Domain Modeling Made Functional: Tackle Software Complexity With Domain Driven Design And F

This new edition of a successful text treats modules in more depth, and covers the revision of ML language.

You've decided to tackle machine learning - because you're job hunting, embarking on a new project, or just think self-driving cars are cool. But where to start? It's easy to be intimidated, even as a software developer. The good news is that it doesn't have to be that hard. Master machine learning by writing code one line at a time, from simple learning programs all the way to a true deep learning system. Tackle the hard topics by breaking them down so they're easier to understand, and build your confidence by getting your hands dirty. Peel away the obscurities of machine learning, starting from scratch and going all the way to deep learning. Machine learning can be intimidating, with its reliance on math and algorithms that most programmers don't encounter in their regular work. Take a hands-on approach, writing the Python code yourself, without any libraries to obscure what's really going on. Iterate on your design, and add layers of complexity as you go. Build an image recognition application from scratch with supervised learning. Predict the future with linear regression. Dive into gradient descent, a fundamental algorithm that drives most of machine learning. Create perceptrons to classify data. Build neural networks to tackle more complex and sophisticated data sets. Train and refine those networks with backpropagation and batching. Layer the neural networks, eliminate overfitting, and add convolution to transform your neural network into a true deep learning system. Start from the beginning and code your way to machine learning mastery. What You Need: The examples in this book are written in Python, but don't worry if you don't know this language: you'll pick up all the Python you need very quickly. Apart from that, you'll only need your computer, and your code-adept brain.

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.

Build, Manage and Improve your infrastructure effortlessly. About This Book An up-to-date and comprehensive resource on Terraform that lets you quickly and efficiently launch your infrastructure Learn how to implement your infrastructure as code and make secure, effective changes to your infrastructure Learn to build multi-cloud fault-tolerant systems and simplify the management and orchestration of even the largest scale and most complex cloud infrastructures Who This Book Is For This book is for developers and operators who already have some exposure to working with infrastructure but want to improve their workflow and introduce infrastructure as a code practice. Knowledge of essential Amazon Web Services components (EC2, VPC, IAM) would help contextualize the examples provided. Basic understanding of Jenkins and Shell scripts will be helpful for the chapters on the production usage of Terraform. What You Will Learn Understand what Infrastructure as Code (IaC) means and why it matters Install, configure, and deploy Terraform Take full control of your infrastructure in the form of code Manage complete infrastructure, starting with a single server and scaling beyond any limits Discover a great set of production-ready practices to manage infrastructure Set up CI/CD pipelines to test and deliver Terraform stacks Construct templates to simplify more complex provisioning tasks In Detail Terraform is a tool used to efficiently build, configure, and improve the production infrastructure. It can manage the existing infrastructure as well as create custom in-house solutions. This book shows you when and how to implement infrastructure as a code practices with Terraform. It covers everything necessary to set up the complete management of infrastructure with Terraform, starting with the basics of using providers and resources. It is a comprehensive guide that begins with very small infrastructure templates and takes you all the way to managing complex systems, all using concrete examples that evolve over the course of the book. The book ends with the complete workflow of managing a production infrastructure as code—this is achieved with the help of version control and continuous integration. The readers will also learn how to combine multiple providers in a single template and manage different code bases with many complex modules. It focuses on how to set up continuous integration for the infrastructure code. The readers will be able to use Terraform to build, change, and combine infrastructure safely and efficiently. Style and approach This book will help and guide you to implement Terraform in your infrastructure. The readers will start by working on very small infrastructure templates and then slowly move on to manage complex systems, all by using concrete examples that will evolve during the course of the book.

The Most Comprehensive Plan Ever Proposed to Reverse Global Warming

Drawdown

Crafting Elegant Functional Code for .NET 6

A Comprehensive Guide for Writing Simple Code to Solve Complex Problems

Problem - Design - Solution

Real World OCaml

Use Forensic Techniques to Arrest Defects, Bottlenecks, and Bad Design in Your Programs

F# brings the power of functional-first programming to the .NET Framework, a platform for developing software in the Microsoft Windows ecosystem. If you're a traditional .NET developer used to C# and Visual Basic, discovering F# will be a revelation that will change how you code, and how you think about coding. In The Book of F#, Microsoft MVP Dave Fancher shares his expertise and teaches you how to wield the power of F# to write succinct, reliable, and predictable code. As you learn to take advantage of features like default immutability, pipelining, type inference, and pattern matching, you'll be amazed at how efficient and elegant your code can be. You'll also learn how to: * Exploit F#'s functional nature using currying, partial application, and delegation * Streamline type creation and safety with record types and discriminated unions * Use collection types and modules to handle data sets more effectively * Use pattern matching to decompose complex types and branch your code within a single expression * Make your software more responsive with parallel programming and asynchronous workflows * Harness object orientation to develop rich frameworks and interact with code written in other .NET languages * Use query expressions and type providers to access and manipulate data sets from disparate sources Break free of that old school of programming. The Book of F# will show you how to unleash the expressiveness of F# to create smarter, leaner code.

Summary Get Programming with F#: A guide for .NET developers teaches F# through 43 example-based lessons with built-in exercises so you can learn the only way that really works: by practicing. The book upgrades your .NET skills with a touch of functional programming in F#. You'll pick up core FP principles and learn techniques for iron-clad reliability and crystal clarity. You'll discover productivity techniques for coding F# in Visual Studio, functional design, and integrating functional and OO code. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Your .NET applications need to be good for the long haul. F#'s unique blend of functional and imperative programming is perfect for writing code that performs flawlessly now and keeps running as your needs grow and change. It takes a little practice to master F#'s functional-first style, so you may as well get programming! What's Inside Learn how to write bug-free programs Turn tedious common tasks into quick and easy ones Use minimal code to work with JSON, CSV, XML, and HTML data Integrate F# with your existing C# and VB.NET applications Create web-enabled applications About the Reader Written for intermediate C# and Visual Basic .NET developers. No experience with F# is assumed. Table of Contents Unit 1 - F# AND VISUAL STUDIO Lesson 1 - The Visual Studio experience Lesson 2 - Creating your first F# program Lesson 3 - The REPL-changing how we develop Unit 2 - HELLO F# Lesson 4 - Saying a little, doing a lot Lesson 5 - Trusting the compiler Lesson 6 - Working with immutable data Lesson 7 - Expressions and statements Lesson 8 Capstone 1 Unit 3 - TYPES AND FUNCTIONS Lesson 9 - Shaping data with tuples Lesson 10 - Shaping data with records Lesson 11 - Building composable functions Lesson 12 - Organizing code without classes Lesson 13 - Achieving code reuse in F# Lesson 14 - Capstone 2 Unit 4 - COLLECTIONS IN F# Lesson 15 - Working with collections in F# Lesson 16 - Useful collection functions Lesson 17 - Maps, dictionaries, and sets Lesson 18 - Folding your way to success Lesson 19 - Capstone 3 Unit 5 - THE PIT OF SUCCESS WITH THE F# TYPE SYSTEM Lesson 20 - Program flow in F# Lesson 21 - Modeling relationships in F# Lesson 22 - Fixing the billion-dollar mistake Lesson 23 - Business rules as code Lesson 24 - Capstone 4 Unit 6 - LIVING ON THE .NET PLATFORM Lesson 25 - Consuming C# from F# Lesson 26 - Working with NuGet packages Lesson 27 - Exposing F# types and functionsto C# Lesson 28 - Architecting hybrid language applications Lesson 29 - Capstone 5 Unit 7 - WORKING WITH DATA Lesson 30 - Introducing type providers Lesson 31 - Building schemas from live data Lesson 32 - Working with SQL Lesson 33 - Creating type provider-backed APIs Lesson 34 - Using type providers in the real world Lesson 35 - Capstone 6 Unit 8 - WEB PROGRAMMING Lesson 36 - Asynchronous workflows Lesson 37 - Exposing data over HTTP Lesson 38 - Consuming HTTP data Lesson 39 - Capstone 7 Unit 9 - UNIT TESTING Lesson 40 - Unit testing in F# Lesson 41 - Property-based testing in F# Lesson 42 - Web testing Lesson 43 - Capstone 8 Unit 10 - WHERE NEXT? Appendix A - The F# community Appendix B - F# in my organization Appendix C - Must-visit F# resources Appendix D - Must-have F# libraries Appendix E - Other F# language feature

"1. Getting started In this chapter we will introduce some of the main concepts of functional programming languages. In particular we will introduce the concepts of value, expression, declaration, recursive function and type. Furthermore, to explain the meaning of programs we will introduce the notions: binding, environment and evaluation of expressions. The purpose of the chapter is to acquaint the reader with these concepts, in order to address interesting problems from the very beginning. The reader will obtain a thorough knowledge of these concepts and skills in applying them as we elaborate on them throughout this book. There is support of both compilation of F A programs to executable code and the execution of programs in an interactive mode. The programs in this book are usually illustrated by the use of the interactive mode. The interface of the interactive F A compiler is very advanced as e.g. structured values like tuples, lists, trees and functions can be communicated directly between the user and the system without any conversions. Thus, it is very easy to experiment with programs and program designs and this allows us to focus on the main structures of programs and program designs, i.e. the core of programming, as input and output of structured values can be handled by the F A system"--

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 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

Functional programming for the masses

With examples in F# and C#

Domain-driven Design Using Naked Objects

Swift Functional Programming

Domain-Driven Design Distilled

Tackle Software Complexity with Domain-Driven Design and F#

Communities in Action

Methods for managing complex software construction following the practices, principles and patterns of Domain-Driven Design with code examples in C# This book presents the philosophy of Domain-Driven Design (DDD) in a down-to-earth and practical manner for experienced developers building applications for complex domains. A focus is placed on the principles and practices of decomposing a complex problem space as well as the implementation patterns and best practices for shaping a maintainable solution space. You will learn how to build effective domain models through the use of tactical patterns and how to retain their integrity by applying the strategic patterns of DDD. Full end-to-end coding examples demonstrate techniques for integrating a decomposed and distributed solution space while coding best practices and patterns advise you on how to architect applications for maintenance and scale. Offers a thorough introduction to the philosophy of DDD for professional developers Includes masses of code and examples of concept in action that other books have only covered theoretically Covers the patterns of CQRS, Messaging, REST, Event Sourcing and Event-Driven Architectures Also ideal for Java developers who want to better understand the implementation of DDD

Patterns, Domain-Driven Design (DDD), and Test-Driven Development (TDD) enable architects and developers to create systems that are powerful, robust, and maintainable. Now, there's a comprehensive, practical guide to leveraging all these techniques primarily in Microsoft .NET environments, but the discussions are just as useful for Java developers. Drawing on seminal work by Martin Fowler (Patterns of Enterprise Application Architecture) and Eric Evans (Domain-Driven Design), Jimmy Nilsson shows how to create real-world architectures for any .NET application. Nilsson illuminates each principle with clear, well-annotated code examples based on C# 1.1 and 2.0. His examples and discussions will be valuable both to C# developers and those working with other .NET languages and any databases–even with other platforms, such as J2EE. Coverage includes · Quick primers on patterns, TDD, and refactoring · Using architectural techniques to improve software quality · Using domain models to support business rules and validation · Applying enterprise patterns to provide persistence support via NHibernate · Planning effectively for the presentation layer and UI testing · Designing for Dependency Injection, Aspect Orientation, and other new paradigms

As the first technical book of its kind, this unique resource walks you through the process of building a real-world application using Domain-Driven Design implemented in C#. Based on a real application for an existing company, each chapter is broken down into specific modules so that you can identify the problem, decide what solution will provide the best results, and then execute that design to solve the problem. With each chapter, you'll build a complete project from beginning to end.

When you write software, you need to be at the top of your game. Great programmers practice to keep their skills sharp. Get sharp and stay sharp with more than fifty practice exercises rooted in real-world scenarios. If you're a new programmer, these challenges will help you learn what you need to break into the field, and if you're a seasoned pro, you can use these exercises to learn that hot new language for your next gig. One of the best ways to learn a programming language is to use it to solve problems. That's what this book is all about. Instead of questions rooted in theory, this book presents problems you'll encounter in everyday software development. These problems are designed for people learning their first programming language, and they also provide a learning path for experienced developers to learn a new language quickly. Start with simple input and output programs. Do some currency conversion and figure out how many months it takes to pay off a credit card. Calculate blood alcohol content and determine if it's safe to drive. Replace words in files and filter records, and use web services to display the weather, store data, and show how many people are in space right now. At the end you'll tackle a few larger programs that will help you bring everything together. Each problem includes constraints and challenges to push you further, but it's up to you to come up with the solutions. And next year, when you want to learn a new programming language or style of programming (perhaps OOP vs. functional), you can work through this book again, using new approaches to solve familiar problems. What You Need: You need access to a computer, a programming language reference, and the programming language you want to use.

Windows Presentation Foundation 4.5 Cookbook

Haskell Design Patterns

Functional Programming Using F#

Stylish F#

Working Effectively with Legacy Code

Crafting Elegant Functional Code for .NET and .NET Core

Domain-Specific Modeling

Why learn F#? This multi-paradigm language not only offers you an enormous productivity boost through functional programming, it also lets you develop applications using your existing object-oriented and imperative programming skills. With Programming F#, you'll quickly discover the many advantages of Microsoft's new language, which includes access to all the great tools and libraries of the .NET platform. Learn how to reap the benefits of functional programming for your next project -- whether it's quantitative computing, large-scale data exploration, or even a pursuit of your own. With this comprehensive guide, F# team member Chris Smith gives you a head start on the fundamentals and advanced concepts of the F# language. Get a clear understanding of functional programming, and how you can use it to simplify code Gain a solid understanding of the language's core syntax, including object-oriented and imperative styles Simplify concurrent and parallel programming with F# Asynchronous Workflows and the Parallel Extensions to .NET Learn advanced F# concepts, such as quotations and computation expressions "This book emphasizes simple, clear explanations of the foundational elements of F#, always with an eye on the enjoyment that comes from programming in general, and programming with F# in particular."Don Syme, Principal Researcher and F# Designer, Microsoft Research

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, 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!

Domain-Driven Design (DDD) software modeling delivers powerful results in practice, not just in theory, which is why developers worldwide are rapidly moving to adopt it. Now, for the first time, there's an accessible guide to the basics of DDD: What it is, what problems it solves, how it works, and how to quickly gain value from it. Concise, readable, and actionable, Domain-Driven Design Distilled never buries you in detail–it focuses on what you need to know to get results. Vaughn Vernon, author of the best-selling Implementing Domain-Driven Design, draws on his twenty years of experience applying DDD principles to real-world situations. He is uniquely well-qualified to demystify its complexities, illuminate its subtleties, and help you solve the problems you might encounter. Vernon guides you through each core DDD technique for building better software. You'll learn how to segregate domain models using the powerful Bounded Contexts pattern, to develop a Ubiquitous Language within an explicitly bounded context, and to help domain experts and developers work together to create that language. Vernon shows how to use Subdomains to handle legacy systems and to integrate multiple Bounded Contexts to define both team relationships and technical mechanisms. Domain-Driven Design Distilled brings DDD to life. Whether you're a developer, architect, analyst, consultant, or customer, Vernon helps you truly understand it so you can benefit from its remarkable power. Coverage includes What DDD can do for you and your organization–and why it's so important The cornerstones of strategic design with DDD: Bounded Contexts and Ubiquitous Language Strategic design with Subdomains Context Mapping: helping teams work together and integrate software more strategically Tactical design with Aggregates and Domain Events Using project acceleration and management tools to establish and maintain team cadence

Functional programming languages like F#, Erlang, and Scala are attractingattention as an efficient way to handle the new requirements for programmingmulti-processor and high-availability applications. Microsoft's new F# is a truefunctional language and C# uses functional language features for LINQ andother recent advances. Real-World Functional Programming is a unique tutorial that explores thefunctional programming model through the F# and C# languages. The clearlypresented ideas and examples teach readers how functional programming differsfrom other approaches. It explains how ideas look in F#-a functionallanguage-as well as how they can be successfully used to solve programmingproblems in C#. Readers build on what they know about .NET and learn whereа functional approach makes the most sense and how to apply it effectively inthose cases. The reader should have a good working knowledge of C#. No prior exposure toF# or functional programming is required. Purchase of the print book comes with an offer of a free PDF, ePub, and Kindle eBook from Manning. Also available is all code from the book.

From Coding to Deep Learning

Learning Domain-Driven Design

Pro .NET Benchmarking

Write Lean Programs for the JVM

The Art of Performance Measurement

With Examples in C# and .NET

Exercises for Programmers

Why just get by in F# when you can program in style. This book goes beyond syntax and into design. It provides F# developers with best practices, guidance, and advice to write beautiful, maintainable, and correct code. This second edition, fully updated for .NET 6 and F# 6, includes all new coverage of anonymous records, the task {} computation expression, and the relationship between types and modules. Stylish F# 6 covers every design decision that a developer makes in constructing F# programs, helping you make the most educated and valuable design choices at every stage of code development. You will learn about the design of types and function signatures, the benefits of immutability, and the uses of partial function application. You will understand best practices for writing APIs to be used by F#, C#, and other languages. Each carefully vetted design choice is supported with compelling examples, illustrations, and rationales. What You Will Learn Know why, when, and how to code in immutable style Use collection functions, piping, and function composition to build working software quickly Be aware of the techniques available to bring error handling into the mainstream of program logic Optimize F# code for maximum performance Identify and implement opportunities to use function injection to improve program design Appreciate the methods available to handle unknown data values Understand asynchronous and parallel programming in F#, and how it differs from C# asynchronous programming Exploit records and anonymous records as low-overhead, easily comparable containers for structured data Who This Book Is For Any developer who writes F# code and wants to write it better

"[The authors] are pioneers. . . . Few in our industry have their breadth of knowledge and experience." —From the Foreword by Dave Thomas, Bedarra Labs Domain-Specific Modeling (DSM) is the latest approach to software development, promising to greatly increase the speed and ease of software creation. Early adopters of DSM have been enjoying productivity increases of 500–1000% in production for over a decade. This book introduces DSM and offers examples from various fields to illustrate to experienced developers how DSM can improve software development in their teams. Two authorities in the field explain what DSM is, why it works, and how to successfully create and use a DSM solution to improve productivity and quality. Divided into four parts, the book covers: background and motivation; fundamentals; in-depth examples; and creating DSM solutions. There is an emphasis throughout the book on practical guidelines for implementing DSM, including how to identify the necessary language constructs, how to generate full code from models, and how to provide tool support for a new DSM language. The example cases described in the book are available the book's Website, www.dsmbook.com, along with, an evaluation copy of the MetaEdit+ tool (for Windows, Mac OS X, and Linux), which allows readers to examine and try out the modeling languages and code generators. Domain-Specific Modeling is an essential reference for lead developers, software engineers, architects, methodologists, and technical managers who want to learn how to create a DSM solution and successfully put it into practice.

Take your Haskell and functional programming skills to the next level by exploring new idioms and design patterns About This Book Explore Haskell on a higher level through idioms and patterns Get an in-depth look into the three strongholds of Haskell: higher-order functions, the Type system, and Lazy evaluation Expand your understanding of Haskell and functional programming, one line of executable code at a time Who This Book Is For If you're a Haskell programmer with a firm grasp of the basics and ready to move more deeply into modern idiomatic Haskell programming, then this book is for you. What You Will Learn Understand the relationship between the "Gang of Four" OOP Design Patterns and Haskell Try out three ways of Streaming I/O: imperative, Lazy, and Iteratee based Explore the pervasive pattern of Composition: from function composition through to high-level composition with Lenses Synthesize Functor, Applicative, Arrow and Monad in a single conceptual framework Follow the grand arc of Fold and Map on lists all the way to their culmination in Lenses and Generic Programming Get a taste of Type-level programming in Haskell and how this relates to dependently-typed programming Retrace the evolution, one key language extension at a time, of the Haskell Type and Kind systems Place the elements of modern Haskell in a historical framework In Detail Design patterns and idioms can widen our perspective by showing us where to look, what to look at, and ultimately how to see what we are looking at. At their best, patterns are a shorthand method of communicating better ways to code (writing less, more maintainable, and more efficient code). This book starts with Haskell 98 and through the lens of patterns and idioms investigates the key advances and programming styles that together make "modern Haskell". Your journey begins with the three pillars of Haskell. Then you'll experience the problem with Lazy I/O, together with a solution. You'll also trace the hierarchy formed by Functor, Applicative, Arrow, and Monad. Next you'll explore how Fold and Map are generalized by Foldable and Traversable, which in turn is unified in a broader context by functional Lenses. You'll delve more deeply into the Type system, which will prepare you for an overview of Generic programming. In conclusion you go to the edge of Haskell by investigating the Kind system and how this relates to Dependently-typed programming. Style and approach Using short pieces of executable code, this guide gradually explores the broad pattern landscape of modern Haskell. Ideas are presented in their historical context and arrived at through intuitive derivations, always with a focus on the problems they solve.

Describes ways to incorporate domain modeling into software development.

Model-Driven Architecture in Practice

Pathways to Health Equity

Domain Modeling Made Functional

Functional Programming Patterns in Scala and Clojure

DSLs in Action

Domain-Driven Design Quickly

Stylish F# 6

Building software is harder than ever. As a developer, you not only have to chase ever-changing technological trends but also need to understand the business domains behind the software. This practical book provides you with a set of core patterns, principles, and practices for analyzing business domains, understanding business strategy, and, most importantly, aligning software design with its business needs. Author Vlad Khononov shows you how these practices lead to robust implementation of business logic and help to future-proof software design and architecture. You'll examine the relationship between domain-driven design (DDD) and other methodologies to ensure you make architectural decisions that meet business requirements. You'll also explore the real-life story of implementing DDD in a startup company. With this book, you'll learn how to: Analyze a company's business domain to learn how the system you're building fits its competitive strategy Use DDD's strategic and tactical tools to architect effective software solutions that address business needs Build a shared understanding of the business domains you encounter Decompose a system into bounded contexts Coordinate the work of multiple teams Gradually introduce DDD to brownfield projects

This book introduces all the relevant information required to understand and put Model Driven Architecture (MDA) into industrial practice. It clearly explains which conceptual primitives should be present in a system specification, how to use UML to properly represent this subset of basic conceptual constructs, how to identify just those diagrams and modeling constructs that are actually required to create a meaningful conceptual schema, and how to accomplish the transformation process between the problem space and the solution space. The approach is fully supported by commercially available tools.

Your success—and sanity—are closer at hand when you work at a higher level of abstraction, allowing your attention to be on the business problem rather than the details of the programming platform. Domain Specific Languages—"little languages" implemented on top of conventional programming languages—give you a way to do this because they model the domain of your business problem. DSLs in Action introduces the concepts and definitions a developer needs to build high-quality domain specific languages. It provides a solid foundation to the usage as well as implementation aspects of a DSL, focusing on the necessity of applications speaking the language of the domain. After reading this book, a programmer will be able to design APIs that make better domain models. For experienced developers, the book addresses the intricacies of domain language design without the pain of writing parsers by hand. The book discusses DSL usage and implementations in the real world based on a suite of JVM languages like Java, Ruby, Scala, and Groovy. It contains code snippets that implement real world DSL designs and discusses the pros and cons of each implementation. Purchase of the print book comes with an offer of a free PDF, ePub, and Kindle eBook from Manning. Also available is all code from the book. What's Inside Tested, real-world examples How to find the right level of abstraction Using language features to build internal DSLs Designing parser/combinator-based little languages

Domain Modeling Made FunctionalTackle Software Complexity with Domain-Driven Design and F#

Enabling Full Code Generation

Systems Analysis and Design in a Changing World

.NET Domain-Driven Design with C#

Get Programming with F#

Domain-driven Design

WORK EFFECT LEG CODE _p1

Beginning F# 4.0

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

Provides information on domain-driven design to guild application software for enterprise applications.

This book is a great foundation for exploring functional-first programming and its role in the future of application development. The best-selling introduction to F#, now thoroughly updated to version 4.0, will help you learn the language and explore its new features. F# 4.0 is a mature, open source, cross-platform, functional-first programming language which empowers users and organizations to tackle complex computing problems with simple, maintainable and robust code. F# is also a fully supported language in Visual Studio and Xamarin Studio. Other tools supporting F# development include Emacs, MonoDevelop, Atom, Visual Studio Code, Sublime Text, and Vim. Beginning F#4.0 has been thoroughly updated to help you explore the new features of the language including: Type Providers Constructors as first-class functions Simplified use of mutable values Support for high-dimensional arrays Slicing syntax support for F# lists Reviewed by Don Syme, the chief architect of F# at Microsoft Research, Beginning F#4.0 is a great foundation for exploring functional programming and its role in the future of application development.

Domain Driven Design is a vision and approach for dealing with highly complex domains that is based on making the domain itself the main focus of the project, and maintaining a software model that reflects a deep understanding of the domain. This book is a short, quickly-readable summary and introduction to the fundamentals of DDD; it does not introduce any new concepts; it attempts to concisely summarize the essence of what DDD is, drawing mostly Eric Evans' original book, as well other sources since published such as Jimmy Nilsson's Applying Domain Driven Design, and various DDD discussion forums. The main topics covered in the book include: Building Domain Knowledge, The Ubiquitous Language, Model Driven Design, Refactoring Toward Deeper Insight, and Preserving Model Integrity. Also included is an interview with Eric Evans on Domain Driven Design today.

Applying Domain-Driven Design and Patterns

Getting Started with Terraform

Programming Machine Learning

Tackling Complexity in the Heart of Software

A comprehensive guide for writing simple code to solve complex problems
Expert F# 4.0
Programming F#
Bring the power of functional programming to Swift to develop clean, smart, scalable and reliable applications. About This Book Written for the latest version of Swift, this is a comprehensive guide that introduces iOS, Web and macOS developers to the all-new world of functional programming that has so far been alien to them Get familiar with using functional programming alongside existing OOP techniques so you can get the best of both worlds and develop clean, robust, and scalable code Develop a case study on example backend API with Swift and Vapor Framework and an iOS application with Functional Programming, Protocol-Oriented Programming, Functional Reactive Programming, and Object-Oriented Programming techniques Who This Book Is For Meant for a reader who knows object-oriented programming, has some experience with Objective-C/Swift programming languages and wants to further enhance his skills with functional programming techniques with Swift 3.x. What You Will Learn Understand what functional programming is and why it matters Understand custom operators, function composition, currying, recursion, and memoization Explore algebraic data types, pattern matching, generics, associated type protocols, and type erasure Get acquainted with higher-kinded types and higher-order functions using practical examples Get familiar with functional and non-functional ways to deal with optionals Make use of functional data structures such as semigroup, monoid, binary search tree, linked list, stack, and lazy list Understand the importance of immutability, copy constructors, and lenses Develop a backend API with Vapor Create an iOS app by combining FP, OOP, FRP, and POP paradigms In Detail Swift is a multi-paradigm programming language enabling you to tackle different problems in various ways. Understanding each paradigm and knowing when and how to utilize and combine them can lead to a better code base. Functional programming (FP) is an important paradigm that empowers us with declarative development and makes applications more suitable for testing, as well as performant and elegant. This book aims to simplify the FP paradigms, making them easily understandable and usable, by showing you how to solve many of your day-to-day development problems using Swift FP. It starts with the basics of FP, and you will go through all the core concepts of Swift and the building blocks of FP. You will also go through important aspects, such as function composition and currying, custom operator definition, monads, functors, applicative functors,memoization, lenses, algebraic data types, type erasure, functional data structures, functional reactive programming (FRP), and protocol-oriented programming(POP). You will then learn to combine those techniques to develop a fully functional iOS application from scratch Style and approach An easy-to-follow guide that is full of hands-on coding examples of real-world applications. Each topic is explained sequentially and placed in context, and for the more inquisitive, there are more details of the concepts used. It introduces the Swift language basics and functional programming techniques in simple, non-mathematical vocabulary with examples in Swift.
Use this in-depth guide to correctly design benchmarks, measure key performance metrics of .NET applications, and analyze results. This book presents dozens of case studies to help you understand complicated benchmarking topics. You will avoid common pitfalls, control the accuracy of your measurements, and improve performance of your software. Author Andrey Akinshin has maintained BenchmarkDotNet (the most popular .NET library for benchmarking) for five years and covers common mistakes that developers usually make in their benchmarks. This book includes not only .NET-specific content but also essential knowledge about performance measurements which can be applied to any language or platform (common benchmarking methodology, statistics, and low-level features of modern hardware). What You'll LearnBe aware of the best practices for writing benchmarks and performance testsAvoid the common benchmarking pitfalls Know the hardware and software factors that affect application performanceAnalyze performance measurements Who This Book Is For .NET developers concerned with the performance of their applications
Why just get by in F# when you can program in style! This book goes beyond syntax and into design. It provides F# developers with best practices, guidance, and advice to write beautiful, maintainable, and correct code. Stylish F# covers every design decision that a developer makes in constructing F# programs, helping you make the most educated and valuable design choices at every stage of code development. You will learn about the design of types and function signatures, the benefits of immutability, and the uses of partial function application. You will understand best practices for writing APIs to be used by F#, C#, and other languages. Each carefully vetted design choice is supported with compelling examples, illustrations, and rationales. What You'll Learn Know why, when, and how to code in immutable styleUse collection functions, piping, and function composition to build working software quicklyBe aware of the techniques available to bring error handling into the mainstream of program logic Optimize F# code for maximum performance Identify and implement opportunities to use function injection to improve program design Appreciate the methods available to handle unknown data values Understand asynchronous and parallel programming in F#, and how it differs from C# asynchronous programming Who This Book Is For Any developer who writes F# code and wants to write it better
Refined and streamlined, SYSTEMS ANALYSIS AND DESIGN IN A CHANGING WORLD, 7E helps students develop the conceptual, technical, and managerial foundations for systems analysis design and implementation as well as project management principles for systems development. Using case driven techniques, the succinct 14-chapter text focuses on content that is key for success in today's market. The authors' highly effective presentation teaches both traditional (structured) and object-oriented (OO) approaches to systems analysis and design. The book highlights use cases, use diagrams, and use case descriptions required for a modeling approach, while demonstrating their application to traditional, web development, object-oriented, and service-oriented architecture approaches. The Seventh Edition's refined sequence of topics makes it easier to read and understand than ever. Regrouped analysis and design chapters provide more flexibility in course organization. Additionally, the text's running cases have been completely updated and now include a stronger focus on connectivity in applications. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.
Patterns, Principles, and Practices of Domain-Driven Design
Implementing Domain-driven Design
ML for the Working Programmer
Book of F#
57 Challenges to Develop Your Coding Skills
Real-World Functional Programming
Thinking Functionally with Haskell

In the United States, some populations suffer from far greater disparities in health than others. Those disparities are caused not only by fundamental differences in health status across segments of the population, but also because of inequities in factors that impact health status, so-called determinants of health. Only part of an individual's health status depends on his or her behavior and choice; community-wide problems like poverty, unemployment, poor education, inadequate housing, poor public transportation, interpersonal violence, and decaying neighborhoods also contribute to health inequities, as well as the historic and ongoing interplay of structures, policies, and norms that shape lives. When these factors are not optimal in a community, it does not mean they are intractable: such inequities can be mitigated by social policies that can shape health in powerful ways. Communities in Action: Pathways to Health Equity seeks to delineate the causes of and the solutions to health inequities in the United States. This report focuses on what communities can do to promote health equity, what actions are needed by the many and varied stakeholders that are part of communities or support them, as well as the root causes and structural barriers that need to be overcome.

Provides a guide to using Scala and Clojure to solve in-depth programming problems.

Introduces fundamental techniques for reasoning mathematically about functional programs. Ideal for a first- or second-year undergraduate course.

· New York Times bestseller · The 100 most substantive solutions to reverse global warming, based on meticulous research by leading scientists and policymakers around the world "At this point in time, the Drawdown book is exactly what is needed; a credible, conservative solution-by-solution narrative that we can do it. Reading it is an effective inoculation against the widespread perception of doom that humanity cannot and will not solve the climate crisis. Reported by-effects include increased determination and a sense of grounded hope." —Per Espen Stoknes, Author, What We Think About When We Try Not To Think About Global Warming "There's been no real way for ordinary people to get an understanding of what they can do and what impact it can have. There remains no single, comprehensive, reliable compendium of carbon-reduction solutions across sectors. At least until now. . . . The public is hungry for this kind of practical wisdom." —David Roberts, Vox "This is the ideal environmental sciences textbook—only it is too interesting and inspiring to be called a textbook." —Peter Kareiva, Director of the Institute of the Environment and Sustainability, UCLA In the face of widespread fear and apathy, an international coalition of researchers, professionals, and scientists have come together to offer a set of realistic and bold solutions to climate change. One hundred techniques and practices are described here—some are well known; some you may have never heard of. They range from clean energy to educating girls in lower-income countries to land use practices that pull carbon out of the air. The solutions exist, are economically viable, and communities throughout the world are currently enacting them with skill and determination. If deployed collectively on a global scale over the next thirty years, they represent a credible path forward, not just to slow the earth's warming but to reach drawdown, that point in time when greenhouse gases in the atmosphere peak and begin to decline. These measures promise cascading benefits to human health, security, prosperity, and well-being—giving us every reason to see this planetary crisis as an opportunity to create a just and livable world.

Your Code as a Crime Scene
A guide for .NET developers
Breaking Free with Managed Functional Programming

A Software Production Environment Based on Conceptual Modeling
Programming F# 3.0

Over 100 advanced recipes to effectively and efficiently develop rich client applications on the Windows platform.
Jack the Ripper and legacy codebases have more in common than you'd think. Inspired by forensic psychology methods, you'll learn strategies to predict the future of your codebase, assess refactoring direction, and understand how your team influences the design. With its unique blend of forensic psychology and code analysis, this book arms you with the strategies you need, no matter what programming language you use. Software is a living entity that's constantly changing. To understand software systems, we need to know where they came from and how they evolved. By mining commit data and analyzing the history of your code, you can start fixes ahead of time to eliminate broken designs, maintenance issues, and team productivity bottlenecks. In this book, you'll learn forensic psychology techniques to successfully maintain your software. You'll create a geographic profile from your commit data to find hotspots, and apply temporal coupling concepts to uncover hidden relationships between unrelated areas in your code. You'll also measure the effectiveness of your code improvements. You'll learn how to apply these techniques on projects both large and small. For small projects, you'll get new insights into your design and how well the code fits your ideas. For large projects, you'll identify the good and the fragile parts. Large-scale development is also a social activity, and the team's dynamics influence code quality. That's why this book shows you how to uncover social biases when analyzing the evolution of your system. You'll use commit messages as eyewitness accounts to what is really happening in your code. Finally, you'll put it all together by tracking organizational problems in the code and finding out how to fix them. Come join the hunt for better code! What You Need: You need Java 6 and Python 2.7 to run the accompanying analysis tools. You also need Git to follow along with the examples.
This fast-moving tutorial introduces you to OCaml, an industrial-strength programming language designed for expressiveness, safety, and speed. Through the book's many examples, you'll quickly learn how OCaml stands out as a tool for writing fast, succinct, and readable systems code. Real World OCaml takes you through the concepts of the language at a brisk pace, and then helps you explore the tools and techniques that make OCaml an effective and practical tool. In the book's third section, you'll delve deep into the details of the compiler toolchain and OCaml's simple and efficient runtime system. Learn the foundations of the language, such as higher-order functions, algebraic data types, and modules Explore advanced features such as functors, first-class modules, and objects Leverage Core, a comprehensive general-purpose standard library for OCaml Design effective and reusable libraries, making the most of OCaml's approach to abstraction and modularity Tackle practical programming problems from command-line parsing to asynchronous network programming Examine profiling and interactive debugging techniques with tools such as GNU gdb
You want increased customer satisfaction, faster development cycles, and less wasted work. Domain-driven design (DDD) combined with functional programming is the innovative combo that will get you there. In this pragmatic, down-to-earth guide, you'll see how applying the core principles of functional programming can result in software designs that model real-world requirements both elegantly and concisely - often more so than an object-oriented approach. Practical examples in the open-source F# functional language, and examples from familiar business domains, show you how to apply these techniques to build software that is business-focused, flexible, and high quality. Domain-driven design is a well-established approach to designing software that ensures that domain experts and developers work together effectively to create high-quality software. This book is the first to combine DDD with techniques from statically typed functional programming. This book is perfect for newcomers to DDD or functional programming - all the techniques you need will be introduced and explained. Model a complex domain accurately using the F# type system, creating compilable code that is also readable documentation---ensuring that the code and design never get out of sync. Encode business rules in the design so that you have "compile-time unit tests," and eliminate many potential bugs by making illegal states unrepresentable. Assemble a series of small, testable functions into a complete use case, and compose these individual scenarios into a large-scale design. Discover why the combination of functional programming and DDD leads naturally to service-oriented and hexagonal architectures. Finally, create a functional domain model that works with traditional databases, NoSQL, and event stores, and safely expose your domain via a website or API. Solve real problems by focusing on real-world requirements for your software. What You Need: The code in this book is designed to be run interactively on Windows, Mac and Linux.You will need a recent version of F# (4.0 or greater), and the appropriate .NET runtime for your platform.Full installation instructions for all platforms at fsharp.org.