

# Refactoring Improving The Design Of Existing Code

## Martin Fowler

Refactoring  
Refactoring Domain-Specific Languages  
Machines, Code, People  
The Art of Agile Development  
Developing Applications with Visual Basic and UML  
Refactoring Pro PHP  
Refactoring Essential Skills for the Agile Developer  
Reports of Cases Heard and Determined by the Supreme Court of South Carolina  
Dr. Dobb's Journal  
Refactoring Code of Laws of South Carolina, 1902 ...: Code of civil procedure and criminal code  
The Robert C. Martin Clean Code Collection (Collection)  
Code of Laws of South Carolina, 1902 ...: Code of civil procedure and criminal code  
Code of Laws of South Carolina, 1912 ...  
Journal of Object-oriented Programming  
Dr. Dobb's Journal of Software Tools for the Professional Programmer  
The Southeastern Reporter  
California. Court of Appeal (1st Appellate District). Records and Briefs  
Martin Fowler  
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Christian Abegg  
James Shore  
Paul R. Reed  
Martin Fowler  
Francesco Trucchia  
Alan Shalloway  
South Carolina. Supreme Court  
Jay Fields  
Robert Martin  
South Carolina  
South Carolina  
California (State).

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as the application of object technology particularly the java programming language has become commonplace a new problem has emerged to confront the software development community significant numbers of poorly designed programs have been created by less experienced developers resulting in applications that are inefficient and hard to maintain and extend increasingly software system professionals are discovering just how difficult it is to work with these inherited non optimal applications for several years expert level object programmers have employed a growing collection of techniques to improve the structural integrity and performance of such existing software programs referred to as refactoring these practices have remained in the domain of experts because no attempt has been made to transcribe the lore into a form that all developers could use until now in refactoring improving the design of existing code renowned object technology mentor martin fowler breaks new ground demystifying these master practices and demonstrating how software practitioners can realize the significant benefits of this new process with proper training a skilled system designer can take a bad design and rework it into well designed robust code in this book martin fowler shows you where opportunities for refactoring typically can be found and how to go about reworking a bad design into a good one each refactoring step is simple seemingly too simple to be worth doing refactoring may involve moving a field from one class to another or pulling some code out of a method to turn it into its own method or even pushing some code up or down a hierarchy while these individual steps may seem

elementary the cumulative effect of such small changes can radically improve the design refactoring is a proven way to prevent software decay in addition to discussing the various techniques of refactoring the author provides a detailed catalog of more than seventy proven refactorings with helpful pointers that teach you when to apply them step by step instructions for applying each refactoring and an example illustrating how the refactoring works the illustrative examples are written in java but the ideas are applicable to any object oriented programming language

martin fowler s guide to reworking bad code into well structured code refactoring improves the design of existing code and enhances software maintainability as well as making existing code easier to understand original agile manifesto signer and software development thought leader martin fowler provides a catalog of refactorings that explains why you should refactor how to recognize code that needs refactoring and how to actually do it successfully no matter what language you use refactoring principles understand the process and general principles of refactoring code smells recognize bad smells in code that signal opportunities to refactor application improvement quickly apply useful refactorings to make a program easier to comprehend and change building tests writing good tests increases a programmer s effectiveness moving features an important part of refactoring is moving elements between contexts data structures a collection of refactorings to organize data an important role in programs conditional logic use refactorings to make conditional sections easier to understand apis modules and their functions are the building blocks of our software and apis are the joints that we use to plug them together inheritance it is both very useful and easy to misuse and it s often hard to see the misuse until it s in the rear view mirror refactorings can fix the misuse examples are written in javascript but you shouldn t find it difficult to adapt the refactorings to whatever language you are currently using as they look mostly the same in different languages whenever you read refactoring it s time to read it again and if you haven t read it yet please do before writing another line of code david heinemeier hansson creator of ruby on rails founder cto at basecamp any fool can write code that a computer can understand good programmers write code that humans can understand m fowler 1999

when carefully selected and used domain specific languages dsls may simplify complex code promote effective communication with customers improve productivity and unclog development bottlenecks in domain specific languages noted software development expert martin fowler first provides the information software professionals need to decide if and when to utilize dsls then where dsls prove suitable fowler presents effective techniques for building them and guides software engineers in choosing the right approaches for their applications this book s techniques may be utilized with most modern object oriented languages the author provides numerous examples in java and c as well as selected examples in ruby wherever possible chapters are organized to be self standing and most reference topics are presented in a familiar patterns format armed with this wide ranging book developers will have the knowledge they need to make important decisions about dsls and where appropriate gain the significant technical and business benefits they offer the topics covered include how dsls compare to frameworks and libraries and when those alternatives are sufficient using parsers and parser generators and parsing external dsls understanding comparing and choosing dsl language constructs determining whether to use code generation and comparing code generation strategies previewing new language workbench tools for creating dsls

learn about best practices cultural philosophies great ideas and practically proven concepts in 50 short articles zühlke engineers share what they are passionate about in this book you will find many useful tips from various areas of today s tech industry the range of topics

covered includes the latest technical developments as well as collaboration topics and individual values and techniques such as the best technology is not always the best choice some inconvenient truths about the digitalization of your business fast tracking into new projects take notes when machine learning meets software engineering your team needs a tech lead not a lead techie architectural programming containerisation and why to use it the evolution of support and operations team setups zühlke engineering is a partner for business innovation and has been combining business and technology expertise for over 50 years zühlke develops financially successful products services and business models for today s digital world all the way from the initial creation of an idea to its implementation and operation

most companies developing software employ something they call agile but there s widespread misunderstanding of what agile is and how to use it if you want to improve your software development team s agility this comprehensive guidebook s clear concrete and detailed guidance explains what to do and why and when to make trade offs in this thorough update of the classic agile how to guide james shore provides no nonsense advice on agile adoption planning development delivery and management taken from over two decades of agile experience he brings the latest ideas from extreme programming scrum lean devops and more into a cohesive whole learn how to successfully bring agile development to your team and organization or discover why agile might not be for you this book explains how to improve agility create the conditions necessary for agile to succeed and scale in your organization focus on value work as a team understand priorities provide visibility and improve continuously deliver software reliably share ownership decrease development costs evolve designs and deploy continuously optimize value take ownership of product plans budgets and experiments and produce market leading software

reed s guide includes detailed coverage of architecting vb enterprise applications and features working examples and step by step instructions for planning and development of an order entry system detailing do s and don t s for analysis design and construction cd rom contains several templates for applying uml as well as complete rational rose models for the sample applications

refactoring is gaining momentum amongst the object oriented programming community it can transform the internal dynamics of applications and has the capacity to transform bad code into good code this book offers an introduction to refactoring

many businesses and organizations depend on older high value php software that risks abandonment because it is impossible to maintain the reasons for this may be that the software is not well designed there is only one developer the one who created the system who can develop it because he didn t use common design patterns and documentation or the code is procedural not object oriented with this book you ll learn to identify problem code and refactor it to create more effective applications using test driven design

agile has become today s dominant software development paradigm but agile methods remain difficult to measure and improve essential skills for the agile developer fills this gap from the bottom up teaching proven techniques for assessing and optimizing both individual and team agile practices written by four principals of net objectives one of the world s leading agile training and consulting firms this book reflects unsurpassed experience helping organizations transition to agile it focuses on the specific actions and insights that can deliver the greatest design and programming improvements with the least investment the authors reveal key factors associated with successful agile projects and offer practical ways to measure them through actual examples they address principles

attitudes habits technical practices and design considerations and above all show how to bring all these together to deliver higher value software using the authors techniques managers and teams can optimize the whole the whole organization and the whole product across its entire lifecycle essential skills for the agile developer shows how to program by intention separate use from construction consider testability before writing code avoid over and under design succeed with acceptance test driven development atdd minimize complexity and rework use encapsulation more effectively and systematically know when and how to use inheritance prepare for change more successfully perform continuous integration more successfully master powerful best practices for design and refactoring

the definitive refactoring guide fully revamped for ruby with refactoring programmers can transform even the most chaotic software into well designed systems that are far easier to evolve and maintain what s more they can do it one step at a time through a series of simple proven steps now there s an authoritative and extensively updated version of martin fowler s classic refactoring book that utilizes ruby examples and idioms throughout not code adapted from java or any other environment the authors introduce a detailed catalog of more than 70 proven ruby refactorings with specific guidance on when to apply each of them step by step instructions for using them and example code illustrating how they work many of the authors refactorings use powerful ruby specific features and all code samples are available for download leveraging fowler s original concepts the authors show how to perform refactoring in a controlled efficient incremental manner so you methodically improve your code s structure without introducing new bugs whatever your role in writing or maintaining ruby code this book will be an indispensable resource this book will help you understand the core principles of refactoring and the reasons for doing it recognize bad smells in your ruby code rework bad designs into well designed code one step at a time build tests to make sure your refactorings work properly understand the challenges of refactoring and how they can be overcome compose methods to package code properly move features between objects to place responsibilities where they fit best organize data to make it easier to work with simplify conditional expressions and make more effective use of polymorphism create interfaces that are easier to understand and use generalize more effectively perform larger refactorings that transform entire software systems and may take months or years successfully refactor ruby on rails code

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practice test driven development what it means to behave as a true software craftsman how to deal with conflict tight schedules and unreasonable managers how to get into the flow of coding and get past writer s block how to handle unrelenting pressure and avoid burnout how to combine enduring attitudes with new development paradigms how to manage your time and avoid blind alleys marshes bogs and swamps how to foster environments where programmers and teams can thrive when to say no and how to say it when to say yes and what yes really means

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