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# The Pragmatic Programmer



DAVID THOMAS  
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# The Pragmatic Programmer

**Andrew Hunt,David Thomas**



## **The Pragmatic Programmer:**

**The Pragmatic Programmer** Andrew Hunt, David Thomas, 1999-10-20

What others in the trenches say about The Pragmatic Programmer

The cool thing about this book is that it's great for keeping the programming process fresh. The book helps you to continue to grow and clearly comes from people who have been there. Kent Beck, author of *Extreme Programming Explained* and *Embrace Change*. I found this book to be a great mix of solid advice and wonderful analogies. Martin Fowler, author of *Refactoring* and *UML Distilled*. I would buy a copy, read it twice, then tell all my colleagues to run out and grab a copy. This is a book I would never loan because I would worry about it being lost. Kevin Ruland, Management Science, MSG Logistics. The wisdom and practical experience of the authors is obvious. The topics presented are relevant and useful. By far its greatest strength for me has been the outstanding analogies: tracer bullets, broken windows, and the fabulous helicopter-based explanation of the need for orthogonality, especially in a crisis situation. I have little doubt that this book will eventually become an excellent source of useful information for journeymen programmers and expert mentors alike.

John Lakos, author of *Large Scale C Software Design*. This is the sort of book I will buy a dozen copies of when it comes out so I can give it to my clients.

Eric Vought, Software Engineer. Most modern books on software development fail to cover the basics of what makes a great software developer instead spending their time on syntax or technology where in reality the greatest leverage possible for any software team is in having talented developers who really know their craft well.

An excellent book. Pete McBreen, Independent Consultant. Since reading this book I have implemented many of the practical suggestions and tips it contains. Across the board they have saved my company time and money while helping me get my job done quicker. This should be a desktop reference for everyone who works with code for a living.

Jared Richardson, Senior Software Developer, iRenaissance Inc. I would like to see this issued to every new employee at my company.

Chris Cleeland, Senior Software Engineer, Object Computing Inc. If I'm putting together a project it's the authors of this book that I want. And failing that, I'd settle for people who've read their book.

Ward Cunningham, Straight from the programming trenches. The Pragmatic Programmer cuts through the increasing specialization and technicalities of modern software development to examine the core process: taking a requirement and producing working, maintainable code that delights its users. It covers topics ranging 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.
- Avoid the trap of duplicating knowledge.
- Write flexible, dynamic, and adaptable code.
- Avoid programming by coincidence.
- Bullet-proof your code with contracts, assertions, and exceptions.
- Capture real requirements.
- Test ruthlessly and effectively.
- Delight your users.
- Build teams of pragmatic programmers.
- Make your developments more precise with automation.

Written as a series of self-contained sections and filled with entertaining anecdotes, thoughtful examples, and interesting analogies, *The Pragmatic Programmer* illustrates the best practices and major pitfalls of many different aspects of software development. Whether you're a new coder or 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 *The Pragmatic Programmer* David Thomas, Andrew Hunt, 2019-07-30 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 *The Pragmatic Programmer* Andrew Hunt, 1900 This is the eBook version of the printed book If the print book includes a CD ROM this content is not included within the eBook version Straight from the programming trenches *The Pragmatic Programmer* cuts through the increasing specialization and technicalities of modern

software development to examine the core process taking a requirement and producing working maintainable code that delights its users. It covers topics ranging 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 will be a better programmer. **The Pragmatic Programmer** Andrew Hunt, 2004

**The Pragmatic Programmer: From Journeyman to Master** Andrew Hunt, 1999

**Pragmatic Programming** Connor Wallace, 2020-02-17

The concept of Pragmatic Programming has become a reference term to the Programmers who are looking to hone their skills. Pragmatic Programming has been designed through real case analysis based on practical market experience. We have established a set of principles and concepts throughout this book that understand the characteristics and responsibilities of a Pragmatic Programmer. Although every Programmer is unique and has strengths and weaknesses, some characteristics are inherent in every Programmer who is said to be dedicated and responsible in his work, namely: Quick adaptation, Instinct for techniques and technologies, Ability and interest in learning new technologies, and associating learning with the knowledge already obtained.

Inquisition: Interest in obtaining clarity. Question and analyze every situation intrinsic to the given problem. Critical Thinking: Attitude to try to understand and make sure of reason and motives before making any assumptions. Realism: Ability to understand the real nature of a given problem so as not to idealize possible solutions but to understand what can actually be done. Versatility: Willingness to relate to various areas. Even as an expert, be willing to learn and acquire a generic range of knowledge. To become a Pragmatic Programmer, you need to think about what you are doing while you are doing it. It is not enough to do an isolated audit to get positive results but to make it a habit to make a constant critical assessment of every decision you have made or intend to make. In other words, it is necessary to turn off the autopilot and to be present and aware of every action taken to be constantly thinking and criticizing your work based on the Principles of Pragmatism.

Throughout nine chapters, the book deals with several principles on how to improve your attitude as a programmer. This book is aimed at students and developers who have previously had a first experience with programming and who wish to move to the Pragmatic Programming (PP) in order to design, create, and develop agile software applications.

*The Pragmatic Programmer* David Thomas, Andrew Hunt, 2020

**Programming Ruby** David Thomas, 2007

[Pragmatic Thinking and Learning](#) Andy Hunt, 2008-10-28

Printed in full color. Software development happens in your head, not in an editor, IDE, or design tool. You're well educated on how to work with software and hardware, but what about wetware, our own brains? Learning new skills and new technology is critical to your career, and it's all in your head. In this book by Andy Hunt, you'll learn how our brains are wired and how to take advantage of your brain's architecture. You'll learn new tricks and tips to learn more faster and retain more of what you learn. You need a pragmatic approach to thinking and learning. You need to Refactor Your Wetware. Programmers have to learn constantly, not just the stereotypical new technologies but also the problem domain of the application, the whims of the user community, the quirks of your teammates, the shifting sands of the industry, and the evolving characteristics of the project.

itself as it is built We'll journey together through bits of cognitive and neuroscience learning and behavioral theory You'll see some surprising aspects of how our brains work and how you can take advantage of the system to improve your own learning and thinking skills In this book you'll learn how to Use the Dreyfus Model of Skill Acquisition to become more expert Leverage the architecture of the brain to strengthen different thinking modes Avoid common known bugs in your mind Learn more deliberately and more effectively Manage knowledge more efficiently Hunt/The Pragmatic Programmer, First Edition Andrew Hunt, David Thomas, 1999 What others in the trenches say about The Pragmatic Programmer The cool thing about this book is that it's great for keeping the programming process fresh The book helps you to continue to grow and clearly comes from people who have been there Kent Beck author of Extreme Programming Explained Embrace Change I found this book to be a great mix of solid advice and wonderful analogies Martin Fowler author of Refactoring and UML Distilled I would buy a copy read it twice then tell all my colleagues to run out and grab a copy This is a book I would never loan because I would worry about it being lost Kevin Ruland Management Science MSG Logistics The wisdom and practical experience of the authors is obvious The topics presented are relevant and useful By far its greatest strength for me has been the outstanding analogies tracer bullets broken windows and the fabulous helicopter based explanation of the need for orthogonality especially in a crisis situation I have little doubt that this book will eventually become an excellent source of useful information for journeymen programmers and expert mentors alike John Lakos author of Large Scale C Software Design This is the sort of book I will buy a dozen copies of when it comes out so I can give it to my clients Eric Vought Software Engineer Most modern books on software development fail to cover the basics of what makes a great software developer instead spending their time on syntax or technology where in reality the greatest leverage possible for any software team is in having talented developers who really know their craft well An excellent book Pete McBreen Independent Consultant Since reading this book I have implemented many of the practical suggestions and tips it contains Across the board they have saved my company time and money while helping me get my job done quicker This should be a desktop reference for everyone who works with code for a living Jared Richardson Senior Software Developer iRenaissance Inc I would like to see this issued to every new employee at my company Chris Cleeland Senior Software Engineer Object Computing Inc If I'm putting together a project it's the authors of this book that I want And failing that I'd settle for people who've read their book Ward Cunningham Straight from the programming trenches The Pragmatic Programmer cuts through the increasing specialization **Practices of an Agile Developer** Venkat Subramaniam, Andy Hunt, 2006-04-04 These are the proven effective agile practices that will make you a better developer You'll learn pragmatic ways of approaching the development process and your personal coding techniques You'll learn about your own attitudes issues with working on a team and how to best manage your learning all in an iterative incremental agile style You'll see how to apply each practice and what benefits you can expect Bottom line This book will make you a better developer The Pragmatic Programmer for

Machine Learning Marco Scutari, Mauro Malvestio, 2023-03-31 Machine learning has redefined the way we work with data and is increasingly becoming an indispensable part of everyday life The Pragmatic Programmer for Machine Learning Engineering Analytics and Data Science Solutions discusses how modern software engineering practices are part of this revolution both conceptually and in practical applications Comprising a broad overview of how to design machine learning pipelines as well as the state of the art tools we use to make them this book provides a multi disciplinary view of how traditional software engineering can be adapted to and integrated with the workflows of domain experts and probabilistic models From choosing the right hardware to designing effective pipelines architectures and adopting software development best practices this guide will appeal to machine learning and data science specialists whilst also laying out key high level principles in a way that is approachable for students of computer science and aspiring programmers **OCA/OCP Java SE 7 Programmer I & II Study Guide (Exams 1Z0-803 & 1Z0-804)** Kathy Sierra, Bert Bates, 2014-10-28 A complete update to the definitive bestselling guide to the 1 certification for Java programmers Written and revised by the co developers of the original SCJP exam and now published in the Oracle Press brand Includes two complete practice exams 250 practice exam questions in book and via electronic content Replaces SCJP Sun Certified Programmer for Java Study Guide 150 000 copies sold *100 Unexpected Statements about the Pragmatic Programmer* Chris Breising, 2013-02 In this book we have hand picked the most sophisticated unanticipated absorbing if not at times crackpot original and musing book reviews of The Pragmatic Programmer From Journeyman to Master Don t say we didn t warn you these reviews are known to shock with their unconventionality or intimacy Some may be startled by their biting sincerity others may be spellbound by their unbridled flights of fantasy Don t buy this book if 1 You don t have nerves of steel 2 You expect to get pregnant in the next five minutes 3 You ve heard it all **Pragmatic Version Control with CVS** David Thomas, Andrew Hunt, 2003 Discusses how to improve the effectiveness of the software development process using version control sometimes called source code control A version control system is a place to store all the various revisions of written code while an application is being developed The book focuses on using the freely available open source CVS version control system **Programming Elixir ≥ 1.6** Dave Thomas, 2018-05-18 This book is the introduction to Elixir for experienced programmers completely updated for Elixir 1.6 and beyond Explore functional programming without the academic overtones tell me about monads just one more time Create concurrent applications but get them right without all the locking and consistency headaches Meet Elixir a modern functional concurrent language built on the rock solid Erlang VM Elixir s pragmatic syntax and built in support for metaprogramming will make you productive and keep you interested for the long haul Maybe the time is right for the Next Big Thing Maybe it s Elixir Functional programming techniques help you manage the complexities of today s real world concurrent systems maximize uptime and manage security Enter Elixir with its modern Ruby like extendable syntax compile and runtime evaluation hygienic macro system and more But just as importantly Elixir brings a sense of enjoyment to parallel

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**Pragmatic Unit Testing in C# with NUnit** Andrew Hunt, David Thomas, 2004 Learn how to improve your C coding skills using unit testing Despite its name unit testing is really a coding technique not a testing technique Unit testing is done by programmers for programmers Its primarily for our benefit we get improved confidence in our code better ability to make deadlines less time spent in the debugger and less time beating on the code to make it work correctly This book shows how to write tests but more importantly it goes where other books fear to tread and gives you concrete advice and examples of what to test the common things that go wrong in all of our programs Discover the tricky hiding places where bugs breed and how to catch them using the freely available NUnit framework Its easy to learn how to think of all the things in your code that are likely to break We ll show you how with helpful mnemonics summarized in a handy tip sheet also available from our [www.pragmaticprogrammer.com](http://www.pragmaticprogrammer.com) website With this book you will Write better code and take less time to write it Discover the tricky places where bugs breed Learn how to think of all the things that could go wrong Test individual pieces of code without having to include the whole project Test effectively with the whole team We ll also cover how to use Mock Objects for testing how to write high quality test code and how to use unit testing to improve your design skills We ll show you frequent gotchas along with the fixes to save you time when problems come up But the best part is that you dont need a sweeping mandate to change your whole team or your whole company You dont need to adopt Extreme Programming or Test Driven Development or change your development process in order to reap the proven benefits of unit testing You can start unit testing the pragmatic way right away

**Programming Ruby** David Thomas, Andrew Hunt, 2001 Ruby is a true object oriented programming language that makes the craft of programming easier Ruby is a transparent language It doesnt obscure your program behind unnecessary syntax or reams of extra support code Guided by the Principle of Least Surprise Ruby embodies the values of consistency and simplicity of expression Its more than a programming language Its a concise way of expressing ideas Ruby supports natural intelligence yours Programming Ruby The Pragmatic Programmer s Guide is your complete Ruby resource It provides a tutorial and overview of Ruby version 1.6 a detailed description of the language s structure syntax and operation a guide to building applications with Ruby and a comprehensive library reference

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## **Table of Contents The Pragmatic Programmer**

1. Understanding the eBook The Pragmatic Programmer
  - The Rise of Digital Reading The Pragmatic Programmer
  - Advantages of eBooks Over Traditional Books
2. Identifying The Pragmatic Programmer
  - Exploring Different Genres
  - Considering Fiction vs. Non-Fiction
  - Determining Your Reading Goals
3. Choosing the Right eBook Platform
  - Popular eBook Platforms
  - Features to Look for in an The Pragmatic Programmer
  - User-Friendly Interface
4. Exploring eBook Recommendations from The Pragmatic Programmer
  - Personalized Recommendations
  - The Pragmatic Programmer User Reviews and Ratings
  - The Pragmatic Programmer and Bestseller Lists
5. Accessing The Pragmatic Programmer Free and Paid eBooks
  - The Pragmatic Programmer Public Domain eBooks
  - The Pragmatic Programmer eBook Subscription Services
  - The Pragmatic Programmer Budget-Friendly Options

6. Navigating The Pragmatic Programmer eBook Formats
  - ePub, PDF, MOBI, and More
  - The Pragmatic Programmer Compatibility with Devices
  - The Pragmatic Programmer Enhanced eBook Features
7. Enhancing Your Reading Experience
  - Adjustable Fonts and Text Sizes of The Pragmatic Programmer
  - Highlighting and Note-Taking The Pragmatic Programmer
  - Interactive Elements The Pragmatic Programmer
8. Staying Engaged with The Pragmatic Programmer
  - Joining Online Reading Communities
  - Participating in Virtual Book Clubs
  - Following Authors and Publishers The Pragmatic Programmer
9. Balancing eBooks and Physical Books The Pragmatic Programmer
  - Benefits of a Digital Library
  - Creating a Diverse Reading Collection The Pragmatic Programmer
10. Overcoming Reading Challenges
  - Dealing with Digital Eye Strain
  - Minimizing Distractions
  - Managing Screen Time
11. Cultivating a Reading Routine The Pragmatic Programmer
  - Setting Reading Goals The Pragmatic Programmer
  - Carving Out Dedicated Reading Time
12. Sourcing Reliable Information of The Pragmatic Programmer
  - Fact-Checking eBook Content of The Pragmatic Programmer
  - Distinguishing Credible Sources
13. Promoting Lifelong Learning
  - Utilizing eBooks for Skill Development
  - Exploring Educational eBooks
14. Embracing eBook Trends
  - Integration of Multimedia Elements

- Interactive and Gamified eBooks

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