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KEY=SOFTWARE - HERRING JOSIE

Documenting Software Architectures Views and Beyond *Pearson Education* **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 Documenting Software Architectures : Views and Beyond Documenting Software Architectures Views and Beyond *Addison-Wesley Professional* Architecture is crucial to the success of any large software system -- but even a superb architecture will fail if it isn't communicated well. Now, there's a language- and notation-independent guide to capturing architecture so it can be used successfully by every analyst, software designer, and developer. The authors review the diverse goals and uses of software architecture documentation, providing documentation strategies for several common scenarios. They identify the basic unit of software architecture documentation: the viewtype, which specifies the type of information to be provided in an architectural view. For each viewtype -- Modules, Component-and-Connectors, and Allocation -- they offer detailed guidance on documenting what really matters. Next, they demonstrate how to package architecture documentation in coherent, usable form: augmenting architectural views with documentation of interfaces and behavior; accounting for architectural variability and dynamic systems; and more. *Software Architecture in Practice Addison-Wesley Professional* 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. Comparing the SEI's Views and Beyond Approach for Documenting Software Architectures with ANSI-IEEE 1471-2000 Abstract: "Architecture documentation has emerged as an important architecture-related practice. In 2002, researchers at the Carnegie Mellon[registered trademark] Software Engineering Institute completed Documenting Software Architectures: Views and Beyond (V & B), an approach that holds that documenting a software architecture is a matter of choosing a set of relevant views of the architecture, documenting each of those views, and then documenting information that applies to more than one view or to the set of views as a whole. Details of the approach include a method for choosing the most relevant views, standard templates for documenting views and the information beyond them, and definitions of the templates' content. At about the same time, the Institute of Electrical and Electronics Engineers (IEEE) was developing a

recommended best practice for describing architectures for software-intensive systems -- ANSI/IEEE Std. 1471-2000. Like V & B, that standard takes a multi-view approach to the task of architecture documentation, and it establishes a conceptual framework for architectural description and defines the content of an architectural description. This technical note summarizes the two approaches and shows how a software architecture document prepared using the V & B approach can be made compliant with Std. 1471-2000." *Designing Software Architectures A Practical Approach Addison-Wesley Professional* **Designing Software Architectures will teach you how to design any software architecture in a systematic, predictable, repeatable, and cost-effective way. This book introduces a practical methodology for architecture design that any professional software engineer can use, provides structured methods supported by reusable chunks of design knowledge, and includes rich case studies that demonstrate how to use the methods. Using realistic examples, you'll master the powerful new version of the proven Attribute-Driven Design (ADD) 3.0 method and will learn how to use it to address key drivers, including quality attributes, such as modifiability, usability, and availability, along with functional requirements and architectural concerns. Drawing on their extensive experience, Humberto Cervantes and Rick Kazman guide you through crafting practical designs that support the full software life cycle, from requirements to maintenance and evolution. You'll learn how to successfully integrate design in your organizational context, and how to design systems that will be built with agile methods. Comprehensive coverage includes Understanding what architecture design involves, and where it fits in the full software development life cycle Mastering core design concepts, principles, and processes Understanding how to perform the steps of the ADD method Scaling design and analysis up or down, including design for pre-sale processes or lightweight architecture reviews Recognizing and optimizing critical relationships between analysis and design Utilizing proven, reusable design primitives and adapting them to specific problems and contexts Solving design problems in new domains, such as cloud, mobile, or big data Summary Record of the 1st Part (public) of the 2199th Meeting, Held at the Palais Wilson, Geneva, on Tuesday, 13 July 2004 Human Rights Committee, 81st Session Evaluating Software Architectures Pearson Education India This Book Describes Systematic Methods For Evaluating Software Architectures And Applies Them To Real-Life Cases. Evaluating Software Architectures Introduces The Conceptual Background For Architecture Evaluation And Provides A Step-By-Step Guide To The Process Based On Numerous Evaluations Performed In Government And Industry. Documenting Software Architectures Views and Beyond Software Architecture Perspectives on an Emerging Discipline Pearson Introduction. Architectural styles. Case studies. Shared information systems. Architectural design guidance. Formal models and specifications. Linguistics issues. Tools for architectural design. Education of software architects. Documenting Software Architectures Views and Beyond Applied Software Architecture Addison-Wesley**

Professional "Designing a large software system is an extremely complicated undertaking that requires juggling differing perspectives and differing goals, and evaluating differing options. Applied Software Architecture is the best book yet that gives guidance as to how to sort out and organize the conflicting pressures and produce a successful design." -- Len Bass, author of *Software Architecture in Practice*. Quality software architecture design has always been important, but in today's fast-paced, rapidly changing, and complex development environment, it is essential. A solid, well-thought-out design helps to manage complexity, to resolve trade-offs among conflicting requirements, and, in general, to bring quality software to market in a more timely fashion. Applied Software Architecture provides practical guidelines and techniques for producing quality software designs. It gives an overview of software architecture basics and a detailed guide to architecture design tasks, focusing on four fundamental views of architecture--conceptual, module, execution, and code. Through four real-life case studies, this book reveals the insights and best practices of the most skilled software architects in designing software architecture. These case studies, written with the masters who created them, demonstrate how the book's concepts and techniques are embodied in state-of-the-art architecture design. You will learn how to: create designs flexible enough to incorporate tomorrow's technology; use architecture as the basis for meeting performance, modifiability, reliability, and safety requirements; determine priorities among conflicting requirements and arrive at a successful solution; and use software architecture to help integrate system components. Anyone involved in software architecture will find this book a valuable compendium of best practices and an insightful look at the critical role of architecture in software development. 0201325713B07092001 *Software Systems Architecture Pearson Education India Just Enough Software Architecture A Risk-Driven Approach Marshall & Brainerd* 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. **Essential Software Architecture** *Springer Science & Business Media* 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 Process of Software Architecting** *Pearson Education* **A Comprehensive Process for Defining Software Architectures That Work** A good software architecture is the foundation of any successful software system. Effective architecting requires a clear understanding of organizational roles, artifacts, activities performed, and the optimal sequence for performing those activities. With **The Process of Software Architecting**, Peter Eeles and Peter Cripps provide guidance on these challenges by covering all aspects of architecting a software system, introducing best-practice techniques that apply in every environment, whether based on Java EE, Microsoft .NET, or other technologies. Eeles and Cripps first illuminate concepts related to software architecture, including architecture documentation and reusable assets. Next, they present an accessible, task-focused guided tour through a typical project, focusing on the architect’s role, with common issues illuminated and addressed throughout. Finally, they conclude with a set of best practices that can be applied to today’s most complex systems. You will come away from this book understanding The role of the architect in a typical software development project How to document a software architecture to satisfy the needs of different stakeholders The applicability of reusable assets in the process of architecting The role of the architect with respect to requirements definition The derivation of an

architecture based on a set of requirements The relevance of architecting in creating complex systems The Process of Software Architecting will be an indispensable resource for every working and aspiring software architect—and for every project manager and other software professional who needs to understand how architecture influences their work. **Managing Technical Debt Reducing Friction in Software Development** *Addison-Wesley Professional* “This is an incredibly wise and useful book. The authors have considerable real-world experience in delivering quality systems that matter, and their expertise shines through in these pages. Here you will learn what technical debt is, what is it not, how to manage it, and how to pay it down in responsible ways. This is a book I wish I had when I was just beginning my career. The authors present a myriad of case studies, born from years of experience, and offer a multitude of actionable insights for how to apply it to your project.” -Grady Booch, IBM Fellow Master Best Practices for Managing Technical Debt to Promote Software Quality and Productivity As software systems mature, earlier design or code decisions made in the context of budget or schedule constraints increasingly impede evolution and innovation. This phenomenon is called technical debt, and practical solutions exist. In **Managing Technical Debt**, three leading experts introduce integrated, empirically developed principles and practices that any software professional can use to gain control of technical debt in any software system. Using real-life examples, the authors explain the forms of technical debt that afflict software-intensive systems, their root causes, and their impacts. They introduce proven approaches for identifying and assessing specific sources of technical debt, limiting new debt, and “paying off” debt over time. They describe how to establish managing technical debt as a core software engineering practice in your organization. Discover how technical debt damages manageability, quality, productivity, and morale—and what you can do about it Clarify root causes of debt, including the linked roles of business goals, source code, architecture, testing, and infrastructure Identify technical debt items, and analyze their costs so you can prioritize action Choose the right solution for each technical debt item: eliminate, reduce, or mitigate Integrate software engineering practices that minimize new debt **Managing Technical Debt** will be a valuable resource for every software professional who wants to accelerate innovation in existing systems, or build new systems that will be easier to maintain and evolve. The **Method Framework for Engineering System Architectures** *CRC Press* The architects of today's large and complex systems all too often struggle with the lack of a consistent set of principles and practices that adequately address the entire breadth of systems architecture. The **Method Framework for Engineering System Architectures (MFESA)** enables system architects and process engineers to create methods for effective **Automotive Software Architectures An Introduction** *Springer Nature* This book introduces the concept of software architecture as one of the cornerstones of software in modern cars. Following a historical overview of the evolution of software in modern cars and a discussion of the main

challenges driving that evolution, Chapter 2 describes the main architectural styles of automotive software and their use in cars' software. Chapter 3 details this further by presenting two modern architectural styles, i.e. centralized and federated software architectures. In Chapter 4, readers will find a description of the software development processes used to develop software on the car manufacturers' side. Chapter 5 then introduces AUTOSAR - an important standard in automotive software. Chapter 6 goes beyond simple architecture and describes the detailed design process for automotive software using Simulink, helping readers to understand how detailed design links to high-level design. The new chapter 7 reports on how machine learning is exploited in automotive software e.g. for image recognition and how both on-board and off-board learning are applied. Next, Chapter 8 presents a method for assessing the quality of the architecture - ATAM (Architecture Trade-off Analysis Method) - and provides a sample assessment, while Chapter 9 presents an alternative way of assessing the architecture, namely by using quantitative measures and indicators. Subsequently Chapter 10 dives deeper into one of the specific properties discussed in Chapter 8 - safety - and details an important standard in that area, the ISO/IEC 26262 norm. Lastly, Chapter 11 presents a set of future trends that are currently emerging and have the potential to shape automotive software engineering in the coming years. This book explores the concept of software architecture for modern cars and is intended for both beginning and advanced software designers. It mainly aims at two different groups of audience - professionals working with automotive software who need to understand concepts related to automotive architectures, and students of software engineering or related fields who need to understand the specifics of automotive software to be able to construct cars or their components. Accordingly, the book also contains a wealth of real-world examples illustrating the concepts discussed and requires no prior background in the automotive domain. Compared to the first edition, besides the two new chapters 3 and 7 there are considerable updates in chapters 5 and 8 especially. It

Infrastructure Architecture - Infrastructure Building Blocks and Concepts Second Edition *Sjaak Laan* For many decades, IT infrastructure has provided the foundation for successful application deployment. Yet, general knowledge of infrastructures is still not widespread. Experience shows that software developers, system administrators, and project managers often have little knowledge of the big influence IT infrastructures have on the performance, availability and security of software applications. This book explains the concepts, history, and implementation of IT infrastructures. Although many of books can be found on individual infrastructure building blocks, this is the first book to describe all of them: datacenters, servers, networks, storage, virtualization, operating systems, and end user devices. Whether you need an introduction to infrastructure technologies, a refresher course, or a study guide for a computer science class, you will find that the presented building blocks and concepts provide a solid foundation for understanding the

complexity of today's IT infrastructures. **Software Architecture in Action Designing and Executing Architectural Models with SysADL Grounded on the OMG SysML Standard** *Springer* This book presents a systematic model-based approach for software architecture according to three complementary viewpoints: structure, behavior, and execution. It covers a unified modeling approach and consolidates theory and practice with well-established learning outcomes. The authors cover the fundamentals of software architecture description and presents SysADL, a specialization of the OMG Standard Systems Modeling Language (SysML) with the aim of bringing together the expressive power of an Architecture Description Language (ADL) with a standard notation, widely accepted by industry and compliant with the ISO/IEC/IEEE 42010 Standard on Architecture Description in Systems and Software Engineering. The book is clearly structured in four parts: The first part focuses on the fundamentals of software architecture, exploring the concepts and constructs for modeling software architecture from differing viewpoints. Each chapter covers a specific viewpoint illustrated with examples of a real system. The second part focuses on how to design software architecture for achieving quality attributes. Each chapter covers a specific quality attribute and presents well-defined approaches to achieve it. Each architectural case study is illustrated with different examples drawn from a real-life system. The third part shows readers how to apply software architecture style to design architectures that meet the quality attributes. Each chapter covers a specific architectural style and gives insights on how to describe substyles. Each style is illustrated by variants and examples of a real-life system. The fourth part presents how to textually represent software architecture models to complement visual notation, including different examples. **Software Architecture in Action** is designed for teaching the required modeling techniques to both undergraduate and graduate students, giving them the practical techniques and tools needed to design the architecture of software-intensive systems. Similarly, this book will appeal to software development architects, designers, programmers and project managers too. **Rationale Management in Software Engineering** *Springer Science & Business Media* This is a detailed summary of research on design rationale providing researchers in software engineering with an excellent overview of the subject. Professional software engineers will find many examples, resources and incentives to enhance their ability to make decisions during all phases of the software lifecycle. Software engineering is still primarily a human-based activity and rationale management is concerned with making design and development decisions explicit to all stakeholders involved. **Autonomic Computing and Networking** *Springer Science & Business Media* **Autonomic Computing and Networking** presents introductory and advanced topics on autonomic computing and networking with emphasis on architectures, protocols, services, privacy & security, simulation and implementation testbeds. Autonomic computing and networking are new computing and networking paradigms that allow the creation of self-managing and self-controlling computing and

networking environment using techniques such as distributed algorithms and context-awareness to dynamically control networking functions without human interventions. Autonomic networking is characterized by recovery from failures and malfunctions, agility to changing networking environment, self-optimization and self-awareness. The self-control and management features can help to overcome the growing complexity and heterogeneity of exiting communication networks and systems. The realization of fully autonomic heterogeneous networking introduces several research challenges in all aspects of computing and networking and related fields. Guide to the Software Engineering Body of Knowledge (Swebok(r)) Version 3.0 In the Guide to the Software Engineering Body of Knowledge (SWEBOK(R) Guide), the IEEE Computer Society establishes a baseline for the body of knowledge for the field of software engineering, and the work supports the Society's responsibility to promote the advancement of both theory and practice in this field. It should be noted that the Guide does not purport to define the body of knowledge but rather to serve as a compendium and guide to the knowledge that has been developing and evolving over the past four decades. Now in Version 3.0, the Guide's 15 knowledge areas summarize generally accepted topics and list references for detailed information. The editors for Version 3.0 of the SWEBOK(R) Guide are Pierre Bourque (Ecole de technologie superieure (ETS), Universite du Quebec) and Richard E. (Dick) Fairley (Software and Systems Engineering Associates (S2EA)). Beautiful Architecture Leading Thinkers Reveal the Hidden Beauty in Software Design "O'Reilly Media, Inc." 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. A Structured

Approach for Reviewing Architecture Documentation Abstract: "This technical note proposes a structured approach for reviewing architecture documentation. Given the critical importance of architecture to software project success, it follows that the architecture cannot be effective unless it is effectively captured in documentation that allows the architecture's stakeholders to understand and use the architecture in the way it was intended. The approach does not assume a particular architecture methodology or a particular architecture documentation practice, although it was conceived in the context of the International Organization for Standardization (ISO) Recommended Practice for Architecture Description of Software-Intensive Systems and the SEI Views and Beyond approach to documenting software architectures. Like both of them, our approach is centered on the stakeholders of the artifact, engaging them in a focused, guided way to ensure that the documentation carries sufficient quality to enable them to do their jobs and to help them point out gaps and weaknesses. Our approach is not intended as a complete framework for architecture evaluation; rather it is meant to be used within such a framework, when one is available." *A Software Architecture Primer Software Architecture Primer* The authors present a fresh, pragmatic approach to the study of software architecture. This edition contains a series of chapters that introduce and develop an understanding of software architecture by means of careful explanation and elaboration of a range of key concepts. (Computer Books) *Advanced Software Engineering: Expanding the Frontiers of Software Technology IFIP 19th World Computer Congress, First International Workshop on Advanced Software Engineering, August 25, 2006, Santiago, Chile Springer Science & Business Media* On behalf of the Organizing Committee for this event, we are glad to welcome you to IWASE 2006, the First International Workshop on Advanced Software Engineering. We hope you will enjoy the traditional Chilean hospitality and, of course, please tell us how we can make your visit a pleasant and useful experience. The goal of this Workshop is to create a new forum for researchers, professionals and educators to discuss advanced software engineering topics. A distinctive feature of this Workshop is its attempt to foster interactions between the Latin-American software engineering community and computer scientists around the world. This is an opportunity to discuss with other researchers or simply to meet new colleagues. IWASE 2006 has been organized to facilitate strong interactions among those attending it and to offer ample time for discussing each paper. IWASE 2006 attracted 28 submissions from 14 countries, 8 of them outside Latin-America. Each of the 28 articles was reviewed by at least three members of the Program Committee. As a result of this rigorous reviewing process, 13 papers were accepted: nine full papers and four work-in-progress papers. These papers were grouped in four tracks; software architecture, software modeling, software development process and experiences in software development. *How to Break Software A Practical Guide to Testing Pearson* CD-ROM contains: Canned HEAT v.2.0 -- Holodeck Lite v. 1.0. Architecture Description

Languages IFIP TC-2 Workshop on Architecture Description Languages (WADL), World Computer Congress, Aug. 22-27, 2004, Toulouse, France *Springer Science & Business Media* **Architecture Description Languages** is an essential reference for both academic and professional researchers in the field of system engineering and design. The papers presented in this volume were selected from the workshop of the same name that was held as part of the World Computer Congress 2004 Conference, held in Toulouse, France in August 2004. This collection presents significant research and innovative developments and applications from both academic researchers and industry practitioners on topics ranging from Semantics to Tool and Development Environments. The aim of an ADL is to formally describe software and hardware architectures. Usually, an ADL describes components, their interfaces, their structures, their interactions (structure of data flow and control flow) and the mappings to hardware systems. A major goal of such description is to allow analysis with respect to several aspects like timing, safety, reliability. The papers in this state-of-the-art volume cover such topics of interest as components, connectors, composition; semantics and formalization; verification, simulation and test; tools and development environments; standardization; industrial projects. To encourage closer interaction between academic and industrial networking research communities, the workshop welcomed academic research papers as well as industrial contributions, and both are included here. Which makes this collection important not only for ADL experts and researchers, but also for all teachers and administrators interested in ADL. **The Rational Unified Process An Introduction** *Addison-Wesley Professional* **bull**; Reflects all of the changes that were integrated into RUP v2003-the latest version of the very popular product **bull**; Learn the key concepts, fundamentals of structure, integral content, and motivation behind the RUP **bull**; Covers all phases of the software development lifecycle -from concept, to delivery, to revision **Head First Software Development** "*O'Reilly Media, Inc.*" Provides information on successful software development, covering such topics as customer requirements, task estimates, principles of good design, dealing with source code, system testing, and handling bugs. **Software Architect's Handbook** Become a successful software architect by implementing effective architecture concepts *Packt Publishing Ltd* **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. Solutions Architect's Handbook Kick-start your solutions architect career by learning architecture design principles and strategies *Packt Publishing Ltd* This book will show you how to create robust, scalable, highly available and fault-tolerant solutions by learning different aspects of Solution architecture and next-generation architecture design in the Cloud environment. Constructing Superior Software *Sams Publishing* This is the lead book in a series of books from the Software Quality Institute (SQI). This series will bring together some of the key individuals in the Software Engineering community, and through their knowledge and experience, develop a library of books that set the standards for best practices in achieving high-quality software. This title presents a set of fundamental engineering strategies for achieving a successful software solution, with practical advice to ensure that the development project is moving in the right direction. Software designers and development managers can improve the development speed and quality of their software, and improve the processes used in development. Software Product Lines Practices and Patterns: Practices and Patterns *Addison-Wesley* Software Architecture: The Hard Parts "O'Reilly Media, Inc." There are no easy decisions in software architecture. Instead, there are many hard parts--difficult problems or issues with no best practices--that force you to choose among various compromises. With this book, you'll learn how to think critically about the trade-offs involved with distributed architectures. Architecture veterans and practicing consultants Neal Ford, Mark Richards, Pramod Sadalage, and Zhamak Dehghani discuss strategies for choosing an appropriate architecture. By interweaving a story about a fictional group of technology professionals--the Sysops Squad--they examine everything from how to determine service granularity, manage workflows and

orchestration, manage and decouple contracts, and manage distributed transactions to how to optimize operational characteristics, such as scalability, elasticity, and performance. By focusing on commonly asked questions, this book provides techniques to help you discover and weigh the trade-offs as you confront the issues you face as an architect. Analyze trade-offs and effectively document your decisions Make better decisions regarding service granularity Understand the complexities of breaking apart monolithic applications Manage and decouple contracts between services Handle data in a highly distributed architecture Learn patterns to manage workflow and transactions when breaking apart applications *Practical Software Architecture Moving from System Context to Deployment IBM Press* Getting Architecture Just Right: Detailed Practical Guidance for Architecting Any Real-World IT Project To build effective architectures, software architects must tread a fine line between precision and ambiguity (a.k.a big animal pictures). This is difficult but crucial: Failure to achieve this balance often leads directly to poor systems design and implementation. Now, pioneering IBM Distinguished Engineer and Chief Technology Officer Tilak Mitra offers the first complete guide to developing end-to-end solution architectures that are “just enough”--identifying and capturing the most important artifacts, without over-engineering or excessive documentation, and providing a practical approach to consistent and repeated success in defining software architectures. *Practical Software Architecture* provides detailed prescriptive and pragmatic guidance for architecting any real-world IT project, regardless of system, methodology, or environment. Mitra specifically identifies the artifacts that require emphasis and shows how to communicate evolving solutions with stakeholders, bridging the gap between architecture and implementation. *Object Design Roles, Responsibilities, and Collaborations Addison-Wesley Professional* Object technology pioneer Wirfs-Brock teams with expert McKean to present a thoroughly updated, modern, and proven method for the design of software. The book is packed with practical design techniques that enable the practitioner to get the job done. *The Rails Way Pearson Education* The expert guide to building Ruby on Rails applications Ruby on Rails strips complexity from the development process, enabling professional developers to focus on what matters most: delivering business value. Now, for the first time, there’s a comprehensive, authoritative guide to building production-quality software with Rails. Pioneering Rails developer Obie Fernandez and a team of experts illuminate the entire Rails API, along with the Ruby idioms, design approaches, libraries, and plug-ins that make Rails so valuable. Drawing on their unsurpassed experience, they address the real challenges development teams face, showing how to use Rails’ tools and best practices to maximize productivity and build polished applications users will enjoy. Using detailed code examples, Obie systematically covers Rails’ key capabilities and subsystems. He presents advanced programming techniques, introduces open source libraries that facilitate easy Rails adoption, and offers important insights into testing and production deployment. Dive

deep into the Rails codebase together, discovering why Rails behaves as it does— and how to make it behave the way you want it to. This book will help you Increase your productivity as a web developer Realize the overall joy of programming with Ruby on Rails Learn what's new in Rails 2.0 Drive design and protect long-term maintainability with TestUnit and RSpec Understand and manage complex program flow in Rails controllers Leverage Rails' support for designing REST-compliant APIs Master sophisticated Rails routing concepts and techniques Examine and troubleshoot Rails routing Make the most of ActiveRecord object-relational mapping Utilize Ajax within your Rails applications Incorporate logins and authentication into your application Extend Rails with the best third-party plug-ins and write your own Integrate email services into your applications with ActionMailer Choose the right Rails production configurations Streamline deployment with Capistrano