pull this off. It covers just enough understanding of technology, architecture, operations and organization to show you how to move towards finer-grained systems.

Software configuration management (SCM) is one of the scientific tools that is aimed to bring control to the software development process. This new resource is a complete guide to implementing, operating, and maintaining a successful SCM system for software development. Project managers, system designers, and software developers are presented with not only the basics of SCM, but also the different phases in the software development lifecycle and how SCM plays a role in each phase. The factors that should be considered and the pitfalls that should be avoided while designing the SCM system and SCM plan are also discussed. In addition, this third edition is updated to include cloud computing and on-demand systems. This book does not rely on one specific tool or standard for

explaining the SCM concepts and techniques; In fact, it gives readers enough information about SCM, the mechanics of SCM, and SCM implementation, so that they can successfully implement a SCM system.

Behaviour Driven Development is about writing software that matters. It is an approach to agile software development that takes cues from Test Driven Development, Domain Driven Design, and Acceptance Test Driven Planning. RSpec and Cucumber are the leading Behaviour Driven Development tools in Ruby. RSpec supports Test Driven Development in Ruby through the BDD lens, keeping your focus on design and documentation while also supporting thorough testing and quick fault isolation. Cucumber, RSpec's steadfast companion, supports Acceptance Test Driven Planning with business-facing, executable requirements documentation that helps to ensure that you are writing relevant software targeted at real business needs. The RSpec Book will introduce you to RSpec, Cucumber, and a number of other tools that make up the Ruby BDD family. Replete with tutorials and practical examples, the RSpec Book will help you get your BDD on, taking you from executable requirements to working software that is clean, well tested, well documented, flexible and highly maintainable. Dependency Injection Principles, Practices, and Patterns

WORK EFFECT LEG CODE _p1

Practical Object-oriented Design in Ruby

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Reliable Software Releases through Build, Test, and Deployment Automation (Adobe Reader)

Practical Software Development Using UML and Java

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

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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

Foreword by Kent Beck "The authors of this book have led a

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revolution in the craft of programming by controlling the environment in which software grows." --Ward Cunningham "At last, a book suffused with code that exposes the deep symbiosis between TDD and OOD. This one's a keeper."

--Robert C. Martin "If you want to be an expert in the state of the art in TDD, you need to understand the ideas in this book."

--Michael Feathers Test-Driven Development (TDD) is now an established technique for delivering better software faster. TDD is based on a simple idea: Write tests for your code before you write the code itself. However, this "simple" idea takes skill and judgment to do well. Now there's a practical guide to TDD that takes you beyond the basic concepts. Drawing on a decade of experience building real-world systems, two TDD pioneers show how to let tests guide your development and "grow" software that is coherent, reliable, and maintainable. Steve Freeman and Nat Pryce describe the processes they use, the design principles they strive to achieve, and some of the tools that help them get the job done. Through an extended worked example, you'll

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*learn how TDD works at multiple levels, using tests to drive the features and the object-oriented structure of the code, and using Mock Objects to discover and then describe relationships between objects. Along the way, the book systematically addresses challenges that development teams encounter with TDD--from integrating TDD into your processes to testing your most difficult features. Coverage includes **

- Implementing TDD effectively: getting started, and maintaining your momentum throughout the project*
- * Creating cleaner, more expressive, more sustainable code*
- * Using tests to stay relentlessly focused on sustaining quality*
- * Understanding how TDD, Mock Objects, and Object-Oriented Design come together in the context of a real software development project*
- * Using Mock Objects to guide object-oriented designs*
- * Succeeding where TDD is difficult: managing complex test data, and testing persistence and concurrency*

This is the eagerly-anticipated revision to one of the seminal books in the field of software architecture which

clearly defines and explains the topic.

Automated testing is a cornerstone of agile development. An effective testing strategy will deliver new functionality more aggressively, accelerate user feedback, and improve quality. However, for many developers, creating effective automated tests is a unique and unfamiliar challenge. xUnit Test Patterns is the definitive guide to writing automated tests using xUnit, the most popular unit testing framework in use today. Agile coach and test automation expert Gerard Meszaros describes 68 proven patterns for making tests easier to write, understand, and maintain. He then shows you how to make them more robust and repeatable--and far more cost-effective. Loaded with information, this book feels like three books in one. The first part is a detailed tutorial on test automation that covers everything from test strategy to in-depth test coding. The second part, a catalog of 18 frequently encountered "test smells," provides troubleshooting guidelines to help you determine the root cause of problems and the most applicable patterns. The third part

contains detailed descriptions of each pattern, including refactoring instructions illustrated by extensive code samples in multiple programming languages.

Elegant Objects

By Example

Growing Object-oriented Software, Guided by Tests

Code Better, Sleep Better

*Guided by Tests. - Title from Resource Description Page
(viewed March 27, 2009)*

Refactoring Test Code

Summary Dependency Injection Principles, Practices, and Patterns teaches you to use DI to reduce hard-coded dependencies between application components. You'll start by learning what DI is and what types of applications will benefit from it. Then, you'll work through concrete scenarios using C# and the .NET framework to implement DI in your own projects. As you dive into the thoroughly-explained examples, you'll develop a foundation you can apply to any of the many DI libraries for .NET and .NET Core. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Dependency Injection (DI) is a great way to reduce tight coupling between software components. Instead of hard-coding dependencies, such as specifying a database driver, you make those connections through a third party. Central to application frameworks like ASP.NET Core, DI enables you to better manage changes and other complexity in your software. About

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the Book Dependency Injection Principles, Practices, and Patterns is a revised and expanded edition of the bestselling classic Dependency Injection in .NET. It teaches you DI from the ground up, featuring relevant examples, patterns, and anti-patterns for creating loosely coupled, well-structured applications. The well-annotated code and diagrams use C# examples to illustrate principles that work flawlessly with modern object-oriented languages and DI libraries. What's Inside Refactoring existing code into loosely coupled code DI techniques that work with statically typed OO languages Integration with common .NET frameworks Updated examples illustrating DI in .NET Core About the Reader For intermediate OO developers. About the Authors Mark Seemann is a programmer, software architect, and speaker who has been working with software since 1995, including six years with Microsoft. Steven van Deursen is a seasoned .NET developer and architect, and the author and maintainer of the Simple Injector DI library.

Table of Contents PART 1 Putting Dependency Injection on the map The basics of Dependency Injection: What, why, and how Writing tightly coupled code Writing loosely coupled code PART 2 Catalog DI patterns DI anti-patterns Code smells PART 3 Pure DI Application composition Object lifetime Interception Aspect-Oriented Programming by design Tool-based Aspect-Oriented Programming PART 4 DI Containers DI Container introduction The Autofac DI Container The Simple Injector DI Container The Microsoft.Extensions.DependencyInjection DI Container

It takes a week to travel the 8,000 miles overland from Java to Kotlin. If you're an experienced Java developer who has tried the Kotlin language, you were probably productive in about the same time. You'll have found that they do things differently in Kotlin, though. Nullability is important, collections are different, and classes are final by default. Kotlin is more functional, but what does that mean, and how should it change the way that you program? And what about all that Java code that you still have to support? Your tour guides Duncan and Nat first made the trip in 2015, and they've since helped many

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teams and individuals follow in their footsteps. Travel with them as they break the route down into legs like Optional to Nullable, Beans to Values, and Open to Sealed Classes. Each explains a key concept and then shows how to refactor production Java to idiomatic Kotlin, gradually and safely, while maintaining interoperability. The resulting code is simpler, more expressive, and easier to change. By the end of the journey, you'll be confident in refactoring Java to Kotlin, writing Kotlin from scratch, and managing a mixed language codebase as it evolves over time.

Software Expert Kent Beck Presents a Catalog of Patterns Infinitely Useful for Everyday Programming Great code doesn't just function: it clearly and consistently communicates your intentions, allowing other programmers to understand your code, rely on it, and modify it with confidence. But great code doesn't just happen. It is the outcome of hundreds of small but critical decisions programmers make every single day. Now, legendary software innovator Kent Beck—known worldwide for creating Extreme Programming and pioneering software patterns and test-driven development—focuses on these critical decisions, unearthing powerful “implementation patterns” for writing programs that are simpler, clearer, better organized, and more cost effective. Beck collects 77 patterns for handling everyday programming tasks and writing more readable code. This new collection of patterns addresses many aspects of development, including class, state, behavior, method, collections, frameworks, and more. He uses diagrams, stories, examples, and essays to engage the reader as he illuminates the patterns. You'll find proven solutions for handling everything from naming variables to checking exceptions.

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. Collective Wisdom from the Experts

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Software Configuration Management Handbook, Third Edition

Continuous Integration

Domain-driven Design

Let Over Lambda

Tackle Software Complexity with Domain-Driven Design and F#

For any software developer who has spent days in “integration hell,” cobbling together myriad software components, *Continuous Integration: Improving Software Quality and Reducing Risk* illustrates how to transform integration from a necessary evil into an everyday part of the development process. The key, as the authors show, is to integrate regularly and often using continuous integration (CI) practices and techniques. The authors first examine the concept of CI and its practices from the ground up and then move on to explore other effective processes performed by CI systems, such as database integration, testing, inspection, deployment, and feedback. Through more than forty CI-related practices using application examples in different languages, readers learn that CI leads to more rapid software development, produces deployable software at every step in the development lifecycle, and reduces the time between defect introduction and detection, saving time and lowering costs. With successful implementation of CI, developers reduce risks and repetitive manual processes, and teams receive better project visibility. The book covers How to make integration a “non-event” on your software development projects How to reduce the amount of repetitive

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processes you perform when building your software Practices and techniques for using CI effectively with your teams Reducing the risks of late defect discovery, low-quality software, lack of visibility, and lack of deployable software Assessments of different CI servers and related tools on the market The book's companion Web site, www.integratebutton.com, provides updates and code examples.

Get more out of your legacy systems: more performance, functionality, reliability, and manageability Is your code easy to change? Can you get nearly instantaneous feedback when you do change it? Do you understand it? If the answer to any of these questions is no, you have legacy code, and it is draining time and money away from your development efforts. In this book, Michael Feathers offers start-to-finish strategies for working more effectively with large, untested legacy code bases. This book draws on material Michael created for his renowned Object Mentor seminars: techniques Michael has used in mentoring to help hundreds of developers, technical managers, and testers bring their legacy systems under control. The topics covered include Understanding the mechanics of software change: adding features, fixing bugs, improving design, optimizing performance Getting legacy code into a test harness Writing tests that protect you against introducing new problems Techniques that can be used with any language or platform—with examples in Java, C++, C, and C# Accurately identifying where code changes need to be made Coping with legacy systems that aren't object-oriented Handling applications that don't seem to have any structure This

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book also includes a catalog of twenty-four dependency-breaking techniques that help you work with program elements in isolation and make safer changes.

As iOS apps become increasingly complex and business-critical, iOS developers must ensure consistently superior code quality. This means adopting best practices for creating and testing iOS apps. Test-Driven Development (TDD) is one of the most powerful of these best practices. Test-Driven iOS Development is the first book 100% focused on helping you successfully implement TDD and unit testing in an iOS environment. Long-time iOS/Mac developer Graham Lee helps you rapidly integrate TDD into your existing processes using Apple's Xcode 4 and the OCUit unit testing framework. He guides you through constructing an entire Objective-C iOS app in a test-driven manner, from initial specification to functional product. Lee also introduces powerful patterns for applying TDD in iOS development, and previews powerful automated testing capabilities that will soon arrive on the iOS platform. Coverage includes Understanding the purpose, benefits, and costs of unit testing in iOS environments Mastering the principles of TDD, and applying them in areas from app design to refactoring Writing usable, readable, and repeatable iOS unit tests Using OCUit to set up your Xcode project for TDD Using domain analysis to identify the classes and interactions your app needs, and designing it accordingly Considering third-party tools for iOS unit testing Building networking code in a test-driven manner Automating testing of view controller code that interacts with users Designing to

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interfaces, not implementations Testing concurrent code that typically runs in the background Applying TDD to existing apps Preparing for Behavior Driven Development (BDD) The only iOS-specific guide to TDD and unit testing, Test-Driven iOS Development covers both essential concepts and practical implementation. The Pragmatic Programmers classic is back! Freshly updated for modern software development, Pragmatic Unit Testing in Java 8 With JUnit teaches you how to write and run easily maintained unit tests in JUnit with confidence. You'll learn mnemonics to help you know what tests to write, how to remember all the boundary conditions, and what the qualities of a good test are. You'll see how unit tests can pay off by allowing you to keep your system code clean, and you'll learn how to handle the stuff that seems too tough to test. Pragmatic Unit Testing in Java 8 With JUnit steps you through all the important unit testing topics. If you've never written a unit test, you'll see screen shots from Eclipse, IntelliJ IDEA, and NetBeans that will help you get past the hard part--getting set up and started. Once past the basics, you'll learn why you want to write unit tests and how to effectively use JUnit. But the meaty part of the book is its collected unit testing wisdom from people who've been there, done that on production systems for at least 15 years: veteran author and developer Jeff Langr, building on the wisdom of Pragmatic Programmers Andy Hunt and Dave Thomas. You'll learn: How to craft your unit tests to minimize your effort in maintaining them. How to use unit tests to help keep your system clean. How to test the tough stuff. Memorable mnemonics to help you

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remember what's important when writing unit tests. How to help your team reap and sustain the benefits of unit testing. You won't just learn about unit testing in theory--you'll work through numerous code examples. When it comes to programming, hands-on is the only way to learn!

Pragmatic Unit Testing in Java 8 with JUnit

97 Things Every Programmer Should Know

Unit Testing Principles, Practices, and Patterns

Test-Driven iOS Development

Building Microservices

A Refactoring Guidebook

Pattern-oriented software architecture is a new approach to software development. This book represents the progression and evolution of the pattern approach into a system of patterns capable of describing and documenting large-scale applications. A pattern system provides, on one level, a pool of proven solutions to many recurring design problems. On another it shows how to combine individual patterns into heterogeneous structures and as such it can be used to facilitate a constructive development of software systems. Uniquely, the patterns that are presented in this book span several levels of abstraction, from high-level architectural patterns and medium-level design patterns to low-level idioms. The intention of, and motivation for, this book is to support both novices and experts in software development. Novices will gain from the

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experience inherent in pattern descriptions and experts will hopefully make use of, add to, extend and modify patterns to tailor them to their own needs. None of the pattern descriptions are cast in stone and, just as they are borne from experience, it is expected that further use will feed in and refine individual patterns and produce an evolving system of patterns. Visit our Web Page <http://www.wiley.com/compbooks/>

How Tests Drive the Code

Unit Testing in Java

Growing Object-Oriented Software: Guided by Tests