97 Things Every Software Architect Should Know

Site reliability engineering (SRE) is more relevant than ever. Knowing how to keep systems reliable has become a critical skill. With this practical book, newcomers and old hats alike will explore a broad range of conversations happening in SRE. You'll get actionable advice on several topics, including how to adopt SRE, why SLOs matter, when you need to upgrade your incident response, and how monitoring and observability differ. Editors Jaime Woo and Emil Stolarsky, co-founders of Incident Labs, have collected 97 concise and useful tips from across the industry, including trusted best practices and new approaches to knotty problems. You'll grow and refine your SRE skills through sound advice and thought-provokingquestions that drive the direction of the field. Some of the 97 things you should know: "Test Your Disaster Plan"--Tanya Reilly "Integrating Empathy into SRE Tools"--Daniella Niyonkuru "The Best Advice I Can Give to Teams"--Nicole Forsgren "Where to SRE"--Fatema Boxwala "Facing That First Page"--Andrew Louis "I Have an Error Budget, Now What?"--Alex Hidalgo "Get Your Work Recognized: Write a Brag Document"--Julia Evans and Karla Burnett

Presentation Patterns is the first book on presentations that categorizes and organizes the building blocks (or patterns) that you'll need to communicate effectively using presentation tools like Keynote and PowerPoint. Patterns are like the lower-level steps found inside recipes; they are the techniques you must master to be considered a master chef or master presenter. You can use the patterns in this book to construct your own recipes for different contexts, such as business meetings, technical demonstrations, scientific expositions, and keynotes, just to name a few. Although there are no such things as antirecipes, this book shows you lots of antipatterns—things you should avoid doing in presentations. Modern presentation tools often encourage ineffective presentation techniques, but this book shows you how to avoid them. Each pattern is introduced with a memorable name, a definition, and a brief explanation of motivation. Readers learn where the pattern applies, the consequences of applying it, and how to apply it. The authors also identify critical antipatterns: clichés, fallacies, and design mistakes that cause presentations to disappoint. These problems are easy to avoid—once you know how. Presentation Patterns will help you Plan what you'll say, who you'll say it to, how long you'll talk, and where you'll present Perfectly calibrate your presentation to your audience Use the storyteller's "narrative arc" to full advantage Strengthen your credibility—and avoid mistakes that hurt it Hone your message before you ever touch presentation software Incorporate visuals that support your message instead of hindering it Create highly effective "infodecks" that work when you're not able to deliver a talk in person Construct slides that really communicate and avoid "Ant Fonts," "Floodmarks," "Alienating Artifacts," and other errors Master 13 powerful techniques for delivering your presentation with power, authority, and clarity Whether you use this book as a handy reference or read it from start to finish, it will be a revelation: an entirely new language for systematically planning, creating, and delivering more powerful presentations. You'll quickly find it indispensable—no matter what you're presenting, who your audiences are, or what message you're driving home.

Architects are often harried because they have no clean, easy decisions: everything is an awful tradeoff between two or more less than perfect alternatives. These are the difficult problems architects face, what this book's authors call "the hard parts." These topics have no best practices, forcing architects to understand various tradeoffs to succeed. This book discusses these hard parts by not only investigating what makes architecture so difficult, but also by providing proven ways to address these problems and make them easier. The book explores topics such as choosing an appropriate architecture, deciding on service granularity, managing workflows and orchestration, managing and decoupling contracts, managing distributed transactions, and optimizing operational characteristics such as scalability, elasticity, and performance. As practicing consultants, the authors focus on questions they commonly hear architects ask and provide techniques that enable them to discover the tradeoffs necessary to answer these questions.

In the race to compete in today's fast-moving markets, large enterprises are busy adopting new technologies for creating new products, processes, and business models. But one obstacle on the road to digital transformation is placing too much emphasis on technology, and not enough on the types of processes technology enables. What if different lines of business could build their own services and applications—and decision-making was distributed rather than centralized? This report explores the concept of a digital business platform as a way of empowering individual business sectors to act on data in real time. Much innovation in a digital enterprise will increasingly happen at the edge, whether it involves business users (from marketers to data scientists) or IoT devices. To facilitate the process, your core IT team can provide these sectors with the digital tools they need to innovate quickly. This report explores: Key cultural and organizational changes for developing business capabilities through cross-functional product teams A platform for integrating applications, data sources, business partners, clients, mobile apps, social networks, and IoT devices Creating internal API programs for building innovative edge services in low-code or no-code environments Tools including Integration Platform as a Service, Application Platform as a Service, and Integration Software as a Service The challenge of integrating microservices and serverless architectures Event-driven architectures for processing and reacting to events in real time You'll also learn about a complete pervasive integration solution as a core component of a digital business platform to serve every audience in your organization.

Master the Crucial Non -Technical Skills Every Software Architect Needs! Thousands of software professionals have the necessary technical qualifications to become architects, but far fewer have the crucial non-technical skills needed to get hired and succeed in this role. In today's agile environments, these "soft" skills have grown even more crucial to success as an architect. For many developers, however, these skills don't come naturally-and they're rarely addressed in formal training. Now, long-time software architect Dave Hendricksen helps you fill this gap, supercharge your organizational impact, and quickly move to the next level in your career. In 12 Essential Skills for Software Architects, Hendricksen begins by pinpointing the specific relationship, personal, and business skills that successful architects rely upon. Next, he presents proven methods for systematically developing and sharpening every one of these skills, from negotiation and leadership to pragmatism and vision. From start to finish, this book's practical insights can help you get the architect position you want-and thrive once you have it! The soft skills you need... ...and a coherent framework and practical methodology for mastering them! Relationship skills Leadership, politics, gracious behavior, communication, negotiation Personal skills Context switching, transparency, passion Business skills Pragmatism, vision, business knowledge, innovation

More and more Agile projects are seeking architectural roots as they struggle with complexity and scale - and they're seeking lightweight ways to do it Still seeking? In this book the authors help you to find your own path Taking cues from Lean development, they can help steer your project toward practices with longstanding track records Up-front architecture? Sure. You can deliver an architecture as code that compiles and that concretely guides development without bogging it down in a mass of documents and guesses about the implementation Documentation? Even a whiteboard diagram, or a CRC card, is documentation: the goal isn't to avoid documentation, but to document just the right things in just the right amount Process? This all works within the frameworks of Scrum, XP, and other Agile approaches

This book is a thorough introduction to Java Message Service (JMS), the standard Java application program interface (API) from Sun Microsystems that supports the formal communication known as "messaging" between computers in a network. JMS provides a common interface to standard messaging protocols and to special messaging services in support of Java programs. The messages exchange crucial data between computers, rather than between users--information such as event notification and service requests. Messaging is often used to coordinate programs in dissimilar systems or written in different programming languages.Using the JMS interface, a programmer can invoke the messaging services of IBM's MQSeries, Progress Software's SonicMQ, and other popular messaging product vendors. In addition, JMS supports messages that contain serialized Java objects and messages that contain Extensible Markup Language (XML) pages.Messaging is a powerful new paradigm that makes it easier to uncouple different parts of an enterprise application. Messaging clients work by sending messages to a message server, which is responsible for delivering the messages to their destination. Message delivery is asynchronous, meaning that the client can continue working without waiting for the message to be delivered. The contents of the message can be anything from a simple text string to a serialized Java object or an XML document.Java Message Service shows how to build applications using the point-to-point and publish-and-subscribe models; how to use features like transactions and durable subscriptions to make an application reliable; and how to use messaging within Enterprise JavaBeans. It also introduces a new EJB type, the MessageDrivenBean, that is part of EJB 2.0, and discusses integration of messaging into J2EE.

Software architecture is an important factor for the success of any software project. In the context of systematic design and construction, solid software architecture ensures the fulfilment of quality requirements such as expandability, flexibility, performance, and time-to-market. Software architects reconcile customer requirements with the available technical options and the prevailing conditions and constraints. They ensure the creation of appropriate structures and smooth interaction of all system components. As team players, they work closely with software developers and other parties involved in the project. This book gives you all the basic know-how you need to begin designing scalable system software architectures. It goes into detail on all the most important terms and concepts and how they relate to other IT practices. Following on from the basics, it describes the techniques and methods required for the planning, documentation, and quality management of software architectures. It details the role, the tasks, and the work environment of a software architect, as well as looking at how the job itself is embedded in company and project structures. The book is designed for self-study and covers the curriculum for the Certified Professional for Software Architecture – Foundation Level (CPSA-F) exam as defined by the International Software Architecture Qualification Board (iSAQB).

Technologists who want their ideas heard, understood, and funded are often told to speak the language of business—without really knowing what that is. This book’s toolkit provides architects, product managers, technology managers, and executives with a shared language—in the form of repeatable, practical patterns and templates—to produce great technology strategies. Author Eben Hewitt developed 39 patterns over the course of a decade in his work as CTO, CIO, and chief architect for several global tech companies. With these proven tools, you can define, create, elaborate, refine, and communicate your architecture goals, plans, and approach in a way that executives can readily understand, approve, and execute. This book covers: Architecture and strategy: Adopt a strategic architectural mindset to make a meaningful material impact Creating your strategy: Define the components of your technology strategy using proven patterns Communicating the strategy: Convey your technology strategy in a compelling way to a variety of audiences Bringing it all together: Employ patterns individually or in clusters for specific problems; use the complete framework for a comprehensive strategy

Java SOA Cookbook offers practical solutions and advice to programmers charged with implementing a service-oriented architecture (SOA) in their organization. Instead of providing another conceptual, high-level view of SOA, this cookbook shows you how to make SOA work. It's full of Java and XML code you can insert directly into your applications and recipes you can apply right away. The book focuses primarily on the use of free and open source Java Web Services technologies -- including Java SE 6 and Java EE 5 tools -- but you'll find tips for using commercially available tools as well. Java SOA Cookbook will help you: Construct XML vocabularies and data models appropriate to SOA applications Build real-world web services using the latest Java standards, including JAX-WS 2.1 and JAX-RS 1.0 for RESTful web services Integrate applications from popular service providers using SOAP, POX, and Atom Create service orchestrations with complete coverage of the WS-BPEL (Business Process Execution Language) 2.0 standard Improve the reliability of SOAP-based services with specifications such as WS-Reliable Messaging Deal with governance, interoperability, and quality-of-service issues The recipes in Java SOA Cookbook will equip you with the knowledge you need to approach SOA as an integration challenge, not an obstacle.

As Python continues to grow in popularity, projects are becoming larger and more complex. Many Python developers are now taking an interest in high-level software design patterns such as hexagonal/clean architecture, event-driven architecture, and the strategic patterns prescribed by domain-driven design (DDD). But translating those patterns into Python isn’t always straightforward. With this hands-on guide, Harry Percival and Bob Gregory from MADE.com introduce proven architectural design patterns to help Python developers manage application complexity—and get the most value out of their test suites. Each pattern is illustrated with concrete examples in beautiful, idiomatic Python, avoiding some of the verbosity of Java and C# syntax. Patterns include: Dependency inversion and its links to ports and adapters (hexagonal/clean architecture) Domain-driven design’s distinction between entities, value objects, and aggregates Repository and Unit of Work patterns for persistent storage Events, commands, and the message bus Command-query responsibility segregation (CQRS) Event-driven architecture and reactive microservices

As the digital economy changes the rules of the game for enterprises, the role of software and IT architects is also transforming. Rather than focus on technical decisions alone, architects and

senior technologists need to combine organizational and technical knowledge to effect change in their company’s structure and processes. To accomplish that, they need to connect the IT engine room to the penthouse, where the business strategy is defined. In this guide, author Gregor Hohpe shares real-world advice and hard-learned lessons from actual IT transformations. His anecdotes help architects, senior developers, and other IT professionals prepare for a more complex but rewarding role in the enterprise. This book is ideal for: Software architects and senior developers looking to shape the company’s technology direction or assist in an organizational transformation Enterprise architects and senior technologists searching for practical advice on how to navigate technical and organizational topics CTOs and senior technical architects who are devising an IT strategy that impacts the way the organization works IT managers who want to learn what’s worked and what hasn’t in large-scale transformation

Tap into the wisdom of experts to learn what every programmer should know, no matter what language you use. With the 97 short and extremely useful tips for programmers in this book, you'll expand your skills by adopting new approaches to old problems, learning appropriate best practices, and honing your craft through sound advice. With contributions from some of the most experienced and respected practitioners in the industry--including Michael Feathers, Pete Goodliffe, Diomidis Spinellis, Cay Horstmann, Verity Stob, and many more--this book contains practical knowledge and principles that you can apply to all kinds of projects. A few of the 97 things you should know: "Code in the Language of the Domain" by Dan North "Write Tests for People" by Gerard Meszaros "Convenience Is Not an -ility" by Gregor Hohpe "Know Your IDE" by Heinz Kabutz "A Message to the Future" by Linda Rising "The Boy Scout Rule" by Robert C. Martin (Uncle Bob) "Beware the Share" by Udi Dahan

Tap into the wisdom of experts to learn what every UX practitioner needs to know. With 97 short and extremely useful articles, you'll discover new approaches to old problems, pick up road-tested best practices, and hone your skills through sound advice. Working in UX involves much more than just creating user interfaces. UX teams struggle with understanding what's important, which practices they should know deeply, and what approaches aren't helpful at all. With these 97 concise articles, editor Dan Berlin presents a wealth of advice and knowledge from experts who have practiced UX throughout their careers. Bring Themes to Exploratory Research--Shanti Kanhai Design for Content First--Marli Mesibov Design for Universal Usability--Ann Chadwick-Dias Be Wrong on Purpose--Skyler Ray Taylor Diverse Participant Recruiting Is Critical to Authentic User Research--Megan Campos Put On Your InfoSec Hat to Improve Your Designs--Julie Meridian Boost Your Emotional Intelligence to Move from Good to Great UX--Priyama Barua

Job titles like “Technical Architect” and “Chief Architect” nowadays abound in software industry, yet many people suspect that “architecture” is one of the most overused and least understood terms in professional software development. Gorton’s book tries to resolve this dilemma. It concisely describes the essential elements of knowledge and key skills required to be a software architect. The explanations encompass the essentials of architecture thinking, practices, and supporting technologies. They range from a general understanding of structure and quality attributes through technical issues like middleware components and service-oriented architectures to recent technologies like model-driven architecture, software product lines, aspect-oriented design, and the Semantic Web, which will presumably influence future software systems. This second edition contains new material covering enterprise architecture, agile development, enterprise service bus technologies, RESTful Web services, and a case study on how to use the MeDICi integration framework. All approaches are illustrated by an ongoing real-world example. So if you work as an architect or senior designer (or want to someday), or if you are a student in software engineering, here is a valuable and yet approachable knowledge source for you.

The ground beneath the book publishing industry dramatically shifted in 2007, the year the Kindle and the iPhone debuted. Widespread consumer demand for these and other devices has brought the pace of digital change in book publishing from "it might happen sometime" to "it’s happening right now"—and it is happening faster than anyone predicted. Yet this is only a transitional phase. Book: A Futurist’s Manifesto is your guide to what comes next, when all books are truly digital, connected, and ubiquitous. Through this collection of essays from thought leaders and practitioners, you’ll become familiar with a wide range of developments occurring in the wake of this digital book shakeup: Discover new tools that are rapidly transforming how content is created, managed, and distributed Understand the increasingly critical role that metadata plays in making book content discoverable in an era of abundance Look inside some of the publishing projects that are at the bleeding edge of this digital revolution Learn how some digital books can evolve moment to moment, based on reader feedback

If the projects you manage don't go as smoothly as you'd like, 97 Things Every Project Manager Should Know offers knowledge that's priceless, gained through years of trial and error. This illuminating book contains 97 short and extremely practical tips -- whether you're dealing with software or non-IT projects -- from some of the world's most experienced project managers and software developers. You'll learn how these professionals have dealt with everything from managing teams to handling project stakeholders to runaway meetings and more. While this book highlights software projects, its wise axioms contain project management principles applicable to projects of all types in any industry. You can read the book end to end or browse to find topics that are of particular relevance to you. 97 Things Every Project Manager Should Know is both a useful reference and a source of inspiration. Among the 97 practical tips: "Clever Code Is Hard to Maintain...and Maintenance Is Everything" -- David Wood, Partner, Zepheira "Every Project Manager Is a Contract Administrator" -- Fabio Teixeira de Melo, Planning Manager, Construtora Norberto Odebrecht "Can Earned Value and Velocity Coexist on Reports?" -- Barbee Davis, President, Davis Consulting "How Do You Define 'Finished'"? -- Brian Sam-Bodden, author, software architect "The Best People to Create the Estimates Are the Ones Who Do the Work" -- Joe Zenevitch, Senior Project Manager, ThoughtWorks "How to Spot a Good IT Developer" -- James Graham, independent management consultant "One Deliverable, One Person" -- Alan Greenblatt, CEO, Sciova

In this truly unique technical book, today's leading software architects present valuable principles on key development issues that go way beyond technology. More than four dozen architects -- including Neal Ford, Michael Nygard, and Bill de hOra -- offer advice for communicating with stakeholders, eliminating complexity, empowering developers, and many more practical lessons they've learned from years of experience. Among the 97 principles in this book, you'll find useful advice such as: Don't Put Your Resume Ahead

of the Requirements (Nitin Borwankar) Chances Are, Your Biggest Problem Isn't Technical (Mark Ramm) Communication Is King; Clarity and Leadership, Its Humble Servants (Mark Richards) Simplicity Before Generality, Use Before Reuse (Kevlin Henney) For the End User, the Interface Is the System (Vinayak Hegde) It's Never Too Early to Think About Performance (Rebecca Parsons) To be successful as a software architect, you need to master both business and technology. This book tells you what top software architects think is important and how they approach a project. If you want to enhance your career, 97 Things Every Software Architect Should Know is essential reading.

Many large enterprises are feeling pressure from the rapid digitalization of the world: digital disruptors attack unexpectedly with brand-new business models; the "FaceBook generation" has dramatically different user expectations; and a whole slew of new technologies has become available to everyone with a credit card. This is tough stuff for enterprises that have been, and still are, very successful, but are built around traditional technology and organizational structures. "Turning the tanker", as the need to transform is often described, has become a board room-level topic in many traditional enterprises. Not as easily done as said. Chief IT Architects and CTOs play a key role in such a digital transformation endeavor. They combine the technical, communication, and organizational skill to understand how a tech stack refresh can actually benefit the business, what "being agile" and "DevOps" really mean, and what technology infrastructure is needed to assure quality while moving faster. Their job is not an easy one, though: they must maneuver in an organization where IT is often still seen as a cost center, where operations means "run" as opposed to "change", and where middle-aged middle-management has become cozy neither understanding the business strategy nor the underlying technology. It's no surprise then that IT architects have become some of the most sought-after IT professionals around the globe. This book aims to equip IT architects with the skills necessary to become effective not just in systems architecture, but also in shaping and driving the necessary transformation of large-scale IT departments. In today's world, technical transformation and organizational transformation have become inseparable. Organized into 37 episodes, this book explains: The role and qualities of an architect in a large enterprise How to think about architecture at enterprise scale How to communicate to a variety of stakeholders Organizational structures and systems How to transform traditional organizations Armed with these insights, architects and CTOs will be able to ride the Architect Elevator up and down the organization to instill lasting change.

A single dramatic software failure can cost a company millions of dollars - but can be avoided with simple changes to design and architecture. This new edition of the best-selling industry standard shows you how to create systems that run longer, with fewer failures, and recover better when bad things happen. New coverage includes DevOps, microservices, and cloud-native architecture. Stability antipatterns have grown to include systemic problems in large-scale systems. This is a must-have pragmatic guide to engineering for production systems. If you're a software developer, and you don't want to get alerts every night for the rest of your life, help is here. With a combination of case studies about huge losses - lost revenue, lost reputation, lost time, lost opportunity - and practical, down-to-earth advice that was all gained through painful experience, this book helps you avoid the pitfalls that cost companies millions of dollars in downtime and reputation. Eighty percent of project life-cycle cost is in production, yet few books address this topic. This updated edition deals with the production of today's systems - larger, more complex, and heavily virtualized - and includes information on chaos engineering, the discipline of applying randomness and deliberate stress to reveal systematic problems. Build systems that survive the real world, avoid downtime, implement zero-downtime upgrades and continuous delivery, and make cloud-native applications resilient. Examine ways to architect, design, and build software - particularly distributed systems - that stands up to the typhoon winds of a flash mob, a Slashdotting, or a link on Reddit. Take a hard look at software that failed the test and find ways to make sure your software survives. To skip the pain and get the experience...get this book.

Salary surveys worldwide regularly place software architect in the top 10 best jobs, yet no real guide exists to help developers become architects. Until now. This book provides the first comprehensive overview of software architecture’s many aspects. Aspiring and existing architects alike will examine architectural characteristics, architectural patterns, component determination, diagramming and presenting architecture, evolutionary architecture, and many other topics. Mark Richards and Neal Ford—hands-on practitioners who have taught software architecture classes professionally for years—focus on architecture principles that apply across all technology stacks. You’ll explore software architecture in a modern light, taking into account all the innovations of the past decade. This book examines: Architecture patterns: The technical basis for many architectural decisions Components: Identification, coupling, cohesion, partitioning, and granularity Soft skills: Effective team management, meetings, negotiation, presentations, and more Modernity: Engineering practices and operational approaches that have changed radically in the past few years Architecture as an engineering discipline: Repeatable results, metrics, and concrete valuations that add rigor to software architecture

A comprehensive guide to exploring software architecture concepts and implementing best practices Key Features Enhance your skills to grow your career as a software architect Design efficient software architectures using patterns and best practices Learn how software architecture relates to an organization as well as software development methodology Book Description The Software Architect’s Handbook is a comprehensive guide to help developers, architects, and senior programmers advance their career in the software architecture domain. This book takes you through all the important concepts, right from design principles to different considerations at various stages of your career in software architecture. The book begins by covering the fundamentals, benefits, and purpose of software architecture. You will discover how software architecture relates to an organization, followed by identifying its significant quality attributes. Once you have covered the basics, you will explore design patterns, best practices, and paradigms for efficient software development. The book discusses which factors you need to consider for performance and security enhancements. You will learn to write documentation for

your architectures and make appropriate decisions when considering DevOps. In addition to this, you will explore how to design legacy applications before understanding how to create software architectures that evolve as the market, business requirements, frameworks, tools, and best practices change over time. By the end of this book, you will not only have studied software architecture concepts but also built the soft skills necessary to grow in this field. What you will learn Design software architectures using patterns and best practices Explore the different considerations for designing software architecture Discover what it takes to continuously improve as a software architect Create loosely coupled systems that can support change Understand DevOps and how it affects software architecture Integrate, refactor, and re-architect legacy applications Who this book is for The Software Architect’s Handbook is for you if you are a software architect, chief technical officer (CTO), or senior developer looking to gain a firm grasp of software architecture.
Enterprise Integration Patterns provides an invaluable catalog of sixty-five patterns, with real-world solutions that demonstrate the formidable of messaging and help you to design effective messaging solutions for your enterprise. The authors also include examples covering a variety of different integration technologies, such as JMS, MSMQ, TIBCO ActiveEnterprise, Microsoft BizTalk, SOAP, and XSL. A case study describing a bond trading system illustrates the patterns in practice, and the book offers a look at emerging standards, as well as insights into what the future of enterprise integration might hold. This book provides a consistent vocabulary and visual notation framework to describe large-scale integration solutions across many technologies. It also explores in detail the advantages and limitations of asynchronous messaging architectures. The authors present practical advice on designing code that connects an application to a messaging system, and provide extensive information to help you determine when to send a message, how to route it to the proper destination, and how to monitor the health of a messaging system. If you want to know how to manage, monitor, and maintain a messaging system once it is in use, get this book.
If you create, manage, operate, or configure systems running in the cloud, you're a cloud engineer--even if you work as a system administrator, software developer, data scientist, or site reliability engineer. With this book, professionals from around the world provide valuable insight into today's cloud engineering role. These concise articles explore the entire cloud computing experience, including fundamentals, architecture, and migration. You'll delve into security and compliance, operations and reliability, and software development. And examine networking, organizational culture, and more. You're sure to find 1, 2, or 97 things that inspire you to dig deeper and expand your own career. "Three Keys to Making the Right Multicloud Decisions," Brendan O'Leary "Serverless Bad Practices," Manases Jesus Galindo Bello "Failing a Cloud Migration," Lee Atchison "Treat Your Cloud Environment as If It Were On Premises," Iyana Garry "What Is Toil, and Why Are SREs Obsessed with It?", Zachary Nickens "Lean QA: The QA Evolving in the DevOps World," Theresa Neate "How Economies of Scale Work in the Cloud," Jon Moore "The Cloud Is Not About the Cloud," Ken Corless "Data Gravity: The Importance of Data Management in the Cloud," Geoff Hughes "Even in the Cloud, the Network Is the Foundation," David Murray "Cloud Engineering Is About Culture, Not Containers," Holly Cummins
Patterns, Domain-Driven Design (DDD), and Test-Driven Development (TDD) enable architects and developers to create systems that are powerful, robust, and maintainable. Now, there’s a comprehensive, practical guide to leveraging all these techniques primarily in Microsoft .NET environments, but the discussions are just as useful for Java developers. Drawing on seminal work by Martin Fowler (Patterns of Enterprise Application Architecture) and Eric Evans (Domain-Driven Design), Jimmy Nilsson shows how to create real-world architectures for any .NET application. Nilsson illuminates each principle with clear, well-annotated code examples based on C# 1.1 and 2.0. His examples and discussions will be valuable both to C# developers and those working with other .NET languages and any databases–even with other platforms, such as J2EE. Coverage includes · Quick primers on patterns, TDD, and refactoring · Using architectural techniques to improve software quality · Using domain models to support business rules and validation · Applying enterprise patterns to provide persistence support via NHibernate · Planning effectively for the presentation layer and UI testing · Designing for Dependency Injection, Aspect Orientation, and other new paradigms
As a software engineer, you recognize at some point that there's much more to your career than dealing with code. Is it time to become a manager? Tell your boss he’s a jerk? Join that startup? Author Michael Lopp recalls his own make-or-break moments with Silicon Valley giants such as Apple, Netscape, and Symantec in Being Geek -- an insightful and entertaining book that will help you make better career decisions. With more than 40 standalone stories, Lopp walks through a complete job life cycle, starting with the job interview and ending with the realization that it might be time to find another gig. Many books teach you how to interview for a job or how to manage a project successfully, but only this book helps you handle the baffling circumstances you may encounter throughout your career. Decide what you're worth with the chapter on "The Business" Determine the nature of the miracle your CEO wants with "The Impossible" Give effective presentations with "How Not to Throw Up" Handle liars and people with devious agendas with "Managing Werewolves" Realize when you should be looking for a new gig with "The Itch"
The software development ecosystem is constantly changing, providing a constant stream of new tools, frameworks, techniques, and paradigms. Over the past few years, incremental developments in core engineering practices for software development have created the foundations for rethinking how architecture changes over time, along with ways to protect important architectural characteristics as it evolves. This practical guide ties those parts together with a new way to think about architecture and time.
Take advantage of today's sky-high demand for data engineers. With this in-depth book, current and aspiring engineers will learn powerful real-world best practices for managing data big and small. Contributors from notable companies including Twitter, Google, Stitch Fix, Microsoft, Capital One, and LinkedIn share their experiences and lessons learned for overcoming a variety of specific and often nagging challenges. Edited by Tobias Macey, host of the popular Data Engineering Podcast, this book presents 97 concise and useful tips for cleaning, prepping, wrangling, storing, processing, and ingesting data. Data engineers, data architects, data team managers, data scientists, machine learning engineers, and software engineers will greatly benefit from the wisdom and experience of their peers. Topics include: The Importance of Data Lineage - Julien Le Dem Data Security for Data Engineers - Katharine Jarmul The Two Types of Data Engineering and Data Engineers - Jesse Anderson Six Dimensions for Picking an Analytical Data Warehouse - Gleb Mezhanskiy The End of ETL as We Know It - Paul Singman Building a Career as a Data Engineer - Vijay Kiran Modern Metadata for the Modern Data Stack - Prukalpa Sankar Your Data Tests Failed! Now What? - Sam Bail

97 Things Every Software Architect Should KnowO'Reilly Media

This is the eagerly-anticipated revision to one of the seminal books in the field of software architecture which clearly defines and explains the topic.

If you want to push your Java skills to the next level, this book provides expert advice from Java leaders and practitioners. You'll be encouraged to look at problems in new ways, take broader responsibility for your work, stretch yourself by learning new techniques, and become as good at the entire craft of development as you possibly can. Edited by Kevlin Henney and Trisha Gee, 97 Things Every Java Programmer Should Know reflects lifetimes of experience writing Java software and living with the process of software development. Great programmers share their collected wisdom to help you rethink Java practices, whether working with legacy code or incorporating changes since Java 8. A few of the 97 things you should know: "Behavior Is Easy, State Is Hard"—Edson Yanaga "Learn Java Idioms and Cache in Your Brain"—Jeanne Boyarsky "Java Programming from a JVM Performance Perspective"—Monica Beckwith "Garbage Collection Is Your Friend"—Holly K Cummins "Java's Unspeakable Types"—Ben Evans "The Rebirth of Java"—Sander Mak "Do You Know What Time It Is?"—Christin Gorman

Tap into the wisdom of experts to learn what every engineering manager should know. With 97 short and extremely useful tips for engineering managers, you'll discover new approaches to old problems, pick up road-tested best practices, and hone your management skills through sound advice. Managing people is hard, and the industry as a whole is bad at it. Many managers lack the experience, training, tools, texts, and frameworks to do it well. From mentoring interns to working in senior management, this book will take you through the stages of management and provide actionable advice on how to approach the obstacles you'll encounter as a technical manager. A few of the 97 things you should know: "Three Ways to Be the Manager Your Report Needs" by Duretti Hirpa "The First Two Questions to Ask When Your Team Is Struggling" by Cate Huston "Fire Them!" by Mike Fisher "The 5 Whys of Organizational Design" by Kellan Elliott-McCrea "Career Conversations" by Raquel Vélez "Using 6-Page Documents to Close Decisions" by Ian Nowland "Ground Rules in Meetings" by Lara Hogan

In this truly unique technical book, today's leading software architects present valuable principles on key development issues that go way beyond technology. More than four dozen architects offer advice for communicating with stakeholders, eliminating complexity, empowering developers, and many more practical lessons they've learned from years of experience.

Don't engineer by coincidence-design it like you mean it! Filled with practical techniques, Design It! is the perfect introduction to software architecture for programmers who are ready to grow their design skills. Lead your team as a software architect, ask the right stakeholders the right questions, explore design options, and help your team implement a system that promotes the right -ilities. Share your design decisions, facilitate collaborative design workshops that are fast, effective, and fun-and develop more awesome software! With dozens of design methods, examples, and practical know-how, Design It! shows you how to become a software architect. Walk through the core concepts every architect must know, discover how to apply them, and learn a variety of skills that will make you a better programmer, leader, and designer. Uncover the big ideas behind software architecture and gain confidence working on projects big and small. Plan, design, implement, and evaluate software architectures and collaborate with your team, stakeholders, and other architects. Identify the right stakeholders and understand their needs, dig for architecturally significant requirements, write amazing quality attribute scenarios, and make confident decisions. Choose technologies based on their architectural impact, facilitate architecture-centric design workshops, and evaluate architectures using lightweight, effective methods. Write lean architecture descriptions people love to read. Run an architecture design studio, implement the architecture you've designed, and grow your team's architectural knowledge. Good design requires good communication. Talk about your software architecture with stakeholders using whiteboards, documents, and code, and apply architecture-focused design methods in your day-to-day practice. Hands-on exercises, real-world scenarios, and practical team-based decision-making tools will get everyone on board and give you the experience you need to become a confident software architect.

Corporate and commercial software-development teams all want solutions for one important problem—how to get their high-pressure development schedules under control. In RAPID DEVELOPMENT, author Steve McConnell addresses that concern head-on with overall strategies, specific best practices, and valuable tips that help shrink and control development schedules and keep projects moving. Inside, you'll find: A rapid-development strategy that can be applied to any project and the best practices to make that strategy work Candid discussions of great and not-so-great rapid-development practices—estimation, prototyping, forced overtime, motivation, teamwork, rapid-development languages, risk management, and many others A list of classic mistakes to avoid for rapid-development projects, including creeping requirements, shortchanged quality, and silver-bullet syndrome Case studies that vividly illustrate what can go wrong, what can go right, and how to tell which direction your project is going RAPID DEVELOPMENT is the real-world guide to more efficient applications development.

What are the ingredients of robust, elegant, flexible, and maintainable software architecture? Beautiful Architecture answers this question through a collection of intriguing essays from more than a dozen of today's leading software designers and architects. In each essay, contributors present a notable software architecture, and analyze what makes it innovative and ideal for its purpose. Some of the engineers in this book reveal how they developed a specific project, including decisions they faced and tradeoffs they made. Others take a step back to investigate how certain architectural aspects have influenced computing as a whole. With this book, you'll discover: How Facebook's architecture is the basis for a data-centric application ecosystem The effect of Xen's well-designed architecture on the way operating systems evolve How community processes within the KDE project help software architectures evolve from rough sketches to beautiful systems How creeping featurism has helped GNU Emacs gain unanticipated functionality The magic behind the Jikes RVM self-optimizable, self-hosting runtime Design choices and building blocks that made Tandem the choice platform in high-availability environments for over two decades Differences and similarities between object-oriented and functional architectural views How architectures can affect the software's evolution and the developers' engagement Go behind the scenes to learn what it takes to design elegant software architecture, and how it can shape the way you approach your own projects, with Beautiful

Architecture.