

Devops By Len Bass

Eventually, you will entirely discover a new experience and endowment by spending more cash. nevertheless when? complete you consent that you require to get those all needs in imitation of having significantly cash? Why dont you try to acquire something basic in the beginning? Thats something that will guide you to comprehend even more regarding the globe, experience, some places, with history, amusement, and a lot more?

It is your entirely own get older to produce a result reviewing habit. among guides you could enjoy now is **devops by len bass** below.

Cloud Computing - Thomas Erl
2013

Explores cloud computing, breaking down the concepts, models, mechanisms, and architectures of this technology while allowing for the financial assessment of resources and how they compare to traditional storage systems.

Enterprise Web Development -
Yakov Fain 2014-07-02

If you want to build your organization's next web application with HTML5, this practical book will help you sort through the various

frameworks, libraries, and development options that populate this stack. You'll learn several of these approaches hands-on by writing multiple versions of a sample web app throughout the book, so you can determine the right strategy for your enterprise. What's the best way to reach both mobile and desktop users? How about modularization, security, and test-driven development? With lots of working code samples, this book will help web application developers and software

architects navigate the growing number of HTML5 and JavaScript choices available. The book's sample apps are available at <http://savesickchild.org>. Mock up the book's working app with HTML, JavaScript, and CSS. Rebuild the sample app, first with jQuery and then Ext JS. Work with different build tools, code generators, and package managers. Build a modularized version of the app with RequireJS. Apply test-driven development with the Jasmine framework. Use WebSocket to build an online auction for the app. Adapt the app for both PCs and mobile with responsive web design. Create mobile versions with jQuery Mobile, Sencha Touch, and PhoneGap.

Software Architecture in Practice Len Bass 2003

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.

The DevOps Adoption Playbook - Sanjeev Sharma 2017-02-28

Achieve streamlined, rapid production with enterprise-

level DevOps. Awarded DevOps 2017 Book of the Year, *The DevOps Adoption Playbook* provides practical, actionable, real-world guidance on implementing DevOps at enterprise scale. Author Sanjeev Sharma heads the DevOps practice for IBM; in this book, he provides unique guidance and insight on implementing DevOps at large organizations. Most DevOps literature is aimed at startups, but enterprises have unique needs, capabilities, limitations, and challenges; "DevOps for startups" doesn't work at this scale, but the DevOps paradigm can revolutionize enterprise IT. Deliver high-value applications and systems with velocity and agility by adopting the necessary practices, automation tools, and organizational and cultural changes that lead to innovation through rapid experimentation. Speed is an advantage in the face of competition, but it must never come at the expense of quality; DevOps allows your organization to keep both by intersecting development,

quality assurance, and operations. Enterprise-level DevOps comes with its own set of challenges, but this book shows you just how easily they are overcome. With a slight shift in perspective, your organization can stay ahead of the competition while keeping costs, risks, and quality under control. Grasp the full extent of the DevOps impact on IT organizations. Achieve high-value innovation and optimization with low cost and risk. Exceed traditional business goals with higher product release efficiency. Implement DevOps in large-scale enterprise IT environments. DevOps has been one of IT's hottest trends for the past decade, and plenty of success stories testify to its effectiveness in organizations of any size, industry, or level of IT maturity, all around the world. The DevOps Adoption Playbook shows you how to get your organization on board so you can slip production into the fast lane and innovate your way to the top.

Software Architecture in

Practice - Len Bass

2021-07-27

The Definitive, Practical, Proven Guide to Architecting Modern Software--Fully Updated with New Content on Mobility, the Cloud, Energy Management, DevOps, Quantum Computing, and More. Updated with eleven new chapters, *Software Architecture in Practice*, Fourth Edition, thoroughly explains what software architecture is, why it's important, and how to design, instantiate, analyze, evolve, and manage it in disciplined and effective ways. Three renowned software architects cover the entire lifecycle, presenting practical guidance, expert methods, and tested models for use in any project, no matter how complex. You'll learn how to use architecture to address accelerating growth in requirements, system size, and abstraction, and to manage emergent quality attributes as systems are dynamically combined in new ways. With insights for utilizing architecture to optimize key

quality attributes--including performance, modifiability, security, availability, interoperability, testability, usability, deployability, and more--this guide explains how to manage and refine existing architectures, transform them to solve new problems, and build reusable architectures that become strategic business assets. Discover how architecture influences (and is influenced by) technical environments, project lifecycles, business profiles, and your own practices. Leverage proven patterns, interfaces, and practices for optimizing quality through architecture. Architect for mobility, the cloud, machine learning, and quantum computing. Design for increasingly crucial attributes such as energy efficiency and safety. Scale systems by discovering architecturally significant influences, using DevOps and deployment pipelines, and managing architecture debt. Understand architecture's role in the organization, so you can

deliver more value. Register your book for convenient access to downloads, updates, and/or corrections as they become available. See inside book for details.

[DevOps for Developers](#) -

Michael Httermann 2012-10-24

DevOps for Developers delivers a practical, thorough

introduction to approaches, processes and tools to foster collaboration between software development and operations. Efforts of Agile software

development often end at the transition phase from development to operations. This book covers the delivery of

software, this means "the last mile", with lean practices for shipping the software to production and making it available to the end users, together with the integration of operations with earlier project phases (elaboration, construction, transition).

DevOps for Developers describes how to streamline the software delivery process and improve the cycle time (that is the time from inception to delivery). It will enable you

to deliver software faster, in better quality and more aligned with individual requirements and basic conditions. And above all, work that is aligned with the “DevOps” approach makes even more fun! Provides patterns and toolchains to integrate software development and operations Delivers an one-stop shop for kick-starting with DevOps Provides guidance how to streamline the software delivery process

Designing Software

Architectures Humberto Cervantes 2016-04-29

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
Present and Uteri or Software Engi neeri ng- Manuel Mazzara
2017-11-01

This book provides an effective overview of the state-of-the art in software engineering, with a projection of the future of the discipline. It includes 13 papers, written by leading researchers in the respective fields, on important topics like model-driven software development, programming language design, microservices, software reliability, model checking and simulation. The papers are edited and extended versions of the presentations at the PAUSE symposium, which marked the completion of 14

years of work at the Chair of Software Engineering at ETH Zurich. In this inspiring context, some of the greatest minds in the field extensively discussed the past, present and future of software engineering. It guides readers on a voyage of discovery through the discipline of software engineering today, offering unique food for thought for researchers and professionals, and inspiring future research and development.

Software Architecture - Mary Shaw 1996

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.

Managed Software Evolution - Ralf Reussner 2019-06-26

This open access book presents the outcomes of the “Design for Future - Managed Software Evolution” priority program 1593, which was launched by the German Research

Foundation (“Deutsche Forschungsgemeinschaft (DFG)”) to develop new approaches to software engineering with a specific focus on long-lived software systems. The different lifecycles of software and hardware platforms lead to interoperability problems in such systems. Instead of separating the development, adaptation and evolution of software and its platforms, as well as aspects like operation, monitoring and maintenance, they should all be integrated into one overarching process. Accordingly, the book is split into three major parts, the first of which includes an introduction to the nature of software evolution, followed by an overview of the specific challenges and a general introduction to the case studies used in the project. The second part of the book consists of the main chapters on knowledge carrying software, and cover tacit knowledge in software evolution, continuous design decision support, model-based round-trip engineering for

software product lines, performance analysis strategies, maintaining security in software evolution, learning from evolution for evolution, and formal verification of evolutionary changes. In turn, the last part of the book presents key findings and spin-offs. The individual chapters there describe various case studies, along with their benefits, deliverables and the respective lessons learned. An overview of future research topics rounds out the coverage. The book was mainly written for scientific researchers and advanced professionals with an academic background. They will benefit from its comprehensive treatment of various topics related to problems that are now gaining in importance, given the higher costs for maintenance and evolution in comparison to the initial development, and the fact that today, most software is not developed from scratch, but as part of a continuum of former and future releases. Developing Software for the User Interface - Len Bass 1991

Serves two purposes: first, to explain the concepts behind the development of user interfaces both from the end user's perspective and from the developer's perspective; second, to provide a categorization of the levels of abstraction of various tools and systems. For programmers and software engineers. Annotation copyrighted by Book News, Inc., Portland, OR

Continuous Architecture -

Murat Erder 2015-10-21

Continuous Architecture provides a broad architectural perspective for continuous delivery, and describes a new architectural approach that supports and enables it. As the pace of innovation and software releases increases, IT departments are tasked to deliver value quickly and inexpensively to their business partners. With a focus on getting software into end-users hands faster, the ultimate goal of daily software updates is in sight to allow teams to ensure that they can release every change to the system simply and efficiently. This book

presents an architectural approach to support modern application delivery methods and provide a broader architectural perspective, taking architectural concerns into account when deploying agile or continuous delivery approaches. The authors explain how to solve the challenges of implementing continuous delivery at the project and enterprise level, and the impact on IT processes including application testing, software deployment and software architecture.

Covering the application of enterprise and software architecture concepts to the Agile and Continuous Delivery models Explains how to create an architecture that can evolve with applications Incorporates techniques including refactoring, architectural analysis, testing, and feedback-driven development Provides insight into incorporating modern software development when structuring teams and organizations

DevOps for the Modern

Enterprise Mirco Hering

2018-04-03

Many organizations are facing the uphill battle of modernizing their legacy IT infrastructure. Most have evolved over the years by taking lessons from traditional or legacy manufacturing: creating a production process that puts the emphasis on the process instead of the people performing the tasks, allowing the organization to treat people like resources to try to achieve high-quality outcomes. But those practices and ideas are failing modern IT, where collaboration and creativeness are required to achieve high-performing, high-quality success. Mirco Hering, a thought leader in managing IT within legacy organizations, lays out a roadmap to success for IT managers, showing them how to create the right ecosystem, how to empower people to bring their best to work every day, and how to put the right technology in the driver's seat to propel their organization to success. But just having the right methods and tools will not magically

transform an organization; the cultural change that is the hardest is also the most impactful. Using principles from Agile, Lean, and DevOps as well as first-hand examples from the enterprise world, Hering addresses the different challenges that legacy organizations face as they transform into modern IT departments.

Engineering DevOps - Marc Hornbeek 2019-12-06

This book is an engineering reference manual that explains "How to do DevOps?". It is targeted to people and organizations that are "doing DevOps" but not satisfied with the results that they are getting. There are plenty of books that describe different aspects of DevOps and customer user stories, but up until now there has not been a book that frames DevOps as an engineering problem with a step-by-step engineering solution and a clear list of recommended engineering practices to guide implementors. The step-by-step engineering prescriptions can

be followed by leaders and practitioners to understand, assess, define, implement, operationalize, and evolve DevOps for their organization. The book provides a unique collection of engineering practices and solutions for DevOps. By confining the scope of the content of the book to the level of engineering practices, the content is applicable to the widest possible range of implementations. This book was born out of the author's desire to help others do DevOps, combined with a burning personal frustration. The frustration comes from hearing leaders and practitioners say, "We think we are doing DevOps, but we are not getting the business results we had expected." Engineering DevOps describes a strategic approach, applies engineering implementation discipline, and focuses operational expertise to define and accomplish specific goals for each leg of an organization's unique DevOps journey. This book guides the reader through a journey from

defining an engineering strategy for DevOps to implementing The Three Ways of DevOps maturity using engineering practices: The First Way (called "Continuous Flow") to The Second Way (called "Continuous Feedback") and finally The Third Way (called "Continuous Improvement"). This book is intended to be a guide that will continue to be relevant over time as your specific DevOps and DevOps more generally evolves.

Collaborative Software Engineering - Ivan Mistrík
2010-03-10

Collaboration among individuals - from users to developers - is central to modern software engineering. It takes many forms: joint activity to solve common problems, negotiation to resolve conflicts, creation of shared definitions, and both social and technical perspectives impacting all software development activity. The difficulties of collaboration are also well documented. The grand challenge is not only to

ensure that developers in a team deliver effectively as individuals, but that the whole team delivers more than just the sum of its parts. The editors of this book have assembled an impressive selection of authors, who have contributed to an authoritative body of work tackling a wide range of issues in the field of collaborative software engineering. The resulting volume is divided into four parts, preceded by a general editorial chapter providing a more detailed review of the domain of collaborative software engineering. Part 1 is on "Characterizing Collaborative Software Engineering", Part 2 examines various "Tools and Techniques", Part 3 addresses organizational issues, and finally Part 4 contains four examples of "Emerging Issues in Collaborative Software Engineering". As a result, this book delivers a comprehensive state-of-the-art overview and empirical results for researchers in academia and industry in areas like software

process management, empirical software engineering, and global software development. Practitioners working in this area will also appreciate the detailed descriptions and reports which can often be used as guidelines to improve their daily work.

DevOps - Len Bass 2015-05-08
The First Complete Guide to DevOps for Software Architects
DevOps promises to accelerate the release of new software features and improve monitoring of systems in production, but its crucial implications for software architects and architecture are often ignored. In *DevOps: A Software Architect's Perspective*, three leading architects address these issues head-on. The authors review decisions software architects must make in order to achieve DevOps' goals and clarify how other DevOps participants are likely to impact the architect's work. They also provide the organizational, technical, and operational context needed to deploy DevOps more

efficiently, and review DevOps' impact on each development phase. The authors address cross-cutting concerns that link multiple functions, offering practical insights into compliance, performance, reliability, repeatability, and security. This guide demonstrates the authors' ideas in action with three real-world case studies: datacenter replication for business continuity, management of a continuous deployment pipeline, and migration to a microservice architecture. Comprehensive coverage includes

- Why DevOps can require major changes in both system architecture and IT roles
- How virtualization and the cloud can enable DevOps practices
- Integrating operations and its service lifecycle into DevOps
- Designing new systems to work well with DevOps practices
- Integrating DevOps with agile methods and TDD
- Handling failure detection, upgrade planning, and other key issues
- Managing consistency issues arising from DevOps'

independent deployment models

- Integrating security controls, roles, and audits into DevOps
- Preparing a business plan for DevOps adoption, rollout, and measurement

[DevOps for Trustworthy Smart IoT Systems](#) - Nicolas Ferry
2021-07-31

ENACT is a research project funded by the European Commission under its H2020 program. The project consortium consists of twelve industry and research member organisations spread across the whole EU. The overall goal of the ENACT project was to provide a novel set of solutions to enable DevOps in the realm of trustworthy Smart IoT Systems. Smart IoT Systems (SIS) are complex systems involving not only sensors but also actuators with control loops distributed all across the IoT, Edge and Cloud infrastructure. Since smart IoT systems typically operate in a changing and often unpredictable environment, the ability of these systems to continuously evolve and adapt to their new environment is

decisive to ensure and increase their trustworthiness, quality and user experience. DevOps has established itself as a software development life-cycle model that encourages developers to continuously bring new features to the system under operation without sacrificing quality. This book reports on the ENACT work to empower the development and operation as well as the continuous and agile evolution of SIS, which is necessary to adapt the system to changes in its environment, such as newly appearing trustworthiness threats.

Documenting Software

Architectures - Paul Clements
2010-10-05

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

Engineering Software Products
- Ian Sommerville 2021

Software Architecture with C++ - Adrian Ostrowski
2021-04-23

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 Features

- Design scalable large-scale applications with the C++ programming language
- Architect 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 tools

Book 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 learn Understand how to apply the principles of software architecture Apply design patterns and best practices to meet your architectural goals Write elegant, safe, and performant code using the latest C++ features Build applications that are easy to maintain and deploy Explore the different architectural approaches and learn to apply them as per your requirement Simplify development and operations using application containers Discover various techniques to solve common problems in software design and development Who 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. *Microservices Patterns* Chris Richardson 2018-10-27 "A comprehensive overview of the challenges teams face when moving to microservices, with industry-tested solutions

to these problems." - Tim Moore, Lightbend 44 reusable patterns to develop and deploy reliable production-quality microservices-based applications, with worked examples in Java Key Features 44 design patterns for building and deploying microservices applications Drawing on decades of unique experience from author and microservice architecture pioneer Chris Richardson A pragmatic approach to the benefits and the drawbacks of microservices architecture Solve service decomposition, transaction management, and inter-service communication Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About The Book Microservices Patterns teaches you 44 reusable patterns to reliably develop and deploy production-quality microservices-based applications. This invaluable set of design patterns builds on decades of distributed system experience, adding new patterns for composing

services into systems that scale and perform under real-world conditions. More than just a patterns catalog, this practical guide with worked examples offers industry-tested advice to help you design, implement, test, and deploy your microservices-based application. What You Will Learn How (and why!) to use microservices architecture Service decomposition strategies Transaction management and querying patterns Effective testing strategies Deployment patterns This Book Is Written For Written for enterprise developers familiar with standard enterprise application architecture. Examples are in Java. About The Author Chris Richardson is a Java Champion, a JavaOne rock star, author of Manning's POJOs in Action, and creator of the original CloudFoundry.com. Table of Contents Escaping monolithic hell Decomposition strategies Interprocess communication in a microservice architecture Managing transactions with sagas Designing business logic

in a microservice architecture
Developing business logic with
event sourcing Implementing
queries in a microservice
architecture External API
patterns Testing microservices:
part 1 Testing microservices:
part 2 Developing production-
ready services Deploying
microservices Refactoring to
microservices
Brutal Refactoring Michael
Feathers 2013-01-01

Human-computer

Interaction - Leonard J. Bass
1993

The International Conference
on Human-Computer
Interaction EWHCI '93 was
the third conference in a series
which started in 1991 in
Moscow. Like its predecessors,
it was occasioned by the long
separation of workers in HCI
from one another and the new
opportunity to learn from one
another and to start
cooperations with each other.
The conference was
international, with papers and
participants from 16 countries.
This volume contains a
selection of the best papers

presented at the conference.
The papers are grouped into
parts on: foundations of HCI;
techniques, tools and
paradigms for interface design;
information visualization;
empirical studies; multimedia;
hypertext; customizing
interfaces; teaching and
learning; applications.
Essential Software
Architecture Ian Gorton
2011-04-27

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.

Future-Proof Software-Systems - Frank J. Furrer
2019-09-25

This book focuses on software architecture and the value of architecture in the

development of long-lived, mission-critical, trustworthy software-systems. The author introduces and demonstrates the powerful strategy of "Managed Evolution," along with the engineering best practice known as "Principle-based Architecting." The book examines in detail architecture principles for e.g., Business Value, Changeability, Resilience, and Dependability. The author argues that the software development community has a strong responsibility to produce and operate useful, dependable, and trustworthy software. Software should at the same time provide business value and guarantee many quality-of-service properties, including security, safety, performance, and integrity. As Dr. Furrer states, "Producing dependable software is a balancing act between investing in the implementation of business functionality and investing in the quality-of-service properties of the software-systems." The book presents extensive coverage of such

concepts as: Principle-Based Architecting Managed Evolution Strategy The Future Principles for Business Value Legacy Software Modernization/Migration Architecture Principles for Changeability Architecture Principles for Resilience Architecture Principles for Dependability The text is supplemented with numerous figures, tables, examples and illustrative quotations. Future-Proof Software-Systems provides a set of good engineering practices, devised for integration into most software development processes dedicated to the creation of software-systems that incorporate Managed Evolution.

The Agile Architecture Revolution - Jason Bloomberg
2013-01-23

A sneak peek at up-and-coming trends in IT, a multidimensional vision for achieving business agility through agile architectures The Agile Architecture Revolution places IT trends into the context of Enterprise

Architecture, reinventing Enterprise Architecture to support continuous business transformation. It focuses on the challenges of large organizations, while placing such organizations into the broader business ecosystem that includes small and midsize organizations as well as startups. Organizes the important trends that are facing technology in businesses and public sector organizations today and over the next several years Presents the five broad organizing principles called Supertrends: location independence, global cubicle, democratization of technology, deep interoperability, and complex systems engineering Provides a new perspective on service-oriented architecture in conjunction with architectural approaches to cloud computing and mobile technologies that explain how organizations can achieve better business visibility through IT and enterprise architecture Laying out a multidimensional vision for achieving agile architectures, this book

discusses the crisis points that promise sudden, transformative change, unraveling how organizations' spending on IT will continue to undergo radical change over the next ten years.

Managing Technical Debt

Philippe Kruchten 2019-04-15

“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.

Continuous Architecture in Practice - Murat Erder
2021-04

In Continuous Architecture in Practice, three leading software architecture experts update the discipline's classic practices for today's environments, software development contexts, and applications. Coverage includes: Discover what's changed, and how the architect's role must change Reflect today's quality

attributes in evolvable architectures Understand team-based software architecture, and architecture as a "flow of decisions" Architect for security, including continuous threat modeling and mitigation Explore architectural opportunities to improve performance in continuous delivery environments Architect for scalability, avoid common scalability pitfalls, and scale microservices and serverless environments Improve resilience and reliability in the face of inevitable failures Architect data for NoSQL, big data, and analytics Use architecture to promote innovation: case studies in AI/ML, chatbots, and blockchain

User Interface Software - Len Bass 1993-07-27

This accessible and authoritative reference explores the practical implications of new trends in the development of user interface software. Developments such as groupware, virtual reality and

multimedia are likely to alter the way we all view software both as developers and users. This book looks beyond the hype and tells what all the buzzwords mean for the working programmer and developer.

Software Architecture in Practice (2003) - Len Bass, Paul Clements, Rick Kazman 2022-04-25

Software Architecture in Practice is a comprehensive guide to the practice of software architecture. It covers the entire process from requirements gathering to the final design and implementation. The book is divided into several parts, including an introduction to software architecture, a discussion of the role of the software architect, and a detailed look at the various tools and techniques used in the field. The book is written in a clear and concise style, making it an excellent resource for both students and professionals alike. It is a must-read for anyone interested in software architecture.

#GOTOP
Continuous Software Engineering - Jan Bosch
2014-11-11

This book provides essential insights on the adoption of modern software engineering practices at large companies producing software-intensive systems, where hundreds or even thousands of engineers collaborate to deliver on new systems and new versions of already deployed ones. It is based on the findings collected and lessons learned at the Software Center (SC), a unique collaboration between research and industry, with Chalmers University of Technology, Gothenburg University and Malmö University as academic partners and Ericsson, AB Volvo, Volvo Car Corporation, Saab Electronic Defense Systems, Grundfos, Axis Communications, Jeppesen (Boeing) and Sony Mobile as industrial partners. The 17 chapters present the “Stairway to Heaven” model, which represents the typical evolution path companies move through as they develop and mature

their software engineering capabilities. The chapters describe theoretical frameworks, conceptual models and, most importantly, the industrial experiences gained by the partner companies in applying novel software engineering techniques. The book's structure consists of six parts. Part I describes the model in detail and presents an overview of lessons learned in the collaboration between industry and academia. Part II deals with the first step of the Stairway to Heaven, in which R&D adopts agile work practices. Part III of the book combines the next two phases, i.e., continuous integration (CI) and continuous delivery (CD), as they are closely intertwined. Part IV is concerned with the highest level, referred to as "R&D as an innovation system," while Part V addresses a topic that is separate from the Stairway to Heaven and yet critically important in large organizations: organizational performance metrics that capture data, and visualizations

of the status of software assets, defects and teams. Lastly, Part VI presents the perspectives of two of the SC partner companies. The book is intended for practitioners and professionals in the software-intensive systems industry, providing concrete models, frameworks and case studies that show the specific challenges that the partner companies encountered, their approaches to overcoming them, and the results. Researchers will gain valuable insights on the problems faced by large software companies, and on how to effectively tackle them in the context of successful cooperation projects.

Software Systems Architecture - Rozanski
2005-09

Product-Focused Software Process Improvement - Xavier Franch
2019-11-18

This book constitutes the refereed proceedings of the 20th International Conference on Product-Focused Software Process Improvement, PROFES

2019, held in Barcelona, Spain, in November 2019. The 24 revised full papers, 4 industry papers, and 11 short papers presented were carefully reviewed and selected from 104 submissions. The papers cover a broad range of topics related to professional software development and process improvement driven by product and service quality needs. They are organized in topical sections on testing, software development, technical debt, estimations, continuous delivery, agile, project management, microservices, and continuous experimentation. This book also includes papers from the co-located events: 10 project papers, 8 workshop papers, and 4 tutorial summaries.

What is DevOps?- Mike Loukides 2012-06-05

Have we entered the age of NoOps infrastructures? Hardly. Old-style system administrators may be disappearing in the face of automation and cloud computing, but operations have become more significant than ever. As this O'Reilly Radar

Report explains, we're moving into a more complex arrangement known as "DevOps." Mike Loukides, O'Reilly's VP of Content Strategy, provides an incisive look into this new world of operations, where IT specialists are becoming part of the development team. In an environment with thousands of servers, these specialists now write the code that maintains the infrastructure. Even applications that run in the cloud have to be resilient and fault tolerant, need to be monitored, and must adjust to huge swings in load. That was underscored by Amazon's EBS outage last year. From the discussions at O'Reilly's Velocity Conference, it's evident that many operations specialists are quickly adapting to the DevOps reality. But as a whole, the industry has just scratched the surface. This report tells you why.

Cyber Security Engineering - Nancy R. Mead 2016-11-07
Cyber Security Engineering is the definitive modern reference and tutorial on the full range of

capabilities associated with modern cyber security engineering. Pioneering software assurance experts Dr. Nancy R. Mead and Dr. Carol C. Woody bring together comprehensive best practices for building software systems that exhibit superior operational security, and for considering security throughout your full system development and acquisition lifecycles. Drawing on their pioneering work at the Software Engineering Institute (SEI) and Carnegie Mellon University, Mead and Woody introduce seven core principles of software assurance, and show how to apply them coherently and systematically. Using these principles, they help you prioritize the wide range of possible security actions available to you, and justify the required investments. Cyber Security Engineering guides you through risk analysis, planning to manage secure software development, building organizational models, identifying required and

missing competencies, and defining and structuring metrics. Mead and Woody address important topics, including the use of standards, engineering security requirements for acquiring COTS software, applying DevOps, analyzing malware to anticipate future vulnerabilities, and planning ongoing improvements. This book will be valuable to wide audiences of practitioners and managers with responsibility for systems, software, or quality engineering, reliability, security, acquisition, or operations. Whatever your role, it can help you reduce operational problems, eliminate excessive patching, and deliver software that is more resilient and secure.

Management Information Systems - Kenneth C. Laudon 2004

Management Information Systems provides comprehensive and integrative coverage of essential new technologies, information system applications, and their impact on business models and

managerial decision-making in an exciting and interactive manner. The twelfth edition focuses on the major changes that have been made in information technology over the past two years, and includes new opening, closing, and Interactive Session cases.

Continuous Practices: A Strategic Approach to Accelerating the Software Production System - Daniel Stöhl 2018-02-05

Continuous integration, delivery and deployment promise rapid feedback and short turn-around times, which serve as enablers for greater responsiveness in the face of changing markets and disruptive technologies alike. It is this responsiveness to threats and opportunities that makes the difference between success and extinction in the software industry of tomorrow. Coverage includes an overview of the various continuous practices, explanations and guidance adapted to different contexts and circumstances and a concrete structured method to leverage continuous

practices for your needs. Daniel Stöhl and Torvald Mörtensson have as researchers and practitioners observed, studied and participated in a multitude of software projects in a range of companies and segments of the software industry. Now they have teamed up to share their experiences and insights and provide hands-on guidance to software engineers looking to improve their continuous practices.

Just Enough Software Architecture George Fairbanks 2010-08-30

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.

Software Quality Assurance -

Ivan Mistrik 2015-10-12

Software Quality Assurance in Large Scale and Complex Software-intensive Systems presents novel and high-quality research related approaches that relate the quality of software architecture to system requirements, system architecture and enterprise-architecture, or software testing. Modern software has become complex and adaptable due to the emergence of globalization and new software technologies, devices and networks. These changes challenge both traditional software quality assurance techniques and software engineers to ensure software

quality when building today (and tomorrow's) adaptive, context-sensitive, and highly diverse applications. This edited volume presents state of the art techniques, methodologies, tools, best practices and guidelines for software quality assurance and offers guidance for future software engineering research and practice. Each contributed chapter considers the practical application of the topic through case studies, experiments, empirical validation, or systematic comparisons with other approaches already in practice. Topics of interest include, but are not limited, to: quality attributes of system/software architectures; aligning enterprise, system, and software architecture from the point of view of total quality; design decisions and their influence on the quality of system/software architecture; methods and processes for evaluating architecture quality; quality assessment of legacy systems and third party applications; lessons learned and empirical validation of

theories and frameworks on architectural quality; empirical validation and testing for assessing architecture quality. Focused on quality assurance at all levels of software design and development Covers domain-specific software quality assurance issues e.g. for cloud, mobile, security, context-sensitive, mash-up and autonomic systems Explains likely trade-offs from design decisions in the context of complex software system engineering and quality assurance Includes practical case studies of software quality assurance for complex, adaptive and context-critical systems

Effective DevOps - Jennifer Davis 2016-05-30

Some companies think that adopting devops means bringing in specialists or a host of new tools. With this practical guide, you'll learn why devops is a professional and cultural movement that calls for change from inside your organization. Authors Ryn Daniels and Jennifer Davis provide several approaches for improving

collaboration within teams, creating affinity among teams, promoting efficient tool usage in your company, and scaling up what works throughout your organization's inflection points. Devops stresses iterative efforts to break down information silos, monitor relationships, and repair misunderstandings that arise between and within teams in your organization. By applying the actionable strategies in this book, you can make sustainable changes in your environment regardless of your level within your organization. Explore the foundations of devops and

learn the four pillars of effective devops Encourage collaboration to help individuals work together and build durable and long-lasting relationships Create affinity among teams while balancing differing goals or metrics Accelerate cultural direction by selecting tools and workflows that complement your organization Troubleshoot common problems and misunderstandings that can arise throughout the organizational lifecycle Learn from case studies from organizations and individuals to help inform your own devops journey