

Software Craftsmanship The New Imperative

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.

A friendly introduction to the most useful algorithms written in simple, intuitive English The revised and updated second edition of Essential Algorithms, offers an accessible introduction to computer algorithms. The book contains a description of important classical algorithms and explains when each is appropriate. The author shows how to analyze algorithms in order to understand their behavior and teaches techniques that the can be used to create new algorithms to meet future needs. The text includes useful algorithms such as: methods for manipulating common data structures, advanced data structures, network algorithms, and numerical algorithms. It also offers a variety of general problem-solving techniques. In addition to describing algorithms and approaches, the author offers details on how to analyze the performance of algorithms. The book is filled with exercises that can be used to explore ways to modify the algorithms in order to apply them to new situations. This updated edition of Essential Algorithms: Contains explanations of algorithms in simple terms, rather than complicated math Steps through powerful algorithms that can be used to solve difficult programming problems Helps prepare for programming job interviews that typically include algorithmic questions Offers methods can be applied to any programming language Includes exercises and solutions useful to both professionals and students Provides code examples updated and written in Python and C# Essential Algorithms has been updated and revised and

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offers professionals and students a hands-on guide to analyzing algorithms as well as the techniques and applications. The book also includes a collection of questions that may appear in a job interview. The book's website will include reference implementations in Python and C# (which can be easily applied to Java and C++).

*Just months after the introduction of the new generation of 32-bit PIC microcontrollers, a Microchip insider and acclaimed author takes you by hand at the exploration of the PIC32

*Includes handy checklists to help readers perform the most common programming and debugging tasks

The new 32-bit microcontrollers bring the promise of more speed and more performance while offering an unprecedented level of compatibility with existing 8 and 16-bit PIC microcontrollers. In sixteen engaging chapters, using a parallel track to his previous title dedicated to 16-bit programming, the author puts all these claims to test while offering a gradual introduction to the development and debugging of embedded control applications in C. Author Lucio Di Jasio, a PIC and embedded control expert, offers unique insight into the new 32-bit architecture while developing a number of projects of growing complexity. Experienced PIC users and newcomers to the field alike will benefit from the text's many thorough examples which demonstrate how to nimbly side-step common obstacles, solve real-world design problems efficiently and optimize code using the new PIC32 features and peripheral set. You will learn about: *basic timing and I/O operation *debugging methods with the MPLAB SIM *simulator and ICD tools *multitasking using the PIC32 interrupts *all the new hardware peripherals *how to control LCD displays *experimenting with the Explorer16 board and *the PIC32 Starter Kit *accessing mass-storage media *generating audio and video signals *and more!

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How do you detangle a monolithic system and migrate it to a microservice architecture? How do you do it while maintaining business-as-usual? As a companion to Sam Newman's extremely popular Building Microservices, this new book details a proven method for transitioning an existing monolithic system to a microservice architecture. With many illustrative examples, insightful migration patterns, and a bevy of practical advice to transition your monolith enterprise into a microservice operation, this practical guide covers multiple scenarios and strategies for a successful migration, from initial planning all the way through application and database decomposition. You'll learn several tried and tested patterns and techniques that you can use as you migrate your existing architecture. Ideal for organizations looking to transition to microservices, rather than rebuild Helps companies determine whether to migrate, when to migrate, and where to begin Addresses communication, integration, and the migration of legacy systems Discusses multiple migration patterns and where they apply Provides database migration examples, along with synchronization strategies Explores application decomposition, including several architectural refactoring patterns Delves into details of

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database decomposition, including the impact of breaking referential and transactional integrity, new failure modes, and more

In a book that will intrigue anyone who is curious about Silicon Valley, computer programming, or the world of high technology, respected software pioneer and computer scientist Richard Gabriel offers an informative insider's look at the world of software design and computer programming and the business that surrounds them. 10 illustrations.

Design IT Organizations for Agility at Scale Aspiring digital businesses need overall IT agility, not just development team agility. In *Agile IT Organization Design*, IT management consultant and ThoughtWorks veteran Sriram Narayan shows how to infuse agility throughout your organization. Drawing on more than fifteen years' experience working with enterprise clients in IT-intensive industries, he introduces an agile approach to "Business-IT Effectiveness" that is as practical as it is valuable. The author shows how structural, political, operational, and cultural facets of organization design influence overall IT agility—and how you can promote better collaboration across diverse functions, from sales and marketing to product development, and engineering to IT operations. Through real examples, he helps you evaluate and improve organization designs that enhance autonomy, mastery, and purpose: the key ingredients for a highly motivated workforce. You'll find "close range" coverage of team design, accountability, alignment, project finance, tooling, metrics, organizational norms, communication, and culture. For each, you'll gain a deeper understanding of where your organization stands, and clear direction for making improvements. Ready to optimize the performance of your IT organization or digital business? Here are practical solutions for the long term, and for right now. Govern for value over predictability Organize for responsiveness,

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not lowest cost Clarify accountability for outcomes and for decisions along the way Strengthen the alignment of autonomous teams Move beyond project teams to capability teams Break down tool-induced silos Choose financial practices that are free of harmful side effects Create and retain great teams despite today's "talent crunch" Reform metrics to promote (not prevent) agility Evolve culture through improvements to structure, practices, and leadership—and careful, deliberate interventions

Why do people work hard, and take pride in what they do? This book, a philosophically-minded enquiry into practical activity of many different kinds past and present, is about what happens when people try to do a good job. It asks us to think about the true meaning of skill in the 'skills society' and argues that pure competition is a poor way to achieve quality work. Sennett suggests, instead, that there is a craftsman in every human being, which can sometimes be enormously motivating and inspiring - and can also in other circumstances make individuals obsessive and frustrated. The Craftsman shows how history has drawn fault-lines between craftsman and artist, maker and user, technique and expression, practice and theory, and that individuals' pride in their work, as well as modern society in general, suffers from these historical divisions. But the past lives of crafts and craftsmen show us ways of working (using tools, acquiring skills, thinking about materials) which provide rewarding alternative ways for people to utilise their talents. We need to recognise this if motivations are to be understood and lives made as fulfilling as possible.

Why learn F#? With this guide, you'll learn how this multi-paradigm language not only offers you an enormous productivity boost through functional programming, but also lets you develop applications using your existing object-oriented and imperative programming skills. You'll

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quickly discover the many advantages of the language, including access to all the great tools and libraries of the .NET platform. Reap the benefits of functional programming for your next project, whether you're writing concurrent code, or building data- or math-intensive applications. With this comprehensive book, former F# team member Chris Smith gives you a head start on the fundamentals and walks you through advanced concepts of the F# language. Learn F#'s unique characteristics for building applications Gain a solid understanding of F#'s core syntax, including object-oriented and imperative styles Make your object-oriented code better by applying functional programming patterns Use advanced functional techniques, such as tail-recursion and computation expressions Take advantage of multi-core processors with asynchronous workflows and parallel programming Use new type providers for interacting with web services and information-rich environments Learn how well F# works as a scripting language

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

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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

On behalf of the PROFES Organizing Committee we are proud to present the proceedings of the 10 International Conference on Product Focused Software Process Improvement (PROFES 2009), held in Oulu, Finland. Since the first conference in 1999, the conference has established its place in the software engineering community as a respected conference that brings together participants from academia and industry. The roots of PROFES are in professional software process improvement motivated by product and service quality needs. The conference addresses both the solutions found

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in practice as well as relevant research results from academia. To ensure that PROFES retains its high quality and focus on the most relevant research issues, the conference has actively maintained close collaboration with industry and subsequently widened its scope to the research areas of collaborative and agile software development. A special focus for 2009 was placed on software business to bridge research and practice in the economics of software engineering. This enabled us to cover software development in a more comprehensive manner and tackle one of the most important current challenges identified by the software industry and software research community – namely, the shift of focus from “products” to “services.” The current global economic downturn emphasizes the need for new methods and solutions for fast and business-oriented development of products and services in a globally distributed environment.

Will Self is one of Britain’s best-known contemporary writers, a public intellectual whose novels have been shortlisted for the Booker Prize and translated into over twenty languages. In *Will*, his first ever memoir, he turns his attention fully to his own self, and in particular his addictions as a young man. An addiction memoir like no other, *Will* echoes the best of Self’s psychedelic fiction, and is one of the most eloquent depictions of the allure of hard drugs ever written. *Will* spins the reader from Self’s childhood in a North London suburb to his mind-expanding education at Oxford, to a Burroughsian trip to Morocco, an outback vision in Australia, and, finally, a surreal turn in rehab. Self uses drugs from a young age, hiding acid, amphetamine, and weed in a

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tin of Dilly Duckling cough pastilles. His university years are fueled with books but also with “heroin, hashish, cocaine, grass and amphetamine.” Self smokes dope in suburbia, buys opium in India, and even injects methamphetamine on a camping trip in Wales’s Black Mountains. And his extreme highs inevitably give way to deep lows, an enthralling cycle that persists and repeats. One of the best minds of our generation, whose mordant humor and vivid images shine in this technicolor portrait of family, art, and self-expression, Self has written in *Will* both a *kunstlerroman* and confessional, a tale of excess and degradation, a karmic cycle that leads back to the author’s own lack of . . . will.

Widely considered one of the best practical guides to programming, Steve McConnell’s original *CODE COMPLETE* has been helping developers write better software for more than a decade. Now this classic book has been fully updated and revised with leading-edge practices—and hundreds of new code samples—illustrating the art and science of software construction. Capturing the body of knowledge available from research, academia, and everyday commercial practice, McConnell synthesizes the most effective techniques and must-know principles into clear, pragmatic guidance. No matter what your experience level, development environment, or project size, this book will inform and stimulate your thinking—and help you build the highest quality code. Discover the timeless techniques and strategies that help you: Design for minimum complexity and maximum creativity Reap the benefits of collaborative development

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Apply defensive programming techniques to reduce and flush out errors Exploit opportunities to refactor—or evolve—code, and do it safely Use construction practices that are right-weight for your project Debug problems quickly and effectively Resolve critical construction issues early and correctly Build quality into the beginning, middle, and end of your project

If you're passionate about programming and want to get better at it, you've come to the right source. Code Craft author Pete Goodliffe presents a collection of useful techniques and approaches to the art and craft of programming that will help boost your career and your well-being. Goodliffe presents sound advice that he's learned in 15 years of professional programming. The book's standalone chapters span the range of a software developer's life—dealing with code, learning the trade, and improving performance—with no language or industry bias. Whether you're a seasoned developer, a neophyte professional, or a hobbyist, you'll find valuable tips in five independent categories: Code-level techniques for crafting lines of code, testing, debugging, and coping with complexity Practices, approaches, and attitudes: keep it simple, collaborate well, reuse, and create malleable code Tactics for learning effectively, behaving ethically, finding challenges, and avoiding stagnation Practical ways to complete things: use the right tools, know what “done” looks like, and seek help from colleagues Habits for working well with others, and pursuing development as a social activity Haskell Programming makes Haskell as clear, painless, and practical as it can be,

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whether you're a beginner or an experienced hacker. Learning Haskell from the ground up is easier and works better. With our exercise-driven approach, you'll build on previous chapters such that by the time you reach the notorious Monad, it'll seem trivial.

Application Performance Management (APM) in the Digital Enterprise enables IT professionals to be more successful in managing their company's applications. It explores the fundamentals of application management, examines how the latest technological trends impact application management, and provides best practices for responding to these changes. The recent surge in the use of containers as a way to simplify management and deploy applications has created new challenges, and the convergence of containerization, cloud, mobile, virtualization, analytics, and automation is reshaping the requirements for application management. This book serves as a guide for understanding these dramatic changes and how they impact the management of applications, showing how to create a management strategy, define the underlying processes and standards, and how to select the appropriate tools to enable management processes. Offers a complete framework for implementing effective application management using clear tips and solutions for those responsible for application management Draws upon primary research to give technologists a current understanding of the latest technologies and processes needed to more effectively manage large-scale applications Includes real-world case studies and business justifications that support application management investments

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The latest title in Addison Wesley's world-renowned Robert C. Martin Series on better software development, *Code That Fits in Your Head* offers indispensable practical advice for writing code at a sustainable pace, and controlling the complexity that causes too many software projects to spin out of control. Reflecting decades of experience consulting on software projects and helping development teams succeed, Mark Seemann shares proven practices and heuristics, supported by realistic advice. His guidance ranges from checklists to teamwork, encapsulation to decomposition, API design to unit testing and troubleshooting. Throughout, Seemann illuminates his insights with up-to-date code examples drawn from a start to finish sample project. Seemann's examples are written in C#, and designed to be clear and useful to every object-oriented enterprise developer, whether they use C#, Java, or another language. *Code That Fits in Your Head* is accompanied by the complete code base for this sample application, organized in a Git repository to facilitate further exploration of details that don't fit in the text.

Learn from F#'s inventor to become an expert in the latest version of this powerful programming language so you can seamlessly integrate functional, imperative, object-oriented, and query programming style flexibly and elegantly to solve any programming problem. *Expert F# 4.0* will help you achieve unrivaled levels of programmer productivity and program clarity across multiple platforms including Windows, Linux, Android, OSX, and iOS as well as HTML5 and GPUs. F# 4.0 is a mature, open source,

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cross-platform, functional-first programming language which empowers users and organizations to tackle complex computing problems with simple, maintainable, and robust code. Expert F# 4.0 is: A comprehensive guide to the latest version of F# by the inventor of the language A treasury of F# techniques for practical problem-solving An in-depth case book of F# applications and F# 4.0 concepts, syntax, and features Written by F#'s inventor and two major F# community members, Expert F# 4.0 is a comprehensive and in-depth guide to the language and its use. Designed to help others become experts, the book quickly yet carefully describes the paradigms supported by F# language, and then shows how to use F# elegantly for a practical web, data, parallel and analytical programming tasks. The world's experts in F# show you how to program in F# the way they do!

CD-ROM contains cross-referenced code.

If you're familiar with functional programming basics and want to gain a much deeper understanding, this in-depth guide takes you beyond syntax and demonstrates how you need to think in a new way. Software architect Neal Ford shows intermediate to advanced developers how functional coding allows you to step back a level of abstraction so you can see your programming problem with greater clarity. Each chapter shows you various examples of functional thinking, using numerous code examples from Java 8 and other JVM languages that include functional capabilities. This book may bend your mind, but you'll come away with a much better grasp of

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functional programming concepts. Understand why many imperative languages are adding functional capabilities Compare functional and imperative solutions to common problems Examine ways to cede control of routine chores to the runtime Learn how memoization and laziness eliminate hand-crafted solutions Explore functional approaches to design patterns and code reuse View real-world examples of functional thinking with Java 8, and in functional architectures and web frameworks Learn the pros and cons of living in a paradigmatically richer world If you're new to functional programming, check out Josh Backfield's book *Becoming Functional*.

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

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constraints. Relating object behavior to internal structure and implementation design. Incorporating object thinking into XP and Agile practice.

"Christopher Howell's poems rely on a redeeming darkness to bring themselves into the world. Through meditative, short lyrics, and an eerily quiet approach, Howell redefines the place of the self in a poem. These deceptively triumphant views of discovery and survival arrive in a place that welcomes us as both witnesses and participants."

-Bloomsbury Review "It is a great pleasure, once again, to listen to the particular play of Christopher Howell's mind, his elegant rhythms and graceful rhetoric; and, beside all that craftsmanship and intelligence, how good to encounter that lovely eye for flesh, for the succulent things of this world."

-Patricia Goedicke "Once I began reading *Just Waking*, I had to read it straight through, late into the night. I had a growing need to experience the way these poems and their many voices move into the world of things and people and ghosts and ideas, with this speculative intelligence, this tender and sometimes comic discourse that by so loving a sense of what is beautiful in being alive always achieves the condition of music. I just didn't want the book to end." -Bill

Tremblay "Deep in this book is an unfolding story of waking. Experience resonates clearly, emotively, paradoxically, and the imagination teaches and redeems through inner dialogue and vision. Read Machado and Lyric with *Blue Horses* to see how moving and masterful a poet Christopher Howell is. If the poet James Wright were still living, we'd have two poets writing with such imperative, beauty, and depth." -James

Grabill

Today when we hear the word “craft,” a whole host of things come immediately to mind: microbreweries, artisanal cheeses, and an array of handmade objects. Craft has become so overused, that it can grate on our ears as pretentious and strain our credulity. But its overuse also reveals just how compelling craft has become in modern life. In *The Shape of Craft*, Ezra Shales explores some of the key questions of craft: who makes it, what do we mean when we think about a crafted object, where and when crafted objects are made, and what this all means to our understanding of craft. He argues that, beyond the clichés, craft still adds texture to sterile modern homes and it provides many people with a livelihood, not just a hobby. Along the way, Shales upends our definition of what is handcrafted or authentic, revealing the contradictions in our expectations of craft. Craft is—and isn’t—what we think.

"The essays in this collection offer a timely intervention in digital humanities scholarship, bringing together established and emerging scholars from a variety of humanities disciplines across the world. The first section offers views on the practical realities of teaching digital humanities at undergraduate and graduate levels, presenting case studies and snapshots of the authors' experiences alongside models for future courses and reflections on pedagogical successes and failures. The next section proposes strategies for teaching foundational digital humanities methods across a variety of scholarly disciplines, and the book concludes with wider debates about the

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place of digital humanities in the academy, from the field's cultural assumptions and social obligations to its political visions." (4e de couverture).

"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 disciplines such as agile and lean, taking all your development projects to the next level. You'll learn how to change the disastrous perception that software 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.

Software Craftsmanship The New Imperative Addison-Wesley Professional
A-list Programmers Reveal How to Develop Breakout Skills Find out what it takes to

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push your programming chops to the next level and design killer software by getting inside the minds of today's rock star programmers: Rod Johnson, Inventor of the Spring Framework Adrian Colyer, Pioneer of Aspect Oriented Programming Tools, Project Lead of AspectJ Java Posse--Tor Norbye, Joe Nuxoll, Carl Quinn, and Dick Wall Chris Wilson, Lead Architect of Microsoft Internet Explorer Nikhil Kothari, Architect of ASP.NET AJAX Hani Suleiman, Author of "The Bile Blog" James Gosling, Father of Java Kohsuke Kawaguchi, Creator of the Hudson Continuous Integration Tool Herb Schildt, The World's Bestselling Programming Author Floyd Marinescu, Co-founder of ServerSide.com; Founder and Lead Editor of InfoQ.com Andy Hunt, Co-founder of the Pragmatic Programmers Dave Thomas, Object Oriented Software Pioneer Max Levchin, Co-founder and Former CTO of PayPal Libor Michalek, Co-founder of Slide.com Weird Al Yankovic, The Programmer's Rock Star

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

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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.

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Intermediate level, for programmers fairly familiar with Java, but new to the functional

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style of programming and lambda expressions. Get ready to program in a whole new way. Functional Programming in Java will help you quickly get on top of the new, essential Java 8 language features and the functional style that will change and improve your code. This short, targeted book will help you make the paradigm shift from the old imperative way to a less error-prone, more elegant, and concise coding style that's also a breeze to parallelize. You'll explore the syntax and semantics of lambda expressions, method and constructor references, and functional interfaces. You'll design and write applications better using the new standards in Java 8 and the JDK. Lambda expressions are lightweight, highly concise anonymous methods backed by functional interfaces in Java 8. You can use them to leap forward into a whole new world of programming in Java. With functional programming capabilities, which have been around for decades in other languages, you can now write elegant, concise, less error-prone code using standard Java. This book will guide you through the paradigm change, offer the essential details about the new features, and show you how to transition from your old way of coding to an improved style. In this book you'll see popular design patterns, such as decorator, builder, and strategy, come to life to solve common design problems, but with little ceremony and effort. With these new capabilities in hand, Functional Programming in Java will help you pick up techniques to implement designs that were beyond easy reach in earlier versions of Java. You'll see how you can reap the benefits of tail call optimization, memoization, and effortless

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parallelization techniques. Java 8 will change the way you write applications. If you're eager to take advantage of the new features in the language, this is the book for you. What you need: Java 8 with support for lambda expressions and the JDK is required to make use of the concepts and the examples in this book.

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.

In a radical break with the past, information now flows like water, and we must learn

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how to tap into its stream. Individuals and companies can no longer rely on the stocks of knowledge that they've carefully built up and stored away. Information now flows like water, and we must learn how to tap into the stream. But many of us remain stuck in old practices -- practices that could undermine us as we search for success and meaning. In this revolutionary book, three doyens of the Internet age, whose path-breaking work has made headlines around the world, reveal the adjustments we must make if we take these changes seriously. In a world of increasing risk and opportunity, we must understand the importance of pull. Understood and used properly, the power of pull can draw out the best in people and institutions by connecting them in ways that increase understanding and effectiveness. Pull can turn uncertainty into opportunity, and enable small moves to achieve outsized impact. Drawing on pioneering research, *The Power of Pull* shows how to apply its principles to unlock the hidden potential of individuals and organizations, and how to use it as a force for social change and the development of creative talent. The authors explore how to use the power of pull to:

- Access new sources of information
- Attract likeminded individuals from around the world
- Shape serendipity to increase the likelihood of positive chance encounters
- Form creation spaces to drive you and your colleagues to new heights
- Transform your organization to adapt to the flow of knowledge

The Power of Pull is essential reading for entrepreneurs, managers, and anybody interested in understanding and harnessing the shifting forces of our networked world.

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The practice of building software is a “new kid on the block” technology. Though it may not seem this way for those who have been in the field for most of their careers, in the overall scheme of professions, software builders are relative “newbies.” In the short history of the software field, a lot of facts have been identified, and a lot of fallacies promulgated. Those facts and fallacies are what this book is about. There's a problem with those facts—and, as you might imagine, those fallacies. Many of these fundamentally important facts are learned by a software engineer, but over the short lifespan of the software field, all too many of them have been forgotten. While reading *Facts and Fallacies of Software Engineering*, you may experience moments of “Oh, yes, I had forgotten that,” alongside some “Is that really true?” thoughts. The author of this book doesn't shy away from controversy. In fact, each of the facts and fallacies is accompanied by a discussion of whatever controversy envelops it. You may find yourself agreeing with a lot of the facts and fallacies, yet emotionally disturbed by a few of them! Whether you agree or disagree, you will learn why the author has been called “the premier curmudgeon of software practice.” These facts and fallacies are fundamental to the software building field—forget or neglect them at your peril! Write code that's clean, concise, and to the point: code that others will read with pleasure and reuse. Comparing your code to that of expert programmers is a great way to improve your coding skills. Get hands-on advice to level up your coding style through small and understandable examples that compare flawed code to an improved solution.

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Discover handy tips and tricks, as well as common bugs an experienced Java programmer needs to know. Make your way from a Java novice to a master craftsman. This book is a useful companion for anyone learning to write clean Java code. The authors introduce you to the fundamentals of becoming a software craftsman, by comparing pieces of problematic code with an improved version, to help you to develop a sense for clean code. This unique before-and-after approach teaches you to create clean Java code. Learn to keep your booleans in check, dodge formatting bugs, get rid of magic numbers, and use the right style of iteration. Write informative comments when needed, but avoid them when they are not. Improve the understandability of your code for others by following conventions and naming your objects accurately. Make your programs more robust with intelligent exception handling and learn to assert that everything works as expected using JUnit5 as your testing framework. Impress your peers with an elegant functional programming style and clear-cut object-oriented class design. Writing excellent code isn't just about implementing the functionality. It's about the small important details that make your code more readable, maintainable, flexible, robust, and faster. Java by Comparison teaches you to spot these details and trains you to become a better programmer. What You Need: You need a Java 8 compiler, a text editor, and a fresh mind. That's it.

Vaughn Vernon presents concrete and realistic domain-driven design (DDD) techniques through examples from familiar domains, such as a Scrum-based

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project management application that integrates with a collaboration suite and security provider. Each principle is backed up by realistic Java examples, and all content is tied together by a single case study of a company charged with delivering a set of advanced software systems with DDD.

Ever since Extreme Programming burst on to the application development scene in 1998, it has been a lightning rod for controversy. In "Questioning Extreme Programming," author McBreen puts this agile approach to application development under the microscope, and closely examines both sides of this heated debate.

Summary Serious developers know that code can always be improved. With each iteration, you make optimizations—small and large—that can have a huge impact on your application's speed, size, resilience, and maintainability. In *Seriously Good Software: Code that Works, Survives, and Wins*, author, teacher, and Java expert Marco Faella teaches you techniques for writing better code. You'll start with a simple application and follow it through seven careful refactorings, each designed to explore another dimension of quality. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Great code blends the skill of a programmer with the time-tested techniques and best practices embraced by the

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entire development community. Although each application has its own context and character, some dimensions of quality are always important. This book concentrates on eight pillars of seriously good software: speed, memory usage, reliability, readability, thread safety, generality, and elegance. The Java-based examples demonstrate techniques that apply to any OO language. About the book *Seriously Good Software* is a handbook for any professional developer serious about improving application quality. It explores fundamental dimensions of code quality by enhancing a simple implementation into a robust, professional-quality application. Questions, exercises, and Java-based examples ensure you'll get a firm grasp of the concepts as you go. When you finish the last version of the book's central project, you'll be able to confidently choose the right optimizations for your code. What's inside

- Evaluating software qualities
- Assessing trade-offs and interactions
- Fulfilling different objectives in a single task
- Java-based exercises you can apply in any OO language

About the reader For web developers comfortable with JavaScript and HTML. About the author Marco Faella teaches advanced programming at a major Italian university. His published work includes peer-reviewed research articles, a Java certification manual, and a video course.

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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 Read the Wall Street Journal Bestseller for "cultivating intense focus" for fast, powerful performance results for achieving success and true meaning in one's

professional life (Adam Grant, author of Give and Take). Deep work is the ability to focus without distraction on a cognitively demanding task. It's a skill that allows you to quickly master complicated information and produce better results in less time. Deep Work will make you better at what you do and provide the sense of true fulfillment that comes from craftsmanship. In short, deep work is like a super power in our increasingly competitive twenty-first century economy. And yet, most people have lost the ability to go deep—spending their days instead in a frantic blur of e-mail and social media, not even realizing there's a better way. In Deep Work, author and professor Cal Newport flips the narrative on impact in a connected age. Instead of arguing distraction is bad, he instead celebrates the power of its opposite. Dividing this book into two parts, he first makes the case that in almost any profession, cultivating a deep work ethic will produce massive benefits. He then presents a rigorous training regimen, presented as a series of four "rules," for transforming your mind and habits to support this skill. 1. Work Deeply 2. Embrace Boredom 3. Quit Social Media 4. Drain the Shallows A mix of cultural criticism and actionable advice, Deep Work takes the reader on a journey through memorable stories—from Carl Jung building a stone tower in the woods to focus his mind, to a social media pioneer buying a round-trip business class ticket to Tokyo to write a book free from distraction in the air—and no-nonsense

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advice, such as the claim that most serious professionals should quit social media and that you should practice being bored. Deep Work is an indispensable guide to anyone seeking focused success in a distracted world. An Amazon Best Book of 2016 Pick in Business & Leadership Wall Street Journal Business Bestseller A Business Book of the Week at 800-CEO-READ

This book introduces the author's collection of wisdom under one umbrella: Software Craftsmanship. 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.

Over the years software systems have evolutionarily become more and more complex. One of the techniques for dealing with this inherent complexity of software systems is dependency injection - a design pattern that allows the removal of hard-coded dependencies and makes it possible to assemble a service by changing dependencies easily, whether at run-time or compile-time. It promotes code reuse and loosely-coupled design which leads to more easily maintainable and flexible code. The guide you are holding in your hands is a primer on using dependency injection with Unity - a lightweight extensible dependency injection container built by the Microsoft patterns & practices team. It

covers various styles of dependency injection and also additional capabilities of Unity container, such as object lifetime management, interception, and registration by convention. It also discusses the advanced topics of enhancing Unity with your custom extensions. The guide contains plenty of trade-off discussions and tips and tricks for managing your application cross-cutting concerns and making the most out of both dependency injection and Unity. These are accompanied by a real world example that will help you master the techniques. Keep in mind that Unity can be used in a wide range of application types such as desktop, web, services, and cloud. We encourage you to experiment with the sample code and think beyond the scenarios discussed in the guide. In addition, the guide includes the Tales from the Trenches - a collection of case studies that offer a different perspective through the eyes of developers working on the real world projects and sharing their experiences. These chapters make clear the range of scenarios in which you can use Unity, and also highlight its ease of use and flexibility. Whether you are a seasoned developer or just starting your development journey, we hope this guide will be worth your time studying it. We hope you discover that Unity container adds significant benefits to your applications and helps you to achieve the goals of maintainability, testability, flexibility, and extensibility in your own projects.

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As Python continues to grow in popularity, projects are becoming larger and more complex. Many Python developers are now taking an interest in high-level software design patterns such as hexagonal/clean architecture, event-driven architecture, and the strategic patterns prescribed by domain-driven design (DDD). But translating those patterns into Python isn't always straightforward. With this hands-on guide, Harry Percival and Bob Gregory from MADE.com introduce proven architectural design patterns to help Python developers manage application complexity—and get the most value out of their test suites. Each pattern is illustrated with concrete examples in beautiful, idiomatic Python, avoiding some of the verbosity of Java and C# syntax. Patterns include: Dependency inversion and its links to ports and adapters (hexagonal/clean architecture) Domain-driven design's distinction between entities, value objects, and aggregates Repository and Unit of Work patterns for persistent storage Events, commands, and the message bus Command-query responsibility segregation (CQRS) Event-driven architecture and reactive microservices

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