



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.

This book is for designers, developers, and product managers who are charged with what sometimes seems like an impossible task: making sure products work the way your users expect them to. You'll find out how to design applications and websites that people will not only use, but will absolutely love. The second edition brings the book up to date and expands it with three completely new chapters. Interaction design - the way the apps on our phones work, the way we enter a destination into our car's GPS - is becoming more and more important. Identify and fix bad software design by making usability the cornerstone of your design process. Lukas weaves together hands-on techniques and fundamental concepts. Each technique chapter explains a specific approach you can use to make your product more user friendly, such as storyboarding, usability tests, and paper prototyping. Idea chapters are concept-based: how to write usable text, how realistic your designs should look, when to use animations. This new edition is updated and expanded with new chapters covering requirements gathering, how the design of data structures influences the user interface, and how to do design work as a team. Through copious illustrations and supporting psychological research, expert developer and user interface designer Lukas Mathis gives you a deep dive into research, design, and implementation--the essential stages in designing usable interfaces for applications and websites. Lukas inspires you to look at design in a whole new way, explaining exactly what to look for - and what to avoid - in creating products that get people excited.

Are you working on a codebase where cost overruns, death marches, and heroic fights with legacy code monsters are the norm? Battle these adversaries with novel ways to identify and prioritize technical debt, based on behavioral data from how developers work with code. And that's just for starters. Because good code involves social design, as well as technical design, you can find surprising dependencies between people and code to resolve coordination bottlenecks among teams. Best of all, the techniques build on behavioral data that you already have: your version-control system. Join the fight for better code! Use statistics and data science to uncover both problematic code and the behavioral patterns of the developers who build your software. This combination gives you insights you can't get from the code alone. Use these insights to prioritize refactoring needs, measure their effect, find implicit dependencies between different modules, and automatically create knowledge maps of your system based on actual code contributions. In a radical, much-needed change from common practice, guide organizational decisions with objective data by measuring how well your development teams align with the software architecture. Discover a comprehensive set of practical analysis techniques based on version-control data, where each point is illustrated with a case study from a real-world codebase. Because the techniques are language neutral, you can apply them to your own code no matter what programming language you use. Guide organizational decisions with objective data by measuring how well your development teams align with the software architecture. Apply research findings from social psychology to software development, ensuring you get the tools you need to coach your organization towards better code. If you're an experienced programmer, software architect, or technical manager, you'll get a new perspective that will change how you work with code. What You Need: You don't have to install anything to follow along in the book. TThe case studies in the book use well-known open source projects hosted on GitHub. You'll use CodeScene, a free software analysis tool for open source projects, for the case studies. We also discuss alternative tooling options where they exist.

" One of the most significant books in my life. " –Obie Fernandez, Author, The Rails Way " Twenty years ago, the first edition of The Pragmatic Programmer completely changed the trajectory of my career. This new edition could do the same for yours. " – Mike Cohn, Author of Succeeding with Agile, Agile Estimating and Planning, and User Stories Applied " . . . filled with practical advice, both technical and professional, that will serve you and your projects well for years to come. " – Andrea Goulet, CEO, Corgibytes, Founder, LegacyCode.Rocks " . . . lightning does strike twice, and this book is proof. " – VM (Vicky) Brasseur, Director of Open Source Strategy, Juniper Networks The Pragmatic Programmer is one of those rare tech books you ' ll read, re-read, and read again over the years. Whether you ' re new to the field or an experienced practitioner, you ' ll come away with fresh insights each and every time. Dave Thomas and Andy Hunt wrote the first edition of this influential book in 1999 to help their clients create better software and rediscover the joy of coding. These lessons have helped a generation of programmers examine the very essence of software development, independent of any particular language, framework, or methodology, and the Pragmatic philosophy has spawned hundreds of books, screencasts, and audio books, as well as thousands of careers and success stories. Now, twenty years later, this new edition re-examines what it means to be a modern programmer. Topics range from personal responsibility and career development to architectural techniques for keeping your code flexible and easy to adapt and reuse. Read this book, and you ' ll learn how to: Fight software rot Learn continuously Avoid the trap of duplicating knowledge Write flexible, dynamic, and adaptable code Harness the power of basic tools Avoid programming by coincidence Learn real requirements Solve the underlying problems of concurrent code Guard against security vulnerabilities Build teams of Pragmatic Programmers Take responsibility for your work and career Test ruthlessly and effectively, including property-based testing Implement the Pragmatic Starter Kit Delight your users Written as a series of self-contained sections and filled with classic and fresh anecdotes, thoughtful examples, and interesting analogies, The Pragmatic Programmer illustrates the best approaches and major pitfalls of many different aspects of software development. Whether you ' re a new coder, an experienced programmer, or a manager responsible for software projects, use these lessons daily, and you ' ll quickly see improvements in personal productivity, accuracy, and job satisfaction. You ' ll learn skills and develop habits and attitudes that form the foundation for long-term success in your career. You ' ll become a Pragmatic Programmer. Register your book for convenient access to downloads, updates, and/or corrections as they become available. See inside book for details.

Provides information on designing effective interfaces.

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