

Principles Program Design Problem Solving Javascript

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Functional Programming in JavaScript - Luis Atencio 2016-06-06

Summary Functional Programming in JavaScript teaches JavaScript developers functional techniques that will improve extensibility, modularity, reusability, testability, and performance. Through concrete examples and jargon-free explanations, this book teaches you how to apply functional programming to real-life development tasks Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology In complex web applications, the low-level details of your JavaScript code can obscure the workings of the system as a whole. As a coding style, functional programming (FP) promotes loosely coupled relationships among the components of your application, making the big picture easier to design, communicate, and maintain. About the Book Functional Programming in JavaScript teaches you techniques to improve your web applications - their extensibility, modularity, reusability, and testability, as well as their performance. This easy-to-read book uses concrete examples and clear explanations to show you how to use functional programming in real life. If you're new to functional programming, you'll appreciate this guide's many insightful comparisons to imperative or object-oriented programming that help you understand functional design. By the end, you'll think about application design in a fresh new way, and you may even grow to appreciate monads! What's Inside High-value FP techniques for real-world uses Using FP where it makes the most sense

Separating the logic of your system from implementation details FP-style error handling, testing, and debugging All code samples use JavaScript ES6 (ES 2015) About the Reader Written for developers with a solid grasp of JavaScript fundamentals and web application design. About the Author Luis Atencio is a software engineer and architect building enterprise applications in Java, PHP, and JavaScript. Table of Contents PART 1 THINK FUNCTIONALLY Becoming functional Higher-order JavaScript PART 2 GET FUNCTIONAL Few data structures, many operations Toward modular, reusable code Design patterns against complexity PART 3 ENHANCING YOUR FUNCTIONAL SKILLS Bulletproofing your code Functional optimizations Managing asynchronous events and data

Agile Principles, Patterns, and Practices in C# - Robert C. Martin 2006-07-20

With the award-winning book Agile Software Development: Principles, Patterns, and Practices, Robert C. Martin helped bring Agile principles to tens of thousands of Java and C++ programmers. Now .NET programmers have a definitive guide to agile methods with this completely updated volume from Robert C. Martin and Micah Martin, Agile Principles, Patterns, and Practices in C#. This book presents a series of case studies illustrating the fundamentals of Agile development and Agile design, and moves quickly from UML models to real C# code. The introductory chapters lay out the basics of the agile movement, while the later chapters show proven techniques in action. The book includes many source code examples that

are also available for download from the authors' Web site. Readers will come away from this book understanding Agile principles, and the fourteen practices of Extreme Programming Spiking, splitting, velocity, and planning iterations and releases Test-driven development, test-first design, and acceptance testing Refactoring with unit testing Pair programming Agile design and design smells The five types of UML diagrams and how to use them effectively Object-oriented package design and design patterns How to put all of it together for a real-world project Whether you are a C# programmer or a Visual Basic or Java programmer learning C#, a software development manager, or a business analyst, *Agile Principles, Patterns, and Practices in C#* is the first book you should read to understand agile software and how it applies to programming in the .NET Framework.

Clean Code - Robert C. Martin 2009

Looks at the principles and clean code, includes case studies showcasing the practices of writing clean code, and contains a list of heuristics and "smells" accumulated from the process of writing clean code.

[Programming JavaScript Applications](#) - Eric Elliott 2014-06-26

Take advantage of JavaScript's power to build robust web-scale or enterprise applications that are easy to extend and maintain. By applying the design patterns outlined in this practical book, experienced JavaScript developers will learn how to write flexible and resilient code that's easier—yes, easier—to work with as your code base grows. JavaScript may be the most essential web programming language, but in the real world, JavaScript applications often break when you make changes. With this book, author Eric Elliott shows you how to add client- and server-side features to a large JavaScript application without negatively affecting the rest of your code. Examine the anatomy of a large-scale JavaScript application Build modern web apps with the capabilities of desktop applications Learn best practices for code organization, modularity, and reuse Separate your application into different layers of responsibility Build efficient, self-describing hypermedia APIs with Node.js Test, integrate, and deploy software updates in rapid cycles Control resource access with user authentication

and authorization Expand your application's reach through internationalization
Undergraduate Catalog - University of Michigan-Dearborn 2009

Fundamentals of Computer Programming with C# - Svetlin Nakov 2013-09-01

The free book "Fundamentals of Computer Programming with C#" is a comprehensive computer programming tutorial that teaches programming, logical thinking, data structures and algorithms, problem solving and high quality code with lots of examples in C#. It starts with the first steps in programming and software development like variables, data types, conditional statements, loops and arrays and continues with other basic topics like methods, numeral systems, strings and string processing, exceptions, classes and objects. After the basics this fundamental programming book enters into more advanced programming topics like recursion, data structures (lists, trees, hash-tables and graphs), high-quality code, unit testing and refactoring, object-oriented principles (inheritance, abstraction, encapsulation and polymorphism) and their implementation the C# language. It also covers fundamental topics that each good developer should know like algorithm design, complexity of algorithms and problem solving. The book uses C# language and Visual Studio to illustrate the programming concepts and explains some C# / .NET specific technologies like lambda expressions, extension methods and LINQ. The book is written by a team of developers lead by Svetlin Nakov who has 20+ years practical software development experience. It teaches the major programming concepts and way of thinking needed to become a good software engineer and the C# language in the meantime. It is a great start for anyone who wants to become a skillful software engineer. The books does not teach technologies like databases, mobile and web development, but shows the true way to master the basics of programming regardless of the languages, technologies and tools. It is good for beginners and intermediate developers who want to put a solid base for a successful career in the software engineering industry. The book is accompanied by free video lessons, presentation slides and mind maps, as

well as hundreds of exercises and live examples. Download the free C# programming book, videos, presentations and other resources from <http://introprogramming.info>. Title: Fundamentals of Computer Programming with C# (The Bulgarian C# Programming Book) ISBN: 9789544007737 ISBN-13: 978-954-400-773-7 (9789544007737) ISBN-10: 954-400-773-3 (9544007733) Author: Svetlin Nakov & Co. Pages: 1132 Language: English Published: Sofia, 2013 Publisher: Faber Publishing, Bulgaria Web site: <http://www.introprogramming.info> License: CC-Attribution-Share-Alike Tags: free, programming, book, computer programming, programming fundamentals, ebook, book programming, C#, CSharp, C# book, tutorial, C# tutorial; programming concepts, programming fundamentals, compiler, Visual Studio, .NET, .NET Framework, data types, variables, expressions, statements, console, conditional statements, control-flow logic, loops, arrays, numeral systems, methods, strings, text processing, StringBuilder, exceptions, exception handling, stack trace, streams, files, text files, linear data structures, list, linked list, stack, queue, tree, balanced tree, graph, depth-first search, DFS, breadth-first search, BFS, dictionaries, hash tables, associative arrays, sets, algorithms, sorting algorithm, searching algorithms, recursion, combinatorial algorithms, algorithm complexity, OOP, object-oriented programming, classes, objects, constructors, fields, properties, static members, abstraction, interfaces, encapsulation, inheritance, virtual methods, polymorphism, cohesion, coupling, enumerations, generics, namespaces, UML, design patterns, extension methods, anonymous types, lambda expressions, LINQ, code quality, high-quality code, high-quality classes, high-quality methods, code formatting, self-documenting code, code refactoring, problem solving, problem solving methodology, 9789544007737, 9544007733

Answer Set Programming - Vladimir Lifschitz 2019-08-29

Answer set programming (ASP) is a programming methodology oriented towards combinatorial search problems. In such a problem, the goal is to find a solution among a large but finite number of possibilities. The idea

of ASP came from research on artificial intelligence and computational logic. ASP is a form of declarative programming: an ASP program describes what is counted as a solution to the problem, but does not specify an algorithm for solving it. Search is performed by sophisticated software systems called answer set solvers. Combinatorial search problems often arise in science and technology, and ASP has found applications in diverse areas—in historical linguistic, in bioinformatics, in robotics, in space exploration, in oil and gas industry, and many others. The importance of this programming method was recognized by the Association for the Advancement of Artificial Intelligence in 2016, when AI Magazine published a special issue on answer set programming. The book introduces the reader to the theory and practice of ASP. It describes the input language of the answer set solver CLINGO, which was designed at the University of Potsdam in Germany and is used today by ASP programmers in many countries. It includes numerous examples of ASP programs and present the mathematical theory that ASP is based on. There are many exercises with complete solutions.

[Technical Report](#) - 2005

[How to Design Programs, second edition](#) - Matthias Felleisen 2018-05-04

A completely revised edition, offering new design recipes for interactive programs and support for images as plain values, testing, event-driven programming, and even distributed programming. This introduction to programming places computer science at the core of a liberal arts education. Unlike other introductory books, it focuses on the program design process, presenting program design guidelines that show the reader how to analyze a problem statement, how to formulate concise goals, how to make up examples, how to develop an outline of the solution, how to finish the program, and how to test it. Because learning to design programs is about the study of principles and the acquisition of transferable skills, the text does not use an off-the-shelf industrial language but presents a tailor-made teaching language. For the same reason, it offers DrRacket, a programming environment for novices that supports playful, feedback-oriented learning. The environment

grows with readers as they master the material in the book until it supports a full-fledged language for the whole spectrum of programming tasks. This second edition has been completely revised. While the book continues to teach a systematic approach to program design, the second edition introduces different design recipes for interactive programs with graphical interfaces and batch programs. It also enriches its design recipes for functions with numerous new hints. Finally, the teaching languages and their IDE now come with support for images as plain values, testing, event-driven programming, and even distributed programming.

Mastering Python Design Patterns - Kamon Ayeva 2018-08-31

Exploit various design patterns to master the art of solving problems using Python Key Features Master the application design using the core design patterns and latest features of Python 3.7 Learn tricks to solve common design and architectural challenges Choose the right plan to improve your programs and increase their productivity Book Description Python is an object-oriented scripting language that is used in a wide range of categories. In software engineering, a design pattern is an elected solution for solving software design problems. Although they have been around for a while, design patterns remain one of the top topics in software engineering, and are a ready source for software developers to solve the problems they face on a regular basis. This book takes you through a variety of design patterns and explains them with real-world examples. You will get to grips with low-level details and concepts that show you how to write Python code, without focusing on common solutions as enabled in Java and C++. You'll also find sections on corrections, best practices, system architecture, and its designing aspects. This book will help you learn the core concepts of design patterns and the way they can be used to resolve software design problems. You'll focus on most of the Gang of Four (GoF) design patterns, which are used to solve everyday problems, and take your skills to the next level with reactive and functional patterns that help you build resilient, scalable, and robust applications. By the end of the book, you'll be able to efficiently address commonly

faceted problems and develop applications, and also be comfortable working on scalable and maintainable projects of any size. What you will learn Explore Factory Method and Abstract Factory for object creation Clone objects using the Prototype pattern Make incompatible interfaces compatible using the Adapter pattern Secure an interface using the Proxy pattern Choose an algorithm dynamically using the Strategy pattern Keep the logic decoupled from the UI using the MVC pattern Leverage the Observer pattern to understand reactive programming Explore patterns for cloud-native, microservices, and serverless architectures Who this book is for This book is for intermediate Python developers. Prior knowledge of design patterns is not required to enjoy this book.

Elements of Programming - Alexander Stepanov 2019-06-27

Elements of Programming provides a different understanding of programming than is presented elsewhere. Its major premise is that practical programming, like other areas of science and engineering, must be based on a solid mathematical foundation. The book shows that algorithms implemented in a real programming language, such as C++, can operate in the most general mathematical setting. For example, the fast exponentiation algorithm is defined to work with any associative operation. Using abstract algorithms leads to efficient, reliable, secure, and economical software.

Principles of Program Design: Problem-Solving with JavaScript - Paul Addison 2012-07-25

From the respected instructor and author Paul Addison, PRINCIPLES OF PROGRAM DESIGN: PROBLEM SOLVING WITH JAVASCRIPT gives your students the fundamental concepts of good program design, illustrated and reinforced by hands-on examples using JavaScript. Why JavaScript? It simply illustrates the programming concepts explained in the book, requires no special editor or compiler, and runs in any browser. Little or no experience is needed because the emphasis is on learning by doing. There are examples of coding exercises throughout every chapter, varying in length and representing simple to complex problems. Students are encouraged to think in terms of the logical steps needed to solve a problem and can

take these skills with them to any programming language in the future. To help reinforce concepts for your students, each chapter has a chapter summary, review questions, hand-on activities, and a running case study that students build on in each chapter. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Structure and Interpretation of Computer Programs - Harold Abelson 2022-05-03

A new version of the classic and widely used text adapted for the JavaScript programming language. Since the publication of its first edition in 1984 and its second edition in 1996, Structure and Interpretation of Computer Programs (SICP) has influenced computer science curricula around the world. Widely adopted as a textbook, the book has its origins in a popular entry-level computer science course taught by Harold Abelson and Gerald Jay Sussman at MIT. SICP introduces the reader to central ideas of computation by establishing a series of mental models for computation. Earlier editions used the programming language Scheme in their program examples. This new version of the second edition has been adapted for JavaScript. The first three chapters of SICP cover programming concepts that are common to all modern high-level programming languages. Chapters four and five, which used Scheme to formulate language processors for Scheme, required significant revision. Chapter four offers new material, in particular an introduction to the notion of program parsing. The evaluator and compiler in chapter five introduce a subtle stack discipline to support return statements (a prominent feature of statement-oriented languages) without sacrificing tail recursion. The JavaScript programs included in the book run in any implementation of the language that complies with the ECMAScript 2020 specification, using the JavaScript package sicp provided by the MIT Press website.

Anyone Can Code - Ali Arya 2020-11-23
Anyone Can Code: The Art and Science of Logical Creativity introduces computer programming as a way of problem-solving through logical thinking. It uses the notion of modularization as a central lens through which

we can make sense of many software concepts. This book takes the reader through fundamental concepts in programming by illustrating them in three different and distinct languages: C/C++, Python, and Javascript. Key features: Focuses on problem-solving and algorithmic thinking instead of programming functions, syntax, and libraries. Includes engaging examples, including video games and visual effects. Provides exercises and reflective questions. This book gives beginner and intermediate learners a strong understanding of what they are doing so that they can do it better and with any other tool or language that they may end up using later. Sample code is available on the author's website.

Grokking Simplicity - Eric Normand 2021-05-18
Distributed across servers, difficult to test, and resistant to modification--modern software is complex. Grokking Simplicity is a friendly, practical guide that will change the way you approach software design and development. It introduces a unique approach to functional programming that explains why certain features of software are prone to complexity, and teaches you the functional techniques you can use to simplify these systems so that they're easier to test and debug. Available in PDF (ePub, kindle, and liveBook formats coming soon). about the technology Even experienced developers struggle with software systems that sprawl across distributed servers and APIs, are filled with redundant code, and are difficult to reliably test and modify. Adopting ways of thinking derived from functional programming can help you design and refactor your codebase in ways that reduce complexity, rather than encouraging it. Grokking Simplicity lays out how to use functional programming in a professional environment to write a codebase that's easier to test and reuse, has fewer bugs, and is better at handling the asynchronous nature of distributed systems. about the book In Grokking Simplicity, you'll learn techniques and, more importantly, a mindset that will help you tackle common problems that arise when software gets complex. Veteran functional programmer Eric Normand guides you to a crystal-clear understanding of why certain features of modern software are so prone to complexity and introduces you to the functional techniques you can use to simplify

these systems so that they're easier to read, test, and debug. Through hands-on examples, exercises, and numerous self-assessments, you'll learn to organize your code for maximum reusability and internalize methods to keep unwanted complexity out of your codebase. Regardless of the language you're using, the ways of thinking in this book will help recognize problematic code and tame even the most complex software. what's inside Apply functional programming principles to reduce codebase complexity Work with data transformation pipelines for code that's easier to test and reuse Tools for modeling time to simplify asynchrony 60 exercises and 100 questions to test your knowledge about the reader For experienced programmers. Examples are in JavaScript. about the author Eric Normand has been a functional programmer since 2001 and has been teaching functional programming online and in person since 2007. Visit LispCast.com to see more of his credentials.

Web Programming with HTML5, CSS, and JavaScript - John Dean 2018-01-09

Web Programming with HTML5, CSS, and JavaScript is written for the undergraduate, client-side web programming course. It covers the three client-side technologies (HTML5, CSS, and JavaScript) in depth, with no dependence on server-side technologies.

Design Patterns - Erich Gamma 1995
Software -- Software Engineering.

Reliable JavaScript - Lawrence D. Spencer
2015-06-25

Create more robust applications with a test-first approach to JavaScript Reliable JavaScript, How to Code Safely in the World's Most Dangerous Language demonstrates how to create test-driven development for large-scale JavaScript applications that will stand the test of time and stay accurate through long-term use and maintenance. Taking a test-first approach to software architecture, this book walks you through several patterns and practices and explains what they are supposed to do by having you write unit tests. Write the code to pass the unit tests, so you not only develop your technique for structuring large-scale applications, but you also learn how to test your work. You'll come away with hands-on practice

that results in code that is correct from the start, and has the test coverage to ensure that it stays correct during subsequent maintenance. All code is provided both in the text and on the web, so you can immediately get started designing more complete, robust applications. JavaScript has graduated from field-validation scripts to full-scale applications, but many developers still approach their work as if they were writing simple scripts. If you're one of those developers, this book is the solution you need to whip your code into shape and create JavaScript applications that work. Write more concise and elegant code by thinking in JavaScript Test the implementation and use of common design patterns Master the use of advanced JavaScript features Ensure your code's conformance to your organization's standards If you're ready to step up your code and develop more complete software solutions, Reliable JavaScript is your essential resource.

Node.js Design Patterns - Mario Casciaro
2016-07-18

Get the best out of Node.js by mastering its most powerful components and patterns to create modular and scalable applications with ease About This Book Create reusable patterns and modules by leveraging the new features of Node.js . Understand the asynchronous single thread design of node and grasp all its features and patterns to take advantage of various functions. This unique guide will help you get the most out of Node.js and its ecosystem. Who This Book Is For The book is meant for developers and software architects with a basic working knowledge of JavaScript who are interested in acquiring a deeper understanding of how to design and develop enterprise-level Node.js applications. Basic knowledge of Node.js is also helpful to get the most out of this book. What You Will Learn Design and implement a series of server-side JavaScript patterns so you understand why and when to apply them in different use case scenarios Become comfortable with writing asynchronous code by leveraging constructs such as callbacks, promises, generators and the async-await syntax Identify the most important concerns and apply unique tricks to achieve higher scalability and modularity in your Node.js application Untangle your modules by organizing and connecting

them coherently Reuse well-known techniques to solve common design and coding issues Explore the latest trends in Universal JavaScript, learn how to write code that runs on both Node.js and the browser and leverage React and its ecosystem to implement universal applications In Detail Node.js is a massively popular software platform that lets you use JavaScript to easily create scalable server-side applications. It allows you to create efficient code, enabling a more sustainable way of writing software made of only one language across the full stack, along with extreme levels of reusability, pragmatism, simplicity, and collaboration. Node.js is revolutionizing the web and the way people and companies create their software. In this book, we will take you on a journey across various ideas and components, and the challenges you would commonly encounter while designing and developing software using the Node.js platform. You will also discover the "Node.js way" of dealing with design and coding decisions. The book kicks off by exploring the basics of Node.js describing it's asynchronous single-threaded architecture and the main design patterns. It then shows you how to master the asynchronous control flow patterns, and the stream component and it culminates into a detailed list of Node.js implementations of the most common design patterns as well as some specific design patterns that are exclusive to the Node.js world. Lastly, it dives into more advanced concepts such as Universal Javascript, and scalability' and it's meant to conclude the journey by giving the reader all the necessary concepts to be able to build an enterprise grade application using Node.js. Style and approach This book takes its intended readers through a comprehensive explanation to create a scalable and efficient real-time server-side apps.

[Ajax Design Patterns](#) - Michael Mahemoff
2006-06-29

Ajax, or Asynchronous JavaScript and XML, exploded onto the scene in the spring of 2005 and remains the hottest story among web developers. With its rich combination of technologies, Ajax provides a strong foundation for creating interactive web applications with XML or JSON-based web services by using JavaScript in the browser to process the web server response. Ajax Design Patterns shows you

best practices that can dramatically improve your web development projects. It investigates how others have successfully dealt with conflicting design principles in the past and then relays that information directly to you. The patterns outlined in the book fall into four categories: Foundational technology: Examines the raw technologies required for Ajax development Programming: Exposes techniques that developers have discovered to ensure their Ajax applications are maintainable Functionality and usability: Describes the types of user interfaces you'll come across in Ajax applications, as well as the new types of functionality that Ajax makes possible Development: Explains the process being used to monitor, debug, and test Ajax applications Ajax Design Patterns will also get you up to speed with core Ajax technologies, such as XMLHttpRequest, the DOM, and JSON. Technical discussions are followed by code examples so you can see for yourself just what is-and isn't-possible with Ajax. This handy reference will help you to produce high-quality Ajax architectures, streamline web application performance, and improve the user experience. Michael Mahemoff holds a PhD in Computer Science and Software Engineering from the University of Melbourne, where his thesis was "Design Reuse in Software Engineering and Human-Computer Interaction." He lives in London and consults on software development issues in banking, health care, and logistics. "Michael Mahemoff's Ajax Design Patterns is a truly comprehensive compendium of web application design expertise, centered around but not limited to Ajax techniques. Polished nuggets of design wisdom are supported by tutorials and real-world code examples resulting in a book that serves not only as an intermediate to expert handbook but also as an extensive reference for building rich interactive web applications." --Brent Ashley, remote scripting pioneer
Computerworld - 2003-04-28

For more than 40 years, Computerworld has been the leading source of technology news and information for IT influencers worldwide. Computerworld's award-winning Web site (Computerworld.com), twice-monthly publication, focused conference series and

custom research form the hub of the world's largest global IT media network.

Elements of Programming Interviews -

Adnan Aziz 2012-10-11

The core of EPI is a collection of over 300 problems with detailed solutions, including 100 figures, 250 tested programs, and 150 variants. The problems are representative of questions asked at the leading software companies. The book begins with a summary of the nontechnical aspects of interviewing, such as common mistakes, strategies for a great interview, perspectives from the other side of the table, tips on negotiating the best offer, and a guide to the best ways to use EPI. The technical core of EPI is a sequence of chapters on basic and advanced data structures, searching, sorting, broad algorithmic principles, concurrency, and system design. Each chapter consists of a brief review, followed by a broad and thought-provoking series of problems. We include a summary of data structure, algorithm, and problem solving patterns.

Pro TypeScript - Steve Fenton 2017-11-24

Explore the features of this innovative open source language in depth, from working with the type system through object-orientation to understanding the runtime and the TypeScript compiler. This fully revised and updated second edition of Steve Fenton's popular book covers everything you need to discover this fascinating language and transform your experience of JavaScript development. What's New in This Edition Coverage of major changes to modules, namespaces, and module loading New guidance on how to use inference to reduce the effort of using TypeScript Recommendations on compiler options A wide range of feature updates from intersections and tuples to `async/await` and the new approach to mixins What You'll Learn Understand the TypeScript type system, and how to use it effectively Apply object-oriented design using TypeScript Use modules effectively to manage large programs Integrate existing frameworks and libraries into your TypeScript program Who This Book Is For Web developers looking for a modern approach to JavaScript development

Programming JavaScript Applications - Eric Elliott 2014-06-26

Take advantage of JavaScript's power to build

robust web-scale or enterprise applications that are easy to extend and maintain. By applying the design patterns outlined in this practical book, experienced JavaScript developers will learn how to write flexible and resilient code that's easier—yes, easier—to work with as your code base grows. JavaScript may be the most essential web programming language, but in the real world, JavaScript applications often break when you make changes. With this book, author Eric Elliott shows you how to add client- and server-side features to a large JavaScript application without negatively affecting the rest of your code. Examine the anatomy of a large-scale JavaScript application Build modern web apps with the capabilities of desktop applications Learn best practices for code organization, modularity, and reuse Separate your application into different layers of responsibility Build efficient, self-describing hypermedia APIs with Node.js Test, integrate, and deploy software updates in rapid cycles Control resource access with user authentication and authorization Expand your application's reach through internationalization

The Pragmatic Programmer - Andrew Hunt 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: 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; and 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, 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.

Principles of Program Design - Paul Addison
2012

From the respected instructor and author Paul Addison, *PRINCIPLES OF PROGRAM DESIGN: PROBLEM SOLVING WITH JAVASCRIPT*, International Edition gives your students the fundamental concepts of good program design, illustrated and reinforced by hands-on examples using JavaScript. Why JavaScript? It simply illustrates the programming concepts explained in the book, requires no special editor or compiler, and runs in any browser. Little or no experience is needed because the emphasis is on learning by doing. There are examples of coding exercises throughout every chapter, varying in length and representing simple to complex problems. Students are encouraged to think in terms of the logical steps needed to solve a problem and can take these skills with them to any programming language in the future. To help reinforce concepts for your students, each chapter has a chapter summary, review questions, hand-on activities, and a running case study that students build on in each chapter.

You Don't Know JS: Scope & Closures - Kyle Simpson
2014-03-10

No matter how much experience you have with JavaScript, odds are you don't fully understand the language. This concise yet in-depth guide takes you inside scope and closures, two core concepts you need to know to become a more efficient and effective JavaScript programmer. You'll learn how and why they work, and how an understanding of closures can be a powerful part of your development skillset. Like other books in the "You Don't Know JS" series, *Scope and Closures* dives into trickier parts of the language that many JavaScript programmers simply avoid. Armed with this knowledge, you

can achieve true JavaScript mastery. Learn about scope, a set of rules to help JavaScript engines locate variables in your code Go deeper into nested scope, a series of containers for variables and functions Explore function- and block-based scope, "hoisting", and the patterns and benefits of scope-based hiding Discover how to use closures for synchronous and asynchronous tasks, including the creation of JavaScript libraries

SOFTWARE DESIGN, ARCHITECTURE AND ENGINEERING - BHATT, PRAMOD CHANDRA P. 2021-07-01

This textbook aims to prepare students, as well as, practitioners for software design and production. Keeping in mind theory and practice, the book keeps a balance between theoretical foundations and practical considerations. The book by and large meets the requirements of students at all levels of computer science and engineering/information technology for their Software design and Software engineering courses. The book begins with concepts of data and object. This helps in exploring the rationale that guide high level programming language (HLL) design and object oriented frameworks. Once past this post, the book moves on to expand on software design concerns. The book emphasizes the centrality of Parnas's separation of concerns in evolving software designs and architecture. The book extensively explores modelling frameworks such as Unified Modelling Language (UML) and Petri net based methods. Next, the book covers architectural principles and software engineering practices such as Agile - emphasizing software testing during development. It winds up with case studies demonstrating how systems evolve from basic concepts to final products for quality software designs. TARGET AUDIENCE •

Undergraduate/postgraduate students of Computer Science and Engineering, and Information Technology • Postgraduate students of Software Engineering/Software Systems
Fluency with Information Technology - Lawrence Snyder 2008

Fluency with Information Technology: Skills, Concepts, and Capabilities, Third Edition, equips readers who are already familiar with computers, the Internet, and the World Wide

Web with a deeper understanding of the broad capabilities of technology. Becoming Skilled at Information Technology:Terms of Endearment: Defining Information Technology; What the Digerati Know: Exploring the Human-Computer Interface; Making the Connection: The Basics of Networking; Marking Up with HTML: A Hypertext Markup Language Primer; Searching for Truth: Locating Information on the WWW; Searching for Guinea Pig B: Case Study in Online Research.Algorithms and Digitizing Information:To Err Is Human: An Introduction to Debugging; Bits and the "Why" of Bytes: Representing Information Digitally; Following Instructions: Principles of Computer Operation; What's the Plan? Algorithmic Thinking; Light, Sound, Magic: Representing Multimedia Digitally.Data and Information:Computers in Polite Society: Social Implications of IT; Shhh, It's a Secret: Privacy and Digital Security; Fill-in-the-Blank Computing: Basics of Spreadsheets; 'What If' Thinking Helps: Advanced Spreadsheets for Planning; A Table with a View: Database Queries; iDiary: A Case Study in Database Design.Problem Solving:Get with the Program: Fundamental Concepts Expressed in JavaScript; The Bean Counter: A JavaScript Program; Thinking Big: Programming Functions; Once Is Not Enough: Iteration Principles; The Smooth Motion: Case Study in Algorithmic Problem Solving; Computers Can Do Almost {Everything, Nothing}: Limits to Computation; A Fluency Summary: Click to Close. For all readers interested in computers, the Internet, the World Wide Web, and a deeper understanding of the broad capabilities of technology.

A Philosophy of Software Design - John Ousterhout 2018-04-10

Learning JavaScript Design Patterns - Addy Osmani 2012-07-08

With Learning JavaScript Design Patterns, you'll learn how to write beautiful, structured, and maintainable JavaScript by applying classical and modern design patterns to the language. If you want to keep your code efficient, more manageable, and up-to-date with the latest best practices, this book is for you. Explore many popular design patterns, including Modules, Observers, Facades, and Mediators. Learn how modern architectural patterns—such as MVC,

MVP, and MVVM—are useful from the perspective of a modern web application developer. This book also walks experienced JavaScript developers through modern module formats, how to namespace code effectively, and other essential topics. Learn the structure of design patterns and how they are written Understand different pattern categories, including creational, structural, and behavioral Walk through more than 20 classical and modern design patterns in JavaScript Use several options for writing modular code—including the Module pattern, Asynchronous Module Definition (AMD), and CommonJS Discover design patterns implemented in the jQuery library Learn popular design patterns for writing maintainable jQuery plug-ins "This book should be in every JavaScript developer's hands. It's the go-to book on JavaScript patterns that will be read and referenced many times in the future."—Andrée Hansson, Lead Front-End Developer, presis!

The Principles of Object-Oriented JavaScript

- Nicholas C. Zakas 2014-02-14

If you've used a more traditional object-oriented language, such as C++ or Java, JavaScript probably doesn't seem object-oriented at all. It has no concept of classes, and you don't even need to define any objects in order to write code. But don't be fooled—JavaScript is an incredibly powerful and expressive object-oriented language that puts many design decisions right into your hands. In *The Principles of Object-Oriented JavaScript*, Nicholas C. Zakas thoroughly explores JavaScript's object-oriented nature, revealing the language's unique implementation of inheritance and other key characteristics. You'll learn: -The difference between primitive and reference values -What makes JavaScript functions so unique -The various ways to create objects -How to define your own constructors -How to work with and understand prototypes -Inheritance patterns for types and objects *The Principles of Object-Oriented JavaScript* will leave even experienced developers with a deeper understanding of JavaScript. Unlock the secrets behind how objects work in JavaScript so you can write clearer, more flexible, and more efficient code. *Pro JavaScript Design Patterns* - Dustin Diaz 2008-03-11

With *Pro JavaScript Design Patterns*, you'll start with the basics of object-oriented programming in JavaScript applicable to design patterns, including making JavaScript more expressive, inheritance, encapsulation, information hiding, and more. The book then details how to implement and take advantage of several design patterns in JavaScript. Each chapter is packed with real-world examples of how the design patterns are best used and expert advice on writing better code, as well as what to watch out for. Along the way you'll discover how to create your own libraries and APIs for even more efficient coding.

Think Like a Programmer - V. Anton Spraul 2012-08-12

The real challenge of programming isn't learning a language's syntax—it's learning to creatively solve problems so you can build something great. In this one-of-a-kind text, author V. Anton Spraul breaks down the ways that programmers solve problems and teaches you what other introductory books often ignore: how to Think Like a Programmer. Each chapter tackles a single programming concept, like classes, pointers, and recursion, and open-ended exercises throughout challenge you to apply your knowledge. You'll also learn how to: -Split problems into discrete components to make them easier to solve -Make the most of code reuse with functions, classes, and libraries -Pick the perfect data structure for a particular job -Master more advanced programming tools like recursion and dynamic memory -Organize your thoughts and develop strategies to tackle particular types of problems Although the book's examples are written in C++, the creative problem-solving concepts they illustrate go beyond any particular language; in fact, they often reach outside the realm of computer science. As the most skillful programmers know, writing great code is a creative art—and the first step in creating your masterpiece is learning to Think Like a Programmer.

Mastering Modular JavaScript - Nicolas Bevacqua 2018-08-27

If you have a working knowledge of JavaScript and ECMAScript 6 (ES6), this practical guide will help you tackle modular programming to produce code that's readable, maintainable, and scalable. You'll learn the fundamentals of

modular architecture with JavaScript and the benefits of writing self-contained code at every system level, including the client and server. Nicolás Bevacqua, author of *Practical Modern JavaScript*, demonstrates how to scale out JavaScript applications by breaking codebases into smaller modules. By following the design practices in this book, senior developers, technical leaders, and software architects will learn how to create modules that are simple and flexible while keeping internal complexity in check. Learn modular design essentials, including how your application will be consumed and what belongs on the interface Design module internals to keep your code readable and its intent clear Reduce complexity by refactoring code and containing and eliminating state Take advantage of modern JavaScript features to write clear programs and reduce complexity Apply Twelve-Factor App principles to frontend and backend JavaScript application development

JavaScript Sourcebook - Gordon McComb
1996-08-03

A complete tutorial and reference details the JavaScript language while focusing on its most enhanced functions, and the accompanying CR-ROM provides a library of ready-to-use applications and routines. Original. (Intermediate).

Applications and Approaches to Object-Oriented Software Design: Emerging Research and Opportunities - Altan, Zeynep 2019-11-29

In today's modernized environment, a growing number of software companies are changing their traditional engineering approaches in response to the rapid development of computing technologies. As these businesses adopt modern software engineering practices, they face various challenges including the integration of current methodologies and contemporary design models and the refactoring of existing systems using advanced approaches. *Applications and Approaches to Object-Oriented Software Design: Emerging Research and Opportunities* is a pivotal reference source that provides vital research on the development of modern software practices that impact maintenance, design, and developer productivity. While highlighting topics such as augmented reality, distributed computing, and big data processing, this publication explores the current

infrastructure of software systems as well as future advancements. This book is ideally designed for software engineers, IT specialists, data scientists, business professionals, developers, researchers, students, and academicians seeking current research on contemporary software engineering methods.

Mastering JavaScript Functional Programming - Federico Kereki 2017-11-29

Master Functional Programming techniques with this comprehensive guide for writing cleaner, safer, high-performing JavaScript codes About This Book Become proficient and skilled with Functional Programming in JavaScript to solve real-world development problems Successfully apply Functional Programming concepts and techniques to everyday JavaScript programming Bring modularity, reusability, testability, and performance to your web apps Who This Book Is For If you are a JavaScript developer and want to apply functional programming techniques, then this book is for you. Only a basic knowledge of the concepts of functional programming is required for this book. What You Will Learn Create more reliable code with closures and immutable data Convert existing methods into pure functions, and loops into recursive methods Develop more powerful applications with currying and function composition Separate the logic of your system from implementation details Implement composition and chaining techniques to simplify coding Use functional programming techniques where it makes the most sense In Detail Functional programming is a programming paradigm for developing software using functions. Learning to use functional programming is a good way to write more concise code, with greater concurrency and performance. The JavaScript language is particularly suited to functional programming. This book provides comprehensive coverage of the major topics in functional programming with JavaScript to produce shorter, clearer, and testable programs. You'll delve into functional programming; including writing and testing pure functions, reducing side-effects, and other features to make your applications functional in nature. Specifically, we'll explore techniques to simplify coding, apply recursion for loopless coding, learn ways to achieve immutability, implement design patterns, and work with data

types. By the end of this book, you'll have developed the JavaScript skills you need to program functional applications with confidence. Style and approach This book takes an easy-to-follow, step-by-step tutorial approach. You will make the most of JavaScript programming with a focus on the progression of functional programming techniques, styles, and detailed information about JavaScript libraries.

Object-Oriented JavaScript - Second Edition

- Stoyan Stefanov 2013-01-01

You will first be introduced to object-oriented programming, then to the basics of objects in

JavaScript. This book takes a do-it-yourself approach when it comes to writing code, because the best way to really learn a programming language is by writing code. You are encouraged to type code into Firebug's console, see how it works and then tweak it and play around with it. There are practice questions at the end of each chapter to help you review what you have learned. For new to intermediate JavaScript developer who wants to prepare themselves for web development problems solved by smart JavaSc.

Journal of Object-oriented Programming - 2001