

# 97 Things Every Software Architect Should Know Collective Wisdom From The Experts

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## DOUGLAS BROOKLYN

97 Things Every Software Architect Should Know McGraw Hill Professional Software -- Programming Languages.

### Presentation Patterns Addison-Wesley

If you're familiar with functional programming basics and want to gain a much deeper understanding, this in-depth guide takes you beyond syntax and demonstrates how you need to think in a new way. Software architect Neal Ford shows intermediate to advanced developers how functional coding allows you to step back a level of abstraction so you can see your programming problem with greater clarity. Each chapter shows you various examples of functional thinking, using numerous code examples from Java 8 and other JVM languages that include functional capabilities. This book may bend your mind, but you'll come away with a much better grasp of functional programming concepts. Understand why many imperative languages are adding functional capabilities Compare functional and imperative solutions to common problems Examine ways to cede control of routine chores to the runtime Learn how memoization and laziness eliminate hand-crafted solutions Explore functional approaches to design patterns and code reuse View real-world examples of functional thinking with Java 8, and in functional architectures and web frameworks Learn the pros and cons of living in a paradigmatically richer world If you're new to functional programming, check out Josh Backfield's book *Becoming Functional*.

### Building Evolutionary Architectures Elsevier

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.

### Architect + Entrepreneur "O'Reilly Media, Inc."

\* Will appeal to the same (large) audience as Joel on Software \* Contains exclusive commentary by Joel \* Lots of free publicity both because of Joel's influence in the community and the influence of the contributors

### Functional Thinking O'Reilly Media

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

### Software Architect Bootcamp Apress

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.

### Technology Strategy Patterns Marshall & Brainerd

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

[Release It!](#) "O'Reilly Media, Inc."

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.

[Software Architecture with C++](#) O'Reilly Media

This is a practical guide for software developers, and different than other software architecture books. Here's why: It teaches risk-driven architecting. There is no need for meticulous designs when risks are small, nor any excuse for sloppy designs when risks threaten your success. This book describes a way to do just enough architecture. It avoids the one-size-fits-all process tar pit with advice on how to tune your design effort based on the risks you face. It democratizes architecture. This book seeks to make architecture relevant to all software developers. Developers need to understand how to use constraints as guiderails that ensure desired outcomes, and how seemingly small changes can affect a system's properties. It cultivates declarative knowledge. There is a difference between being able to hit a ball and knowing why you are able to hit it, what psychologists refer to as procedural knowledge versus declarative knowledge. This book will make you more aware of what you have been doing and provide names for the concepts. It emphasizes the engineering. This book focuses on the technical parts of software development and what developers do to ensure the system works not job titles or processes. It shows you how to build models and analyze architectures so that you can make principled design tradeoffs. It describes the techniques software designers use to reason about medium to large sized problems and points out where you can learn specialized techniques in more detail. It provides practical advice. Software design decisions influence the architecture and vice versa. The approach in this book embraces drill-down/pop-up behavior by describing models that have various levels of abstraction, from architecture to data structure design.

**Web Scalability for Startup Engineers** Pearson Education

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.

[Java Transaction Design Strategies](#) "O'Reilly Media, Inc."

Technologists who want their ideas heard, understood, and funded are often told to speak the language of businessâ??without really knowing what that is. This bookâ??s toolkit provides architects, product managers, technology managers, and executives with a shared languageâ??in the form of repeatable, practical patterns and templatesâ??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

[97 Things Every Cloud Engineer Should Know](#) "O'Reilly Media, Inc."

Apply business requirements to IT infrastructure and deliver a high-quality product by understanding architectures such as microservices, DevOps, and cloud-native using modern C++ standards and features Key FeaturesDesign scalable large-scale applications with the C++ programming languageArchitect software solutions in a cloud-based environment with continuous integration and continuous delivery (CI/CD)Achieve architectural goals by leveraging design patterns, language features, and useful toolsBook Description Software architecture refers to the high-level design of complex applications. It is evolving just like the languages we use, but there are architectural concepts and patterns that you can learn to write high-performance apps in a high-level language without sacrificing readability and maintainability. If you're working with modern C++, this practical guide will help you put your knowledge to work and design distributed, large-scale apps. You'll start by getting up to speed with architectural concepts, including established patterns and rising trends, then move on to understanding what software architecture actually is and start exploring its components. Next, you'll discover the design concepts involved in application architecture and the patterns in software development, before going on to learn how to build, package, integrate, and deploy your components. In the concluding chapters, you'll explore different architectural qualities, such as maintainability, reusability, testability, performance, scalability, and security. Finally, you will get an overview of distributed systems, such as service-oriented architecture, microservices, and cloud-native, and understand how to apply them in application development. By the end of this book, you'll be able to build distributed services using modern C++ and associated tools to deliver solutions as per your clients' requirements. What you will learnUnderstand how to apply the principles of software architectureApply design patterns and best practices to meet your architectural goalsWrite elegant, safe, and performant code using the latest C++ featuresBuild applications that are easy to maintain and deployExplore the different architectural approaches and learn to apply them as per your requirementSimplify development and operations using application containersDiscover various techniques to solve common problems in software design and developmentWho this book is for This software architecture C++ programming book is for experienced C++ developers looking to become software architects or develop enterprise-grade applications.

[API Design for C++](#) "O'Reilly Media, Inc."

[97 Things Every Software Architect Should Know](#)"O'Reilly Media, Inc."

**97 Things Every Data Engineer Should Know** "O'Reilly Media, Inc."

This innovative book uncovers all the steps readers should follow in order to build successful software and systems With the help of numerous examples, Albin clearly shows how to incorporate Java, XML, SOAP, ebXML, and BizTalk when designing true distributed business systems Teaches how to easily integrate design patterns into software design Documents all architectures in UML and presents code in either Java or C++

[97 Things Every UX Practitioner Should Know](#) "O'Reilly Media, Inc."

"Strategy is the difference between making a wish and making it come true." Most books on cloud computing either stay at a very high level, offer simplistic recipes, or dive deep into vendor-specific product details. This book helps you fill the very large space in between: aligning technology change with organizational transformation, making architectural decisions, and communicating trade-offs to diverse stakeholders. The book balances structured decision models with real-life anecdotes, both harvested from half a decade of defining and implementing cloud strategies for major organizations. Today's enterprises need a more nuanced strategy than simply proclaiming "cloud first!" A strategy isn't something you can copy-paste from a recipe book or from another organization, though: diverse starting points, objectives, and constraints imply different choices and trade-offs. So, rather than offering "proven-3-step-recipes" or touting shallow success stories, this book helps you chart your own strategy by helping you ask the right questions and connecting the dots between the many facets of cloud computing. Your journey will cover why cloud lives in the first derivative, why it's not just about infrastructure, how to organize for successful cloud migrations, understanding hybrid and multi-cloud architectures without vendor jargon, designing cloud-native applications, and optimizing for cost-efficient and resilient operations. Being free of jargon and product pitches, this book is a valuable guide for: Enterprise and cloud architects who are tasked with defining and communicating a credible cloud strategy Consultants and advisors who rely on evocative decision models to guide their clients' cloud journey IT executives who want to harvest the full benefits of cloud computing Business executives who align organizational changes with the technical transformation NOTE: This book is currently available on Amazon as a print book only. The DRM-free ebook in all formats and more information are available at CloudStrategyBook.com "O'Reilly Media, Inc."

Understanding how transaction management works in Java and developing an effective transaction design strategy can help to avoid data integrity problems in your applications and databases and ease the pain of inevitable system failures. This book is about how to design an effective transaction management strategy using the transaction models provided by Java-based frameworks such as EJB and Spring. Techniques, best practices, and pitfalls with each transaction model will be described. In addition, transaction design patterns will bring all these concepts and techniques together and describe how to use these models to effectively manage transactions within your EJB or Spring-based Java applications. The book covers: - The local transaction model - The programmatic transaction model - The declarative transaction model - XA Transaction Processing - Transaction Design Patterns

**Java Message Service** Createspace Independent Publishing Platform

With this practical book, architects, CTOs, and CIOs will learn a set of patterns for the practice of architecture, including analysis, documentation, and communication. Author Eben Hewitt shows you how to create holistic and thoughtful technology plans, communicate them clearly, lead people toward the vision, and become a great architect or Chief Architect. This book covers each key aspect of architecture comprehensively, including how to incorporate business architecture, information architecture, data architecture, application (software) architecture together to have the best chance for the system's success. Get a practical set of proven architecture practices focused on shipping great products using architecture Learn how architecture works effectively with development teams, management, and product management teams through the value chain Find updated special coverage on machine learning architecture Get usable templates to start incorporating into your teams immediately Incorporate business architecture, information architecture, data architecture, and application (software) architecture together

[37 Things One Architect Knows about IT Transformation](#) Addison-Wesley Professional

API Design for C++ provides a comprehensive discussion of Application Programming Interface (API) development, from initial design through implementation, testing, documentation, release, versioning, maintenance, and deprecation. It is the only book that teaches the strategies of C++ API development, including interface design, versioning, scripting, and plug-in extensibility. Drawing from the author's experience on large scale, collaborative software projects, the text offers practical techniques of API design that produce robust code for the long term. It presents patterns and practices that provide real value to individual developers as well as organizations. API Design for C++ explores often overlooked issues, both technical and non-technical, contributing to successful design decisions that product high quality, robust, and long-lived APIs. It focuses on various API styles and patterns that will allow you to produce elegant and durable libraries. A discussion on testing strategies concentrates on automated API testing techniques rather than attempting to include end-user application testing techniques such as GUI testing, system testing, or manual testing. Each concept is illustrated with extensive C++ code examples, and fully functional examples and working source code for experimentation are available online. This book will be helpful to new programmers who understand the fundamentals of C++ and who want to advance their design skills, as well as to senior engineers and software architects seeking to gain new expertise to complement their existing talents. Three specific groups of readers are targeted: practicing software engineers and architects, technical managers, and students and educators. - The only book that teaches the strategies of C++ API development, including design, versioning, documentation, testing, scripting, and extensibility - Extensive code examples illustrate each concept, with fully functional examples and working source code for experimentation available online - Covers various API styles and patterns with a focus on practical and efficient designs for large-scale long-term projects

[97 Things Every Programmer Should Know](#) "O'Reilly Media, Inc."

Now in paperback, evolutionary biologist and science writer Alanna Collen's stunning alarm call concerning the widely-ignored role our gut microbes play in our health and well-being.

"Fascinating.... Everything you wanted to know about microbes but were afraid to ask."— Kirkus Reviews (starred review) You are just 10% human. For every one of the cells that make up the vessel that you call your body, there are nine impostor cells hitching a ride. You are not just flesh and blood, muscle and bone, brain and skin, but also bacteria and fungi. Over your lifetime, you will carry the equivalent weight of five African elephants in microbes. You are not an individual but a colony. Until recently, we had thought our microbes hardly mattered, but science is revealing a different story, one in which microbes run our bodies and becoming a healthy human is impossible without them. In this riveting, shocking, and beautifully written book, biologist Alanna Collen draws on the latest scientific research to show how our personal colony of microbes influences our weight, our immune system, our mental health, and even our choice of partner. She argues that so many of our modern diseases—obesity, autism, mental illness, digestive disorders, allergies, autoimmunity afflictions, and even cancer—have their root in our failure to cherish our most fundamental and enduring relationship: that with our personal colony of microbes. The good news is that unlike our human cells, we can change our microbes for the better. Collen's book is a revelatory and

indispensable guide. Life—and your body—will never seem the same again.

**Cloud Strategy** Packt Publishing Ltd

Software architecture—the conceptual glue that holds every phase of a project together for its many stakeholders—is widely recognized as a critical element in modern software development.

Practitioners have increasingly discovered that close attention to a software system's architecture pays valuable dividends. Without an architecture that is appropriate for the problem being solved, a project will stumble along or, most likely, fail. Even with a superb architecture, if that architecture is not well understood or well communicated the project is unlikely to succeed. Documenting Software Architectures, Second Edition, provides the most complete and current guidance, independent of language or notation, on how to capture an architecture in a commonly understandable form. Drawing on their extensive experience, the authors first help you decide what information to

document, and then, with guidelines and examples (in various notations, including UML), show you how to express an architecture so that others can successfully build, use, and maintain a system from it. The book features rules for sound documentation, the goals and strategies of documentation, architectural views and styles, documentation for software interfaces and software behavior, and templates for capturing and organizing information to generate a coherent package. New and improved in this second edition: Coverage of architectural styles such as service-oriented architectures, multi-tier architectures, and data models Guidance for documentation in an Agile development environment Deeper treatment of documentation of rationale, reflecting best industrial practices Improved templates, reflecting years of use and feedback, and more documentation layout options A new, comprehensive example (available online), featuring documentation of a Web-based service-oriented system Reference guides for three important architecture documentation languages: UML, AADL, and SysML

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