

Software Testing Craftsmans Approach Edition

“This book fills a huge gap in our knowledge of software testing. It does an excellent job describing how test automation differs from other test activities, and clearly lays out what kind of skills and knowledge are needed to automate tests. The book is essential reading for students of testing and a bible for practitioners.” -Jeff Offutt, Professor of Software Engineering, George Mason University “This new book naturally expands upon its predecessor, Automated Software Testing, and is the perfect reference for software practitioners applying automated software testing to their development efforts. Mandatory reading for software testing professionals!” -Jeff Rashka, PMP, Coauthor of Automated Software Testing and Quality Web Systems Testing accounts for an increasingly large percentage of the time and cost of new software development. Using automated software testing (AST), developers and software testers can optimize the software testing lifecycle and thus reduce cost. As technologies and development grow increasingly complex, AST becomes even more indispensable. This book builds on some of the proven practices and the automated testing lifecycle methodology (ATLM) described in Automated Software Testing and provides a renewed practical, start-to-finish guide to implementing AST successfully. In Implementing Automated Software Testing, three leading experts explain AST in detail, systematically reviewing its components, capabilities, and limitations. Drawing on their experience deploying AST in both defense and commercial industry, they walk you through the entire implementation process—identifying best practices, crucial success factors, and key pitfalls along with solutions for avoiding them. You will learn how to: Make a realistic business case for AST, and use it to drive your initiative Clarify your testing requirements and develop an automation strategy that reflects them Build efficient test environments and choose the right automation tools and techniques for your environment Use proven metrics to continuously track your progress and adjust accordingly Whether you’re a test professional, QA specialist, project manager, or developer, this book can help you bring unprecedented efficiency to testing—and then use AST to improve your entire development lifecycle.

Looks at the principles and clean code, includes case studies showcasing the practices of writing clean code, and contains a list of heuristics and "smells" accumulated from the process of writing clean code.

This book introduces the author's collection of wisdom under one umbrella: Software Craftmanship. This approach is unique in that it spells out a programmer-centric way to build software. In other words, all the best computers, proven components, and most robust languages mean nothing if the programmer does not understand their craft.

In his latest work, author Paul C Jorgensen takes his well-honed craftsman’s approach to mastering model-based testing (MBT). To be expert at MBT, a software tester has to understand it as a craft rather than an art. This means a tester should have deep knowledge of the underlying subject and be well practiced in carrying out modeling and testing techniques. Judgment is needed, as well as an understanding of MBT the tools. The first part of the book helps testers in developing that judgment. It starts with an overview of MBT and follows with an in-depth treatment of nine different testing models with a chapter dedicated to each model. These chapters are tied together by a pair of examples: a simple insurance premium calculation and an event-driven system that describes a garage door controller. The book shows how simpler models—flowcharts, decision tables, and UML Activity charts—express the important aspects of the insurance premium problem. It also shows how transition-based models—finite state machines, Petri nets, and statecharts—are necessary for the garage door controller but are overkill for the insurance premium problem. Each chapter describes the extent to which a model can support MBT. The second part of the book gives testers a greater understanding of MBT tools. It examines six commercial MBT products, presents the salient features of each product, and demonstrates using the product on the insurance premium and the garage door controller problems. These chapters each conclude with advice on implementing MBT in an organization. The last chapter describes six Open Source tools to round out a tester’s knowledge of MBT. In addition, the book supports the International Software Testing Qualifications Board’s (ISTQB®) MBT syllabus for certification.

Effective Methods for Software Testing

Process, Principles and Techniques

How We Test Software at Microsoft

Apprenticeship Patterns

A Handbook of Agile Software Craftmanship

Thinking-Driven Testing

A Study Guide for the Certified Tester Exam

This updated and reorganized Fifth edition of Software Testing: A Craftsman's Approach applies the strong mathematics content of previous editions to a coherent treatment of software testing. Responding to instructor and student survey input of previous editions, the authors have streamlined chapters and examples. The Fifth Edition: Has a new chapter on feature interaction testing that explores the feature interaction problem and explains how to reduce tests Uses Java instead of pseudo-code for all examples including structured and object-oriented ones Presents model-based development and provides an explanation of how to conduct testing within model-based development environments Explains testing in waterfall, iterative, and agile software development projects Explores test-driven development, reexamines all-pairs testing, and explains the four contexts of software testing Thoroughly revised and updated, Software Testing: A Craftsman’s Approach, Fifth Edition is sure to become a standard reference for those who need to stay up to date with evolving technologies in software testing. Carrying on the tradition of previous editions, it is a valuable reference for software testers, developers, and engineers.

Taking a learn-by-doing approach, Software Engineering Design: Theory and Practice uses examples, review questions, chapter exercises, and case study assignments to provide students and practitioners with the understanding required to design complex software systems. Explaining the concepts that are immediately relevant to software designers, it begins with a review of software design fundamentals. The text presents a formal top-down design process that consists of several design activities with varied levels of detail, including the macro-, micro-, and construction-design levels. As part of the top-down approach, it provides in-depth coverage of applied architectural, creational, structural, and behavioral design patterns. For each design issue covered, it includes a step-by-step breakdown of the execution of the design solution, along with an evaluation, discussion, and justification for using that particular solution. The book outlines industry-proven software design practices for leading large-scale software design efforts, developing reusable and high-quality software systems, and producing technical and customer-driven design documentation. It also: Offers one-stop guidance for mastering the Software Design & Construction sections of the official Software Engineering Body of Knowledge (SWEBOK®) Details a collection of standards and guidelines for structuring high-quality code Describes techniques for analyzing and evaluating the quality of software designs Collectively, the text supplies comprehensive coverage of the software design concepts students will need to succeed as professional design leaders. The section on engineering leadership for software designers covers the necessary ethical and leadership skills required of software developers in the public domain. The section on creating software design documents (SDD) familiarizes students with the software design notations, structural descriptions, and behavioral models required for SDDs. Course notes, exercises with answers, online resources, and an instructor’s manual are available upon qualified course adoption. Instructors can contact the author about these resources via the author’s website:

<http://softwareengineeringdesign.com/>

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 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

Teaches readers how to test and analyze software to achieve an acceptable level of quality at an acceptable cost Readers will be able to minimize software failures, increase quality, and effectively manage costs Covers techniques that are suitable for near-term application, with sufficient technical background to indicate how and when to apply them Provides balanced coverage of software testing & analysis approaches By incorporating modern topics and strategies, this book will be the standard software-testing textbook

THE ART OF SOFTWARE TESTING, 2ND ED

Selection of Traditional and Automated Functional Tests

Practical Tools and Techniques for Managing Hardware and Software Testing

Software Craftsmanship

Managing the Testing Process

Professionalism, Pragmatism, Pride

Software Testing Foundations

This book teaches test managers what they need to know to achieve advanced skills in test estimation, test planning, test monitoring, and test control. Readers will learn how to define the overall testing goals and strategies for the systems being tested. This hands-on, exercise-rich book provides experience with planning, scheduling, and tracking these tasks. You'll be able to describe and organize the necessary activities as well as learn to select, acquire, and assign adequate resources for testing tasks. You'll learn how to form, organize, and lead testing teams, and master the organizing of communication among the members of the testing teams, and between the testing teams and all the other stakeholders. Additionally, you'll learn how to justify decisions and provide adequate reporting information where applicable. With over thirty years of software and systems engineering experience, author Rex Black is President of RBCS, is a leader in software, hardware, and systems testing, and is the most prolific author practicing in the field of software testing today. He has published a dozen books on testing that have sold tens of thousands of copies worldwide. He is past president of the International Software Testing Qualifications Board (ISTQB) and a director of the American Software Testing Qualifications Board (ASTQB). This book will help you prepare for the ISTQB Advanced Test Manager exam. Included are sample exam questions, at the appropriate level of difficulty, for most of the learning objectives covered by the ISTQB Advanced Level Syllabus. The ISTQB certification program is the leading software tester certification program in the world. With about 300,000 certificate holders and a global presence in over 50 countries, you can be confident in the value and international stature that the Advanced Test Manager certificate can offer you. This second edition has been thoroughly updated to reflect the new ISTQB Advanced Test Manager 2012 Syllabus, and the latest ISTQB Glossary. This edition reflects Rex Black's unique insights into these changes, as he was one of the main participants in the ISTQB Advanced Level Working Group.

Since the last publication of this international bestseller, software testing has seen a renaissance of renewed interest and technology. The biggest change comes in the growing prominence and acceptance of Agile Programming. Software Testing: A Craftsman's Approach, Third Edition extends the combination of theory and practicality of the first two editions to include agile programming development and discusses the serious effect this emerging area is having on software testing. The third edition of the widely adopted text and reference book is comprised of six parts. It begins by providing the mathematical background in discrete mathematics and linear graph theory that is used in subsequent sections. The book continues to describe specification-based (functional) and code-based (structural) test development techniques, while extending this theoretical approach to less understood levels of integration and system testing. The author further develops this discussion to include object-oriented software. A completely new section relates all of the previously discussed concepts to the agile software development movement and highlights issues such as how agile and XP development environments are radically changing the role of software testers by making testing integral at every phase of the development process. Thoroughly revised and updated, Software Testing: A Craftsman's Approach, Third Edition is sure to become a standard reference for those who need to stay up-to-date with evolving technologies in software testing. Carrying on the tradition of previous editions, it will continue to serve as a valuable reference for software testers, developers, and engineers.

This edition of Foundations of Software Testing is aimed at the undergraduate, the graduate students and the practicing engineers. It presents sound engineering approaches for test generation, ion, minimization, assessment, and enhancement. Using numerous examples, it offers a lucid description of a wide range of simple to complex techniques for a variety of testing-related tasks. It also discusses the comparative analyses of commercially available testing tools to facilitate the tool ion.

Special Features:

- **A LANDMARK BOOK THAT HAS ENDURED FOR 25 YEARS:** With little effort on the author's part, The Art of Software Testing has continued to sell since 1978; the total sales hover just under 60,000 copies at a current price point of \$140.00. Since 1988 (the earliest year that sales data is available), this book has sold 7,910 copies in special sales, and it has found its way into the college and international markets, selling 2,099 and 5,075 (through our subsidiaries) respectively
- **A PROLIFIC REVISION AUTHOR BEHIND A 300,000-COPY BEST-SELLER:** Corey Sandler is a well-known computer title author whose book Fix Your Own PC has sold over 300,000 copies in six editions. He has held top editorial roles at a number of leading computer magazines, including Digital News, PC World and PCjr
- **ORIGINAL AUTHOR IS WELL-KNOWN IN THE COMPUTER WORLD:** Glen Myers has a great name in the field of computing, and he is well-known for his past roles at IBM, RadiSys Corporation (which he founded and steered as CEO), and his current position as Director of Spectrum Signals
- **A CLASSIC PROFESSIONAL GUIDE:** The Art of Software Testing is a classic guide that has won wide praise for its straightforward approach to this topic

About The Book: The Art of Software Testing, Second Edition provides a practical

discussion of the purpose and nature of software testing. It elucidate the latest methodologies for the design of effective test cases, and provide accessible information on psychological and economic principles, managerial aspects of testing, test tools, high-order testing, code inspections, and debugging.

Working Effectively with Legacy Code

Lessons Learned in Software Testing

Interview Questions

Foundations of Software Testing, 2/e

Software Testing Foundations, 5th Edition: A Study Guide for the Certified Tester Exam

Growing Object-Oriented Software, Guided by Tests

Testing IT

Written by the founder and executive director of the Quality Assurance Institute, which sponsors the most widely accepted certification program for software testing Software testing is a weak spot for most developers, and many have no system in place to find and correct defects quickly and efficiently This comprehensive resource provides step-by-step guidelines, checklists, and templates for each testing activity, as well as a self-assessment that helps readers identify the sections of the book that respond to their individual needs Covers the latest regulatory developments affecting software testing, including Sarbanes-Oxley Section 404, and provides guidelines for agile testing and testing for security, internal controls, and data warehouses CD-ROM with all checklists and templates saves testers countless hours of developing their own test documentation Note: CD-ROM/DVD and other supplementary materials are not included as part of eBook file.

Professional testing of software is an essential task that requires a profound knowledge of testing techniques. The International Software Testing Qualifications Board (ISTQB) has developed a universally accepted, international qualification scheme aimed at software and system testing professionals, and has created the Syllabi and Tests for the "Certified Tester." Today about 300,000 people have taken the ISTQB certification exams. The authors of Software Testing Foundations, 4th Edition, are among the creators of the Certified Tester Syllabus and are currently active in the ISTQB. This thoroughly revised and updated fourth edition covers the "Foundations Level" (entry level) and teaches the most important methods of software testing. It is designed for self-study and provides the information necessary to pass the Certified Tester-Foundations Level exam, version 2011, as defined by the ISTQB. Also in this new edition, technical terms have been precisely stated according to the recently revised and updated ISTQB glossary. Topics covered: Fundamentals of Testing Testing and the Software Lifecycle Static and Dynamic Testing Techniques Test Management Test Tools Also mentioned are some updates to the syllabus that are due in 2015.

The competence and quality of software testers are often judged by the various testing techniques they have mastered. As the name suggests, Software Testing provides a self-study format and is designed for certification course review, and for freshers as well as professionals who are searching for opportunities in the software testing field. Along with software testing basics, the book covers software testing techniques and interview questions (e.g., Six Sigma and CMMI) which are important from the Software Quality Assurance (SQA) perspective. It also has in-depth coverage of software expense estimation topics like function points (FPA) and TPA analysis. A CD-ROM supplements the content with the TestComplete software-testing tool setup, software estimation templates (PDFs), an interview rating sheet, a sample resume, third-party contributions, and more."

An updated edition of the best tips and tools to plan, build, and execute a structured test operation In this update of his bestselling book, Rex Black walks you through how to develop essential tools and apply them to your test project. He helps you master the basic tools, apply the techniques to manage your resources, and give each area just the right amount of attention so that you can successfully survive managing a test project! Offering a thorough review of the tools and resources you will need to manage both large and small projects for hardware and software, this book prepares you to adapt the concepts across a broad range of settings. Simple and effective, the tools comply with industry standards and bring you up to date with the best test management practices and tools of leading hardware and software vendors. Rex Black draws from his own numerous testing experiences-- including the bad ones, so you can learn from his mistakes-- to provide you with insightful tips in test project management. He explores such topics as: Dates, budgets, and quality-expectations versus reality Fitting the testing process into the overall development or maintenance process How to choose and when to use test engineers and technicians, contractors and consultants, and external test labs and vendors Setting up and using an effective and simple bug-tracking database Following the status of each test case The companion Web site contains fifty tools, templates, and case

studies that will help you put these ideas into action--fast!

Implementing Automated Software Testing

Guide to the ISTQB Advanced Certification as an Advanced Test Manager

A Practical Guide to Testing

Principles and Practice

A Craftsman's Approach, Third Edition

The Most Reasonable Approach to Quality Control

Practical Test Design

Are you doing all you can to further your career as a software developer? With today's rapidly changing and ever-expanding technologies, being successful requires more than technical expertise. To grow professionally, you also need soft skills and effective learning techniques. Honing those skills is what this book is all about. Authors Dave Hoover and Adewale Oshineye have cataloged dozens of behavior patterns to help you perfect essential aspects of your craft. Compiled from years of research, many interviews, and feedback from O'Reilly's online forum, these patterns address difficult situations that programmers, administrators, and DBAs face every day. And it's not just about financial success. Apprenticeship Patterns also approaches software development as a means to personal fulfillment. Discover how this book can help you make the best of both your life and your career. Solutions to some common obstacles that this book explores in-depth include: Burned out at work? "Nurture Your Passion" by finding a pet project to rediscover the joy of problem solving. Feeling overwhelmed by new information? Re-explore familiar territory by building something you've built before, then use "Retreat into Competence" to move forward again. Stuck in your learning? Seek a team of experienced and talented developers with whom you can "Be the Worst" for a while. "Brilliant stuff! Reading this book was like being in a time machine that pulled me back to those key learning moments in my career as a professional software developer and, instead of having to learn best practices the hard way, I had a guru sitting on my shoulder guiding me every step towards master craftsmanship. I'll certainly be recommending this book to clients. I wish I had this book 14 years ago!"-Russ Miles, CEO, OpenCredo

It may surprise you to learn that Microsoft employs as many software testers as developers. Less surprising is the emphasis the company places on the testing discipline—and its role in managing quality across a diverse, 150+ product portfolio. This book—written by three of Microsoft's most prominent test professionals—shares the best practices, tools, and systems used by the company's 9,000-strong corps of testers. Learn how your colleagues at Microsoft design and manage testing, their approach to training and career development, and what challenges they see ahead. Most important, you'll get practical insights you can apply for better results in your organization. Discover how to: Design effective tests and run them throughout the product lifecycle Minimize cost and risk with functional tests, and know when to apply structural techniques Measure code complexity to identify bugs and potential maintenance issues Use models to generate test cases, surface unexpected application behavior, and manage risk Know when to employ automated tests, design them for long-term use, and plug into an automation infrastructure Review the hallmarks of great testers—and the tools they use to run tests, probe systems, and track progress efficiently Explore the challenges of testing services vs. shrink-wrapped software

With the urgent demand for rapid turnaround on new software releases--without compromising quality--the testing element of software development must keep pace, requiring a major shift from slow, labor-intensive testing methods to a faster and more thorough automated testing approach. Automated Software Testing is a comprehensive, step-by-step guide to the most effective tools, techniques, and methods for automated testing. Using numerous case studies of successful industry implementations, this book presents everything you need to know to successfully incorporate automated testing into the development process. In particular, this book focuses on the Automated Test Life Cycle Methodology (ATLM), a structured process for designing and executing testing that parallels the Rapid Application Development methodology commonly used today. Automated Software Testing is designed to lead you through each step of this structured program, from the initial decision to implement automated software testing through test planning, execution, and reporting. Included are test automation and test management guidance for: Acquiring management support Test tool evaluation and selection The automated testing introduction process Test effort and test team sizing Test team composition, recruiting, and management Test planning and preparation Test procedure development guidelines Automation reuse analysis and reuse library Best practices for test automation

This book presents a new paradigm of software testing by emphasizing the role of critical thinking, system thinking and rationality as the most important skills for the tester. It thus approaches software testing from a different perspective than in past literature, as the vast majority of books describe testing in the context of specific tools, automation, documentation, particular test design techniques or test management. In addition, the book proposes a novel meta-approach for designing effective test strategies, which is based on recent advances in psychology, economics, system sciences and logic. Chapter 1 starts by introducing the fundamental ideas underlying software testing. Chapter 2 then describes meta-strategies in software testing, i.e. general approaches that can be adapted to many different situations that a software tester encounters. Next, Chapter 3 presents the concept of Thinking-Driven Testing (TDT). This approach utilizes the concepts discussed in the two previous chapters and introduces the main ideas that underlie a reasonable and optimal approach to software testing. Chapter 4 builds on this basis and proposes a specific approach to testing, called TQED, that makes it possible to increase creativity in the context of delivering effective, optimal test ideas. Chapter 5 provides an overview of different types of testing techniques in order to understand the fundamental concepts of test design, while Chapter 6 details various pitfalls a tester may encounter and that can originate from a wide range of testing process areas. Lastly, Chapter 7 puts all this into practice, as it contains several exercises that will help testers develop a number of crucial skills: logical thinking and reasoning, thinking out of the box, creativity, counting and

estimating, and analytical thinking. By promoting critical, rational and creative thinking, this book invites readers to re-examine common assumptions regarding software testing and shows them how to become professional testers who bring added value to their company.

Software Testing Fundamentals

Introduction to Software Testing

Advanced Software Testing - Vol. 2, 2nd Edition

Automated Software Testing

How Google Tests Software

Introduction, Management, and Performance

CD-ROM contains: Canned HEAT v.2.0 -- Holodeck Lite v. 1.0.

Testing IT provides a complete, off-the-shelf software testing process framework for any testing practitioner who is looking to research, implement, roll out, adopt, and maintain a software testing process. It covers all aspects of testing for software developed or modified in-house, modified or extended legacy systems, and software developed by a third party. Software professionals can customize the framework to match the testing requirements of any organization, and six real-world testing case studies are provided to show how other organizations have done this. Packed with a series of real-world case studies, the book also provides a comprehensive set of downloadable testing document templates, proformas, and checklists to support the process of customizing. This new edition demonstrates the role and use of agile testing best practices and includes a specific agile case study.

This book presents the key test design techniques, in line with ISTQB, and explains the why and when of using them, with practical examples and code snippets. How and why the techniques can be combined is covered, as are automated test design methods. Tips and exercises are included throughout the book.

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 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

WORK EFFECT LEG CODE _p1

The Art of Software Testing

A Context-Driven Approach

Methods and Metrics

Software Testing

A Craftsman's Guide to Software Structure and Design

How to Save Time and Lower Costs While Raising Quality

The software development world has changed significantly in the past five years. Noteworthy among its many changes is the emergence of the "Unified Modeling Language" (UML) as an industry standard. While thousands of software computer professionals and students continue to rely upon the bestselling first edition of Software Testing, the time has come to bring it up to date. Thoroughly revised, the second edition of Software Testing: A Craftsman's Approach reflects the recent growth and changes in software standards and development. Outdated material has been deleted and new topics, figures, case studies now complement its solid, accessible treatment of the mathematics and techniques of software testing. Foremost among this edition's refinements is the definition of a generalized pseudocode that replaces the outdated Pascal code used in the examples. The text is now independent of any particular programming language. The author has also added five chapters on object-oriented testing, incorporated object-oriented

versions of two earlier examples, and used them in the chapter on object-oriented testing, which he completely revised with regard to UML. In addition, GUI testing receives full treatment. The new edition of Software Testing provides a comprehensive synthesis of the fundamentals, approaches, and methods that form the basis of the craft. Mastering its contents will allow practitioners to make well-informed choices, develop creative solutions, and ultimately derive the sense of pride and pleasure that a true craftsman realizes from a job well done.

2012 Jolt Award finalist! Pioneering the Future of Software Test Do you need to get it right, too? Then, learn from Google. Legendary testing expert James Whittaker, until recently a Google testing leader, and two top Google experts reveal exactly how Google tests software, offering brand-new best practices you can use even if you're not quite Google's size...yet! Breakthrough Techniques You Can Actually Use Discover 100% practical, amazingly scalable techniques for analyzing risk and planning tests...thinking like real users...implementing exploratory, black box, white box, and acceptance testing...getting usable feedback...tracking issues...choosing and creating tools...testing "Docs & Mocks," interfaces, classes, modules, libraries, binaries, services, and infrastructure...reviewing code and refactoring...using test hooks, presubmit scripts, queues, continuous builds, and more. With these techniques, you can transform testing from a bottleneck into an accelerator--and make your whole organization more productive!

A highly anticipated book from a world-class authority who has trained on every continent and taught on many corporate campuses, from GTE to Microsoft First book publication of the two critically acclaimed and widely used testing methodologies developed by the author, known as MITs and S-curves, and more methods and metrics not previously available to the public Presents practical, hands-on testing skills that can be used everyday in real-life development tasks Includes three in-depth case studies that demonstrate how the tests are used Companion Web site includes sample worksheets, support materials, a discussion group for readers, and links to other resources

A complete introduction to building robust and reliable software Beginning Software Engineering demystifies the software engineering methodologies and techniques that professional developers use to design and build robust, efficient, and consistently reliable software. Free of jargon and assuming no previous programming, development, or management experience, this accessible guide explains important concepts and techniques that can be applied to any programming language. Each chapter ends with exercises that let you test your understanding and help you elaborate on the chapter's main concepts. Everything you need to understand waterfall, Sashimi, agile, RAD, Scrum, Kanban, Extreme Programming, and many other development models is inside! Describes in plain English what software engineering is Explains the roles and responsibilities of team members working on a software engineering project Outlines key phases that any software engineering effort must handle to produce applications that are powerful and dependable Details the most popular software development methodologies and explains the different ways they handle critical development tasks Incorporates exercises that expand upon each chapter's main ideas Includes an extensive glossary of software engineering terms

The Software Craftsman

An Off-the-Shelf Software Testing Process

A Craftsman's Approach

Guidance for the Aspiring Software Craftsman

The New Imperative

Includes Complete Guidelines, Checklists, and Templates

Software Engineering Design

"Software Testing: Principles and Practices is a comprehensive treatise on software testing. It provides a pragmatic view of testing, addressing emerging areas like extreme testing and ad hoc testing"--Resource description page.

Decades of software testing experience condensed into the most important lessons learned. The world's leading software testing experts lend you their wisdom and years of experience to help you avoid the most common mistakes in testing software. Each lesson is an assertion related to software testing, followed by an explanation or example that shows you the how, when, and why of the testing lesson. More than just tips, tricks, and pitfalls to avoid, Lessons Learned in Software Testing speeds you through the critical testing phase of the software development project without the extensive trial and error it normally takes to do so. The ultimate resource for software testers and developers at every level of expertise, this guidebook features: * Over 200 lessons gleaned from over 30 years of combined testing experience * Tips, tricks, and common pitfalls to avoid by simply reading the book rather than finding out the hard way * Lessons for all key topic areas, including test design, test management, testing strategies, and bug reporting * Explanations and examples of each testing trouble spot help illustrate each lesson's assertion

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

Extensively class-tested, this textbook takes an innovative approach to software testing: it defines testing as the process of applying a few well-defined, general-purpose test criteria to a structure or model of the software. It incorporates the latest innovations in testing, including techniques to test modern types of software such as OO, web applications, and embedded software. The book contains numerous examples throughout. An instructor's solution manual, PowerPoint slides, sample syllabi, additional examples and updates, testing tools for students, and example software programs in Java are available on an extensive website.

A Craftsman's Approach, Fifth Edition

Beginning Software Engineering

Software Testing and Analysis

A Craftsman's Approach, Fourth Edition

How to Break Software

Theory and Practice

A Craftsman's Approach, Second Edition

Since the last publication of this international bestseller, software testing has seen a renaissance of renewed interest and technology. biggest change comes in the growing prominence and acceptance of Agile Programming. Software Testing: A Craftsman's Approach, Third Edition extends the combination of theory and practicality of the first two editions to include agile programming development and discuss the serious effect this emerging area is having on software testing. The third edition of the widely adopted text and reference book is comprised of six parts. It begins by providing the mathematical background in discrete mathematics and linear graph theory that is used in subsequent sections. The book continues to describe specification-based (functional) and code-based (structural) test development techniques, while extending this theoretical approach to less understood levels of integration and system testing. The author further develops this discussion to include object-oriented software. A completely new section relates all of the previously discussed concepts to the agile software development movement and highlights issues such as how agile and XP development environments are radically changing the role of software testers by making testing integral at every phase of the development process. Thoroughly revised and updated, Software Testing: A Craftsman's Approach, Third Edition is sure to become a standard reference for those who need to stay up-to-date with evolving technologies in software testing. Carrying on the tradition of previous editions, it will continue to serve as a valuable reference for software testers, developers, and engineers.

A common problem with most texts on requirements specifications is that they emphasize structural models to the near exclusion of behavioral models—focusing on what the software is, rather than what it does. If they do cover behavioral models, the coverage is brief and usually focused on a single model. Modeling Software Behavior: A Craftsman's Approach provides detailed treatment of various models of software behavior that support early analysis, comprehension, and model-based testing. Based on the popular and continually evolving course on requirements specification models taught by the author at universities and corporate environments, the text covers six behavioral models—providing the background behind these models and the required mathematics. As evidence of models at work, the author introduces eleven continuing examples. Five of these examples are illustrated with the six models, allowing readers to easily compare the expressive power of the various models. The examples chosen reflect a wide variety of behavioral issues. Providing complete coverage that includes flowcharts, decision tables, finite state machines, two variations of Petri Nets, and StateCharts, this book will help students develop their understanding of the expressive capabilities and limitations of models of system behavior needed to make informed and appropriate choices among different models when confronted with new challenges.

The classic, landmark work on software testing The hardware and software of computing have changed markedly in the three decades since the first edition of The Art of Software Testing, but this book's powerful underlying analysis has stood the test of time. Whereas most books on software testing target particular development techniques, languages, or testing methods, The Art of Software Testing, Third Edition provides a brief but powerful and comprehensive presentation of time-proven software testing approaches. If your software development project is mission-critical, this book is an investment that will pay for itself with the first bug you find. The new Third Edition explains how to apply the book's classic principles to today's hot topics including: Testing apps for iPhones, iPads, BlackBerrys, Androids, and other mobile devices Collaborative (user) programming and testing Testing for Internet applications, e-commerce, and agile programming environments Whether you're a student looking for a testing guide you'll use for the rest of your career, or an IT manager overseeing a software development team, The Art of Software Testing, Third Edition is an expensive book that will pay for itself many times over.

Practical Software Architecture Solutions from the Legendary Robert C. Martin ("Uncle Bob") By applying universal rules of software architecture, you can dramatically improve developer productivity throughout the life of any software system. Now, building upon the success of his best-selling books Clean Code and The Clean Coder, legendary software craftsman Robert C. Martin ("Uncle Bob") reveals those rules and helps you apply them. Martin's Clean Architecture doesn't merely present options. Drawing on over a half-century of experience in software environments of every imaginable type, Martin tells you what choices to make and why they are critical to your success. As you come to expect from Uncle Bob, this book is packed with direct, no-nonsense solutions for the real challenges you'll face—the ones that make or break your projects. Learn what software architects need to achieve—and core disciplines and practices for achieving it Master essential software design principles for addressing function, component separation, and data management See how programming paradigms impose discipline by restricting what developers can do Understand what's critically important and what's merely a "detail" Implement optimal, high-level structures for web, database, thick-client, console, and embedded applications Define appropriate boundaries and layers and organize components and services See why designs and architectures go wrong, and how to prevent (or fix) these failures Clean Architecture is essential reading for every current or aspiring software architect, systems analyst, system designer, and software manager—and for every programmer who must execute someone else's designs. Register your product for convenient access to downloads, updates, and/or corrections as they become available.

Clean Code

The Craft of Model-Based Testing

Modeling Software Behavior

Clean Architecture

Unit Testing Principles, Practices, and Patterns

This updated and reorganized fourth edition of Software Testing: A Craftsman's Approach applies the strong mathematics content of previous editions to agile programming and test-driven development.

editions to a coherent treatment of Model-Based Testing for both code-based (structural) and specification-based (functional) testing. techniques are extended from the usual unit testing discussions to full coverage of less understood levels integration and system testing. Edition: Emphasizes technical inspections and is supplemented by an appendix with a full package of documents required for a sample UML technical inspection Introduces an innovative approach that merges the Event-Driven Petri Nets from the earlier editions with the "Swing" concept from the Unified Modeling Language (UML) that permits model-based testing for four levels of interaction among constituents. System of Systems Introduces model-based development and provides an explanation of how to conduct testing within model-based development environments Presents a new section on methods for testing software in an Agile programming environment Explores test-driven development reexamines all-pairs testing, and explains the four contexts of software testing Thoroughly revised and updated, *Software Testing: A Craftsman's Approach, Fourth Edition* is sure to become a standard reference for those who need to stay up to date with evolving technologies in software testing. Carrying on the tradition of previous editions, it will continue to serve as a valuable reference for software testers, developers, and engineers.

Software Testing: A Craftsman's Approach, Fourth Edition CRC Press

"After many decades - and even more methodologies - software projects are still failing. Why? Managers see software development as a production line. Companies don't know how to manage software projects and hire good developers. Many developers still behave like factory workers, providing terrible service to their employers and clients. Agile was a big step forward, but not enough. What's missing? The right mindset - for both developers and their employers. As developers worldwide are recognizing, the right mindset is craftsmanship ... Mancuso explains what craftsmanship means to the developer and his or her organization, and shows how to live it every day in your real-world development environment. Mancuso shows how software craftsmanship fits with and helps you improve upon best-practice technical practices such as agile and lean, taking all your development projects to the next level. You'll learn how to change the disastrous perception that developers are the same as factory workers, and that software projects can be run like factories. By placing greater professionalism, technical excellence, and customer satisfaction at the heart of what you do, you won't just deliver more value to everyone involved: you'll be happier and more fulfilled doing it"--Publisher's description.