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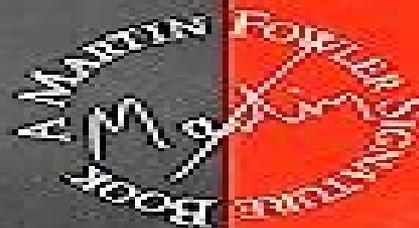
XUNIT TEST PATTERNS

REFACTORING
TEST CODE

GERARD MESZAROS



Foreword by Martin Fowler



Xunit Test Patterns Refactoring Code Gerard Meszaros

Vladimir Khorikov



Xunit Test Patterns Refactoring Code Gerard Meszaros:

xUnit Test Patterns Gerard Meszaros, 2007-05-21 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 trouble-shooting 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.

Unit Testing Principles, Practices, and Patterns Vladimir Khorikov, 2020-01-06 This book is an indispensable resource. Greg Wright, Kainos Software Ltd. 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, Practices, and Patterns teaches you to design and write tests that target 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.

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database PART 4 UNIT TESTING ANTI PATTERNS 11 Unit testing anti patterns **The Art of Unit Testing** Roy Osherove,2013-11-24 Summary The Art of Unit Testing Second Edition guides you step by step from writing your first simple tests to developing robust test sets that are maintainable readable and trustworthy You ll master the foundational ideas and quickly move to high value subjects like mocks stubs and isolation including frameworks such as Moq FakeItEasy and Typemock Isolator You ll explore test patterns and organization working with legacy code and even untestable code Along the way you ll learn about integration testing and techniques and tools for testing databases and other technologies About this Book You know you should be unit testing so why aren t you doing it If you re new to unit testing if you find unit testing tedious or if you re just not getting enough payoff for the effort you put into it keep reading The Art of Unit Testing Second Edition guides you step by step from writing your first simple unit tests to building complete test sets that are maintainable readable and trustworthy You ll move quickly to more complicated subjects like mocks and stubs while learning to use isolation mocking frameworks like Moq FakeItEasy and Typemock Isolator You ll explore test patterns and organization refactor code applications and learn how to test untestable code Along the way you ll learn about integration testing and techniques for testing with databases The examples in the book use C but will benefit anyone using a statically typed language such as Java or C Purchase of the print book includes a free eBook in PDF Kindle and ePub formats from Manning Publications What s Inside Create readable maintainable trustworthy tests Fakes stubs mock objects and isolation mocking frameworks Simple dependency injection techniques Refactoring legacy code About the Author Roy Osherove has been coding for over 15 years and he consults and trains teams worldwide on the gentle art of unit testing and test driven development His blog is at ArtOfUnitTesting.com Table of Contents PART 1 GETTING STARTED The basics of unit testing A first unit test PART 2 CORE TECHNIQUES Using stubs to break dependencies Interaction testing using mock objects Isolation mocking frameworks Digging deeper into isolation frameworks PART 3 THE TEST CODE Test hierarchies and organization The pillars of good unit tests PART 4 DESIGN AND PROCESS Integrating unit testing into the organization Working with legacy code Design and testability **The Art of Unit Testing, Third Edition** Roy Osherove,2024-03-26 Unit testing is more than just a collection of tools and practices it s a state of mind This bestseller reveals the master s secrets for delivering robust maintainable and trustworthy code Thousands of developers have learned to hone their code quality under the tutelage of The Art of Unit Testing This revised third edition updates an international bestseller to reflect modern development tools and practices as well as to cover JavaScript Inside The Art of Unit Testing Third Edition you will learn how to Create readable maintainable and trustworthy tests Work with fakes stubs mock objects and isolation frameworks Apply simple dependency injection techniques Refactor legacy code with confidence Test both frontend and backend code Effective unit tests streamline your software development process and ensure you deliver consistent high quality code every time With practical examples in JavaScript and Node this hands on guide takes you from your very first unit tests all the way to

comprehensive test suites naming standards and refactoring techniques You'll explore test patterns and organization working with legacy code and even untestable code The many tool agnostic examples are presented in JavaScript and carefully designed so that they apply to code written in any language About the technology The art of unit testing is more than just learning the right collection of tools and practices It's about understanding what makes great tests tick finding the right strategy for each unique situation and knowing what to do when the testing process gets messy This book delivers insights and advice that will transform the way you test your software About the book The Art of Unit Testing Third Edition shows you how to create readable and maintainable tests It goes well beyond basic test creation into organization wide test strategies troubleshooting working with legacy code and merciless refactoring You'll love the practical examples and familiar scenarios that make testing come alive as you read This third edition has been updated with techniques specific to object oriented functional and modular coding styles The examples use JavaScript What's inside Deciding on test types and strategies Test Entry Exit Points Refactoring legacy code Fakes stubs mock objects and isolation frameworks Object Oriented Functional and Modular testing styles About the reader Examples use JavaScript TypeScript and Node.js About the author Roy Osherove is an internationally recognized expert in unit testing and agile software methodology Vladimir Khorikov is the author of Manning's Unit Testing Principles Practices and Patterns a Pluralsight author and a Microsoft MVP Table of Contents PART 1 1 The basics of unit testing 2 A first unit test PART 2 3 Breaking dependencies with stubs 4 Interaction testing using mock objects 5 Isolation frameworks 6 Unit testing asynchronous code PART 3 7 Trustworthy tests 8 Maintainability PART 4 9 Readability 10 Developing a testing strategy 11 Integrating unit testing into the organization 12 Working with legacy code Appendix Monkey patching functions and modules **Real-World Solutions for Developing**

High-Quality PHP Frameworks and Applications Sebastian Bergmann, Stefan Priebsch, 2011-04-18 Learn to develop high quality applications and frameworks in PHP Packed with in depth information and step by step guidance this book escorts you through the process of creating maintaining and extending sustainable software of high quality with PHP World renowned PHP experts present real world case studies for developing high quality applications and frameworks in PHP that can easily be adapted to changing business requirements They offer different approaches to solving typical development and quality assurance problems that every developer needs to know and master Details the process for creating high quality PHP frameworks and applications that can easily be adapted to changing business requirements Covers the planning execution and automation of tests for the different layers and tiers of a Web application Demonstrates how to establish a successful development process Shares real world case studies from well known companies and their PHP experts With this book you'll learn to develop high quality PHP frameworks and applications that can easily be maintained with reasonable cost and effort

Clean Craftsmanship Robert C. Martin, 2021-09-16 How to Write Code You're Proud of Every Single Day A timely and humble reminder of the ever increasing complexity of our programmatic world and how we owe it to the legacy of humankind

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Beyond Software Architecture Luke Hohmann,2003-01-30 Successfully managing the relationship between business and technology is a daunting task faced by all companies in the twenty first century Beyond Software Architecture is a practical guide to properly managing this mission critical relationship In our modern economy every software decision can have a significant impact on business conversely most business decisions will influence a software application s viability This book contains keen insights and useful lessons about creating winning software solutions in the context of a real world business Software should be designed to deliver value to an organization but all too often it brings turmoil instead Powerful applications are available in the marketplace but purchasing or licensing these technologies does not guarantee success Winning solutions must be properly integrated into an organization s infrastructure Software expert Luke Hohmann teaches you the business ramifications of software architecture decisions and further instructs you on how to understand and embrace the business issues that must be resolved to achieve software success Using this book as a roadmap business managers and development teams can safely navigate the minefield of important decisions that they face on a regular basis The resulting synergy between business and technology will allow you to create winning technology solutions and ensure your organization s success now and in the future

Agile Technical Practices Distilled Pedro M. Santos,Marco Consolaro,Alessandro Di Gioia,2019-06-28 Delve deep into the various technical practices principles and values of Agile Key

Features Discover the essence of Agile software development and the key principles of software design Explore the fundamental practices of Agile working including test driven development TDD refactoring pair programming and continuous integration Learn and apply the four elements of simple design

Book Description The number of popular technical practices has grown exponentially in the last few years Learning the common fundamental software development practices can help you become a better programmer This book uses the term Agile as a wide umbrella and covers Agile principles and practices as well as most methodologies associated with it You ll begin by discovering how driver navigator chess clock and other techniques used in the pair programming approach introduce discipline while writing code You ll then learn to safely change the design of your code using refactoring While learning these techniques you ll also explore various best practices to write efficient tests The concluding chapters of the book delve deep into the SOLID principles the five design principles that you can use to make your software more understandable flexible and maintainable By the end of the book you will have discovered new ideas for improving your software design skills the relationship within your team and the way your business works What you will learn

Learn the red green refactor cycle of classic TDD and practice the best habits such as the rule of 3 triangulation object calisthenics and more Refactor using parallel change and improve legacy code with characterization tests approval tests and Golden Master Use code smells as feedback to improve your design Learn the double cycle of ATDD and the outside in mindset using mocks and stubs correctly in your tests Understand how Coupling Cohesion Connascence SOLID principles and code smells are all related Improve the understanding of your business domain using BDD and other principles for doing the right thing not only the thing right

Who this book is for This book is designed for software developers looking to improve their technical practices Software coaches may also find it helpful as a teaching reference manual This is not a beginner s book on how to program You must be comfortable with at least one programming language and must be able to write unit tests using any unit testing framework

Implementation Patterns Kent Beck, 2008 From best selling author Kent Beck comes one of the most important books since the release of the GOF s Design Patterns **Dr. Dobb's Journal**, 2008 American Book Publishing Record, 2007 Refactoring to Patterns Kerievsky, 2004 **Refactoring Test Code** A. van Deursen, Centrum voor Wiskunde en Informatica, 2001

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