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[Enterprise Integration Patterns](#) - Gregor Hohpe 2003

Investigative Science Learning Environment - Eugenia Etkina
2019-11-15

The goal of this book is to introduce a reader to a new philosophy of teaching and learning physics - Investigative Science Learning Environment, or ISLE (pronounced as a small island). ISLE is an example of an "intentional" approach to curriculum design and learning activities (MacMillan and Garrison 1988 A Logical Theory of Teaching: Erotetics and Intentionality). Intentionality means that the process through which the learning occurs is as crucial for learning as the final outcome or learned content. In ISLE, the process through which students learn mirrors the practice of physics.

Object Thinking - David West 2004

Object Thinking blends historical perspective, experience, and visionary insight - exploring how developers can work less like the computers they program and more like problem solvers.

Python Programming with Design Patterns - James Cooper
2021-12-10

Learn how to write Python code that's more robust, efficient, maintainable, and elegant--whether you're new to the language or you've been coding for years. Python Programming with Design Patterns combines a clear, modern introduction to modern Python with visual, example-driven explanations of 23 proven patterns for writing outstanding object-oriented code. Through these patterns and examples, best-selling patterns author James W. Cooper introduces modern techniques for creating Python objects that interact effectively to make powerful, flexible programs. Cooper's wide-ranging coverage includes abstract classes, multiple inheritance, GUI programming and widgets, graphical classes, drawing and plotting, math libraries, database programming, Python decorators, images, threads, iterators, creating executable code from Python programs, and much more. He covers the use of six leading Python development environments, and provides complete downloadable code on Github for every example program. Throughout, Cooper's informal, visual presentation makes patterns easier than ever to understand and use--so you can confidently build large, complex programs that benefit from everything Python has to offer.

[Fowler](#) - Martin Fowler 2012-03-09

The practice of enterprise application development has benefited from the emergence of many new enabling technologies. Multi-tiered object-oriented platforms, such as Java and .NET, have become commonplace. These new tools and technologies are capable of building powerful applications, but they are not easily implemented. Common failures in enterprise applications often occur because their developers do not understand the architectural lessons that experienced object developers have learned. Patterns of Enterprise Application Architecture is written in direct response to the stiff challenges that face enterprise application developers. The author, noted object-oriented designer Martin Fowler, noticed that despite changes in technology--from Smalltalk to CORBA to Java to .NET--the same basic design ideas can be adapted and applied to solve common problems. With the help of an expert group of contributors, Martin distills over forty recurring solutions into patterns. The result is an indispensable handbook of solutions that are applicable to any enterprise application platform. This book is actually two books in one. The first section is a short tutorial on developing enterprise applications, which you can read from start to finish to understand the scope of the book's lessons. The next section, the bulk of the book, is a detailed reference to the patterns themselves. Each pattern provides usage and implementation information, as well as detailed code examples in Java or C#. The entire book is also richly illustrated with UML diagrams to further explain the concepts. Armed with this book, you will have the knowledge necessary to make important architectural decisions about building an enterprise application and the proven patterns for use

when building them. The topics covered include · Dividing an enterprise application into layers · The major approaches to organizing business logic · An in-depth treatment of mapping between objects and relational databases · Using Model-View-Controller to organize a Web presentation · Handling concurrency for data that spans multiple transactions · Designing distributed object interfaces

Reactive Messaging Patterns with the Actor Model - Vaughn Vernon
2015-07-13

USE THE ACTOR MODEL TO BUILD SIMPLER SYSTEMS WITH BETTER PERFORMANCE AND SCALABILITY Enterprise software development has been much more difficult and failure-prone than it needs to be. Now, veteran software engineer and author Vaughn Vernon offers an easier and more rewarding method to succeeding with Actor model. Reactive Messaging Patterns with the Actor Model shows how the reactive enterprise approach, Actor model, Scala, and Akka can help you overcome previous limits of performance and scalability, and skillfully address even the most challenging non-functional requirements.

Reflecting his own cutting-edge work, Vernon shows architects and developers how to translate the longtime promises of Actor model into practical reality. First, he introduces the tenets of reactive software, and shows how the message-driven Actor model addresses all of them--making it possible to build systems that are more responsive, resilient, and elastic. Next, he presents a practical Scala bootstrap tutorial, a thorough introduction to Akka and Akka Cluster, and a full chapter on maximizing performance and scalability with Scala and Akka.

Building on this foundation, you'll learn to apply enterprise application and integration patterns to establish message channels and endpoints; efficiently construct, route, and transform messages; and build robust systems that are simpler and far more successful. Coverage Includes How reactive architecture replaces complexity with simplicity throughout the core, middle, and edges The characteristics of actors and actor systems, and how Akka makes them more powerful Building systems that perform at scale on one or many computing nodes Establishing channel mechanisms, and choosing appropriate channels for each application and integration challenge Constructing messages to clearly convey a sender's intent in communicating with a receiver Implementing a Process Manager for your Domain-Driven Designs Decoupling a message's source and destination, and integrating appropriate business logic into its router Understanding the transformations a message may experience in applications and integrations Implementing persistent actors using Event Sourcing and reactive views using CQRS Find unique online training on Domain-Driven Design, Scala, Akka, and other software craftsmanship topics using the for{comprehension} website at forcomprehension.com.

Business Analytics Principles, Concepts, and Applications with SAS - Marc J. Schniederjans 2014-10-07

Responding to a shortage of effective content for teaching business analytics, this text offers a complete, integrated package of knowledge for newcomers to the subject. The authors present an up-to-date view of what business analytics is, why it is so valuable, and most importantly, how it is used. They combine essential conceptual content with clear explanations of the tools, techniques, and methodologies actually used to implement modern business analytics initiatives. Business Analytics Principles, Concepts, and Applications with SAS offers a proven step-wise approach to designing an analytics program, and successfully integrating it into your organization, so it effectively provides intelligence for competitive advantage in decision making. Using step-by-step examples, the authors identify common challenges that can be addressed by business analytics, illustrate each type of analytics (descriptive, prescriptive, and predictive), and guide users in undertaking their own projects. Illustrating the real-world use of statistical, information systems, and management science methodologies, these examples help readers successfully apply the methods they are learning. Unlike most competitive guides, Business Analytics Principles,

Concepts, and Applications with SAS demonstrates the use of SAS software, permitting instructors to spend less time teaching software and more time focusing on business analytics itself.

The Functional Art - Alberto Cairo 2012-08-22

Unlike any time before in our lives, we have access to vast amounts of free information. With the right tools, we can start to make sense of all this data to see patterns and trends that would otherwise be invisible to us. By transforming numbers into graphical shapes, we allow readers to understand the stories those numbers hide. In this practical introduction to understanding and using information graphics, you'll learn how to use data visualizations as tools to see beyond lists of numbers and variables and achieve new insights into the complex world around us. Regardless of the kind of data you're working with—business, science, politics, sports, or even your own personal finances—this book will show you how to use statistical charts, maps, and explanation diagrams to spot the stories in the data and learn new things from it. You'll also get to peek into the creative process of some of the world's most talented designers and visual journalists, including Condé Nast Traveler's John Grimwade, National Geographic Magazine's Fernando Baptista, The New York Times' Steve Duenes, The Washington Post's Hannah Fairfield, Hans Rosling of the Gapminder Foundation, Stanford's Geoff McGhee, and European superstars Moritz Stefaner, Jan Willem Tulp, Stefanie Posavec, and Gregor Aisch. The book also includes a DVD-ROM containing over 90 minutes of video lessons that expand on core concepts explained within the book and includes even more inspirational information graphics from the world's leading designers. The first book to offer a broad, hands-on introduction to information graphics and visualization, *The Functional Art* reveals:

- Why data visualization should be thought of as “functional art” rather than fine art
- How to use color, type, and other graphic tools to make your information graphics more effective, not just better looking
- The science of how our brains perceive and remember information
- Best practices for creating interactive information graphics
- A comprehensive look at the creative process behind successful information graphics
- An extensive gallery of inspirational work from the world's top designers and visual artists

On the DVD-ROM: In this introductory video course on information graphics, Alberto Cairo goes into greater detail with even more visual examples of how to create effective information graphics that function as practical tools for aiding perception. You'll learn how to: incorporate basic design principles in your visualizations, create simple interfaces for interactive graphics, and choose the appropriate type of graphic forms for your data. Cairo also deconstructs successful information graphics from The New York Times and National Geographic magazine with sketches and images not shown in the book. All of Peachpit's eBooks contain the same content as the print edition. You will find a link in the last few pages of your eBook that directs you to the media files. Helpful tips: If you are able to search the book, search for "Where are the lesson files?" Go to the very last page of the book and scroll backwards. You will need a web-enabled device or computer in order to access the media files that accompany this ebook. Entering the URL supplied into a computer with web access will allow you to get to the files. Depending on your device, it is possible that your display settings will cut off part of the URL. To make sure this is not the case, try reducing your font size and turning your device to a landscape view. This should cause the full URL to appear.

Modern Web Development - Dino Esposito 2016-02-22

Master powerful new approaches to web architecture, design, and user experience This book presents a pragmatic, problem-driven, user-focused approach to planning, designing, and building dynamic web solutions. You'll learn how to gain maximum value from Domain-Driven Design (DDD), define optimal supporting architecture, and succeed with modern UX-first design approaches. The author guides you through choosing and implementing specific technologies and addresses key user-experience topics, including mobile-friendly and responsive design. You'll learn how to gain more value from existing Microsoft technologies such as ASP.NET MVC and SignalR by using them alongside other technologies such as Bootstrap, AJAX, JSON, and JQuery. By using these techniques and understanding the new ASP.NET Core 1.0, you can quickly build advanced web solutions that solve today's problems and deliver an outstanding user experience. Microsoft MVP Dino Esposito shows you how to: Plan websites and web apps to mirror real-world social and business processes Use DDD to dissect and master the complexity of business domains Use UX-Driven Design to reduce costs and give customers what they want Realistically compare server-side and client-side web paradigms Get started with the new ASP.NET Core 1.0 Simplify modern visual webpage construction with Bootstrap Master practical,

efficient techniques for running ASP.NET MVC projects Consider new options for implementing persistence and working with data models Understand Responsive Web Design's pros, cons, and tradeoffs Build truly mobile-friendly, mobile-optimized websites About This Book For experienced developers and solution architects who want to plan and develop web solutions more effectively Assumes basic familiarity with the Microsoft web development stack

Software Requirement Patterns - Stephen Withall 2007-06-13

Learn proven, real-world techniques for specifying software requirements with this practical reference. It details 30 requirement “patterns” offering realistic examples for situation-specific guidance for building effective software requirements. Each pattern explains what a requirement needs to convey, offers potential questions to ask, points out potential pitfalls, suggests extra requirements, and other advice. This book also provides guidance on how to write other kinds of information that belong in a requirements specification, such as assumptions, a glossary, and document history and references, and how to structure a requirements specification. A disturbing proportion of computer systems are judged to be inadequate; many are not even delivered; more are late or over budget. Studies consistently show one of the single biggest causes is poorly defined requirements: not properly defining what a system is for and what it's supposed to do. Even a modest contribution to improving requirements offers the prospect of saving businesses part of a large sum of wasted investment. This guide emphasizes this important requirement need—determining what a software system needs to do before spending time on development. Expertly written, this book details solutions that have worked in the past, with guidance for modifying patterns to fit individual needs—giving developers the valuable advice they need for building effective software requirements

Agile IT Organization Design - Sriram Narayan 2015-06-11

Design IT Organizations for Agility at Scale Aspiring digital businesses need overall IT agility, not just development team agility. In *Agile IT Organization Design*, IT management consultant and ThoughtWorks veteran Sriram Narayan shows how to infuse agility throughout your organization. Drawing on more than fifteen years' experience working with enterprise clients in IT-intensive industries, he introduces an agile approach to “Business-IT Effectiveness” that is as practical as it is valuable. The author shows how structural, political, operational, and cultural facets of organization design influence overall IT agility—and how you can promote better collaboration across diverse functions, from sales and marketing to product development, and engineering to IT operations. Through real examples, he helps you evaluate and improve organization designs that enhance autonomy, mastery, and purpose: the key ingredients for a highly motivated workforce. You'll find “close range” coverage of team design, accountability, alignment, project finance, tooling, metrics, organizational norms, communication, and culture. For each, you'll gain a deeper understanding of where your organization stands, and clear direction for making improvements. Ready to optimize the performance of your IT organization or digital business? Here are practical solutions for the long term, and for right now. Govern for value over predictability Organize for responsiveness, not lowest cost Clarify accountability for outcomes and for decisions along the way Strengthen the alignment of autonomous teams Move beyond project teams to capability teams Break down tool-induced silos Choose financial practices that are free of harmful side effects Create and retain great teams despite today's “talent crunch” Reform metrics to promote (not prevent) agility Evolve culture through improvements to structure, practices, and leadership—and careful, deliberate interventions

Microsoft Manual of Style - Microsoft Corporation 2012-01-15

Maximize the impact and precision of your message! Now in its fourth edition, the *Microsoft Manual of Style* provides essential guidance to content creators, journalists, technical writers, editors, and everyone else who writes about computer technology. Direct from the Editorial Style Board at Microsoft—you get a comprehensive glossary of both general technology terms and those specific to Microsoft; clear, concise usage and style guidelines with helpful examples and alternatives; guidance on grammar, tone, and voice; and best practices for writing content for the web, optimizing for accessibility, and communicating to a worldwide audience. Fully updated and optimized for ease of use, the *Microsoft Manual of Style* is designed to help you communicate clearly, consistently, and accurately about technical topics—across a range of audiences and media.

Data Model Patterns - David Hay 2013-07-18

This is the digital version of the printed book (Copyright © 1996). Learning the basics of a modeling technique is not the same as learning

how to use and apply it. To develop a data model of an organization is to gain insights into its nature that do not come easily. Indeed, analysts are often expected to understand subtleties of an organization's structure that may have evaded people who have worked there for years. Here's help for those analysts who have learned the basics of data modeling (or "entity/relationship modeling") but who need to obtain the insights required to prepare a good model of a real business. Structures common to many types of business are analyzed in areas such as accounting, material requirements planning, process manufacturing, contracts, laboratories, and documents. In each chapter, high-level data models are drawn from the following business areas: The Enterprise and Its World The Things of the Enterprise Procedures and Activities Contracts Accounting The Laboratory Material Requirements Planning Process Manufacturing Documents Lower-Level Conventions

APPLYING UML & PATTERNS 3RD EDITION - Craig Larman 2015
Larman covers how to investigate requirements, create solutions and then translate designs into code, showing developers how to make practical use of the most significant recent developments. A summary of UML notation is included

Getting Started with Data Science - Murtaza Haider 2015-12-14
Master Data Analytics Hands-On by Solving Fascinating Problems You'll Actually Enjoy! Harvard Business Review recently called data science "The Sexiest Job of the 21st Century." It's not just sexy: For millions of managers, analysts, and students who need to solve real business problems, it's indispensable. Unfortunately, there's been nothing easy about learning data science—until now. Getting Started with Data Science takes its inspiration from worldwide best-sellers like Freakonomics and Malcolm Gladwell's Outliers: It teaches through a powerful narrative packed with unforgettable stories. Murtaza Haider offers informative, jargon-free coverage of basic theory and technique, backed with plenty of vivid examples and hands-on practice opportunities. Everything's software and platform agnostic, so you can learn data science whether you work with R, Stata, SPSS, or SAS. Best of all, Haider teaches a crucial skillset most data science books ignore: how to tell powerful stories using graphics and tables. Every chapter is built around real research challenges, so you'll always know why you're doing what you're doing. You'll master data science by answering fascinating questions, such as: • Are religious individuals more or less likely to have extramarital affairs? • Do attractive professors get better teaching evaluations? • Does the higher price of cigarettes deter smoking? • What determines housing prices more: lot size or the number of bedrooms? • How do teenagers and older people differ in the way they use social media? • Who is more likely to use online dating services? • Why do some purchase iPhones and others Blackberry devices? • Does the presence of children influence a family's spending on alcohol? For each problem, you'll walk through defining your question and the answers you'll need; exploring how others have approached similar challenges; selecting your data and methods; generating your statistics; organizing your report; and telling your story. Throughout, the focus is squarely on what matters most: transforming data into insights that are clear, accurate, and can be acted upon.

Big Data Fundamentals - Thomas Erl 2015-12-29
"This text should be required reading for everyone in contemporary business." --Peter Woodhull, CEO, Modus21 "The one book that clearly describes and links Big Data concepts to business utility." --Dr. Christopher Starr, PhD "Simply, this is the best Big Data book on the market!" --Sam Rostam, Cascadian IT Group "...one of the most contemporary approaches I've seen to Big Data fundamentals..." --Joshua M. Davis, PhD The Definitive Plain-English Guide to Big Data for Business and Technology Professionals Big Data Fundamentals provides a pragmatic, no-nonsense introduction to Big Data. Best-selling IT author Thomas Erl and his team clearly explain key Big Data concepts, theory and terminology, as well as fundamental technologies and techniques. All coverage is supported with case study examples and numerous simple diagrams. The authors begin by explaining how Big Data can propel an organization forward by solving a spectrum of previously intractable business problems. Next, they demystify key analysis techniques and technologies and show how a Big Data solution environment can be built and integrated to offer competitive advantages. Discovering Big Data's fundamental concepts and what makes it different from previous forms of data analysis and data science Understanding the business motivations and drivers behind Big Data adoption, from operational improvements through innovation Planning strategic, business-driven Big Data initiatives Addressing considerations such as data management, governance, and security Recognizing the 5 "V" characteristics of

datasets in Big Data environments: volume, velocity, variety, veracity, and value Clarifying Big Data's relationships with OLTP, OLAP, ETL, data warehouses, and data marts Working with Big Data in structured, unstructured, semi-structured, and metadata formats Increasing value by integrating Big Data resources with corporate performance monitoring Understanding how Big Data leverages distributed and parallel processing Using NoSQL and other technologies to meet Big Data's distinct data processing requirements Leveraging statistical approaches of quantitative and qualitative analysis Applying computational analysis methods, including machine learning

Implementing Domain-driven Design - Vaughn Vernon 2013

Vaughn Vernon presents concrete and realistic domain-driven design (DDD) techniques through examples from familiar domains, such as a Scrum-based project management application that integrates with a collaboration suite and security provider. Each principle is backed up by realistic Java examples, and all content is tied together by a single case study of a company charged with delivering a set of advanced software systems with DDD.

Struts - James Turner 2002

Explains how to build applications with Jakarta Struts, discusses the development framework and its architecture, and provides sample applications.

Logical Data Modeling - Alan Chmura 2007-03-06

Logical Data Modeling offers business managers, analysts, and students a clear, basic systematic guide to defining business information structures in relational database terms. The approach, based on Clive Finkelstein's business-side Information Engineering, is hands-on, practical, and explicit in terminology and reasoning. Filled with illustrations, examples, and exercises, Logical Data Modeling makes its subject accessible to readers with only a limited knowledge of database systems. The book covers all essential topics thoroughly but succinctly: entities, associations, attributes, keys and inheritance, valid and invalid structures, and normalization. It also emphasizes communication with business and database specialists, documentation, and the use of Visible Systems' Visible Advantage enterprise modeling tool. The application of design patterns to logical data modeling provides practitioners with a practical tool for fast development. At the end, a chapter covers the issues that arise when the logical data model is translated into the design for a physical database.

Secure Coding in C and C++ - Robert C. Seacord 2005-09-09

"The security of information systems has not improved at a rate consistent with the growth and sophistication of the attacks being made against them. To address this problem, we must improve the underlying strategies and techniques used to create our systems. Specifically, we must build security in from the start, rather than append it as an afterthought. That's the point of Secure Coding in C and C++. In careful detail, this book shows software developers how to build high-quality systems that are less vulnerable to costly and even catastrophic attack. It's a book that every developer should read before the start of any serious project." --Frank Abagnale, author, lecturer, and leading consultant on fraud prevention and secure documents Learn the Root Causes of Software Vulnerabilities and How to Avoid Them Commonly exploited software vulnerabilities are usually caused by avoidable software defects. Having analyzed nearly 18,000 vulnerability reports over the past ten years, the CERT/Coordination Center (CERT/CC) has determined that a relatively small number of root causes account for most of them. This book identifies and explains these causes and shows the steps that can be taken to prevent exploitation. Moreover, this book encourages programmers to adopt security best practices and develop a security mindset that can help protect software from tomorrow's attacks, not just today's. Drawing on the CERT/CC's reports and conclusions, Robert Seacord systematically identifies the program errors most likely to lead to security breaches, shows how they can be exploited, reviews the potential consequences, and presents secure alternatives. Coverage includes technical detail on how to Improve the overall security of any C/C++ application Thwart buffer overflows and stack-smashing attacks that exploit insecure string manipulation logic Avoid vulnerabilities and security flaws resulting from the incorrect use of dynamic memory management functions Eliminate integer-related problems: integer overflows, sign errors, and truncation errors Correctly use formatted output functions without introducing format-string vulnerabilities Avoid I/O vulnerabilities, including race conditions Secure Coding in C and C++ presents hundreds of examples of secure code, insecure code, and exploits, implemented for Windows and Linux. If you're responsible for creating secure C or C++ software--or for keeping it safe--no other book

offers you this much detailed, expert assistance.

NoSQL for Mere Mortals - Dan Sullivan 2015

NoSQL for Mere Mortals is an easy, practical guide to succeeding with NoSQL in your environment. Students are guided step-by-step through choosing technologies, designing high-performance databases, and planning for long-term maintenance. The author introduces each type of NoSQL database, shows how to install and manage them, and demonstrates how to leverage their features while avoiding common mistakes that lead to poor performance and unmet requirements. He uses four popular NoSQL databases as reference models: MongoDB, a document database; Cassandra, a column family data store; Redis, a key-value database; and Neo4j, a graph database.

Introduction to Programming Using Python - Y. Daniel Liang 2013

NOTE: You are purchasing a standalone product; MyProgrammingLab does not come packaged with this content. If you would like to purchase both the physical text and MyProgrammingLab search for ISBN-10: 0133050556/ISBN-13: 9780133050554. That package includes ISBN-10: 0132747189/ISBN-13: 9780132747189 and ISBN-10: 0133019861/ISBN-13: 9780133019865 . MyProgrammingLab should only

be purchased when required by an instructor. Introduction to Programming Using Python is intended for use in the introduction to programming course. Daniel Liang is known for his "fundamentals-first" approach to teaching programming concepts and techniques.

"Fundamentals-first" means that students learn fundamental programming concepts like selection statements, loops, and functions, before moving into defining classes. Students learn basic logic and programming concepts before moving into object-oriented programming, and GUI programming. Another aspect of Introduction to Programming Using Python is that in addition to the typical programming examples that feature games and some math, Liang gives an example or two early in the chapter that uses a simple graphic to engage the students. Rather than asking them to average 10 numbers together, they learn the concepts in the context of a fun example that generates something visually interesting. Using the graphics examples is optional in this textbook. Turtle graphics can be used in Chapters 1-5 to introduce the fundamentals of programming and Tkinter can be used for developing comprehensive graphical user interfaces and for learning object-oriented programming.

Microservices - Eberhard Wolff 2016-10-03

The Most Complete, Practical, and Actionable Guide to Microservices Going beyond mere theory and marketing hype, Eberhard Wolff presents all the knowledge you need to capture the full benefits of this emerging paradigm. He illuminates microservice concepts, architectures, and scenarios from a technology-neutral standpoint, and demonstrates how to implement them with today's leading technologies such as Docker, Java, Spring Boot, the Netflix stack, and Spring Cloud. The author fully explains the benefits and tradeoffs associated with microservices, and guides you through the entire project lifecycle: development, testing, deployment, operations, and more. You'll find best practices for architecting microservice-based systems, individual microservices, and nanoservices, each illuminated with pragmatic examples. The author supplements opinions based on his experience with concise essays from other experts, enriching your understanding and illuminating areas where experts disagree. Readers are challenged to experiment on their own the concepts explained in the book to gain hands-on experience. Discover what microservices are, and how they differ from other forms of modularization Modernize legacy applications and efficiently build new systems Drive more value from continuous delivery with microservices Learn how microservices differ from SOA Optimize the microservices project lifecycle Plan, visualize, manage, and evolve architecture Integrate and communicate among microservices Apply advanced architectural techniques, including CQRS and Event Sourcing Maximize resilience and stability Operate and monitor microservices in production Build a full implementation with Docker, Java, Spring Boot, the Netflix stack, and Spring Cloud Explore nanoservices with Amazon Lambda, OSGi, Java EE, Vert.x, Erlang, and Seneca Understand microservices' impact on teams, technical leaders, product owners, and stakeholders Managers will discover better ways to support microservices, and learn how adopting the method affects the entire organization. Developers will master the technical skills and concepts they need to be effective. Architects will gain a deep understanding of key issues in creating or migrating toward microservices, and exactly what it will take to transform their plans into reality.

How to Use Objects - Holger Gast 2015-12-22

While most developers today use object-oriented languages, the full

power of objects is available only to those with a deep understanding of the object paradigm. How to Use Objects will help you gain that understanding, so you can write code that works exceptionally well in the real world. Author Holger Gast focuses on the concepts that have repeatedly proven most valuable and shows how to render those concepts in concrete code. Rather than settling for minimal examples, he explores crucial intricacies, clarifies easily misunderstood ideas, and helps you avoid subtle errors that could have disastrous consequences. Gast addresses the technical aspects of working with languages, libraries, and frameworks, as well as the strategic decisions associated with patterns, contracts, design, and system architecture. He explains the roles of individual objects in a complete application, how they react to events and fulfill service requests, and how to transform excellent designs into excellent code. Using practical examples based on Eclipse, he also shows how tools can help you work more efficiently, save you time, and sometimes even write high-quality code for you. Gast writes for developers who have at least basic experience: those who've finished an introductory programming course, a university computer science curriculum, or a first or second job assignment. Coverage includes • Understanding what a professionally designed object really looks like • Writing code that reflects your true intentions—and testing to make sure it does • Applying language idioms and connotations to write more readable and maintainable code • Using design-by-contract to write code that consistently does what it's supposed to do • Coding and architecting effective event-driven software • Separating model and view, and avoiding common mistakes • Mastering strategies and patterns for efficient, flexible design • Ensuring predictable object collaboration via responsibility-driven design Register your product at informit.com/register for convenient access to downloads, updates, and corrections as they become available.

The DevOps Handbook - Gene Kim 2016-10-06

Increase profitability, elevate work culture, and exceed productivity goals through DevOps practices. More than ever, the effective management of technology is critical for business competitiveness. For decades, technology leaders have struggled to balance agility, reliability, and security. The consequences of failure have never been greater—whether it's the healthcare.gov debacle, cardholder data breaches, or missing the boat with Big Data in the cloud. And yet, high performers using DevOps principles, such as Google, Amazon, Facebook, Etsy, and Netflix, are routinely and reliably deploying code into production hundreds, or even thousands, of times per day. Following in the footsteps of The Phoenix Project, The DevOps Handbook shows leaders how to replicate these incredible outcomes, by showing how to integrate Product Management, Development, QA, IT Operations, and Information Security to elevate your company and win in the marketplace.

Business Analytics with Management Science Models and Methods - Arben Asllani 2015

This book is about prescriptive analytics. It provides business practitioners and students with a selected set of management science and optimization techniques and discusses the fundamental concepts, methods, and models needed to understand and implement these techniques in the era of Big Data. A large number of management science models exist in the body of literature today. These models include optimization techniques or heuristics, static or dynamic programming, and deterministic or stochastic modeling. The topics selected in this book, mathematical programming and simulation modeling, are believed to be among the most popular management science tools, as they can be used to solve a majority of business optimization problems. Over the years, these techniques have become the weapon of choice for decision makers and practitioners when dealing with complex business systems.

Service Design Patterns - Robert Daigneau 2011-10-25

Web services have been used for many years. In this time, developers and architects have encountered a number of recurring design challenges related to their usage, and have learned that certain service design approaches work better than others to solve certain problems. In Service Design Patterns, Rob Daigneau codifies proven design solutions for web services that follow the REST architectural style or leverage the SOAP/WSDL specifications. This catalogue identifies the fundamental topics in web service design and lists the common design patterns for each topic. All patterns identify the context in which they may be used, explain the constituent design elements, and explore the relative strengths and trade-offs. Code examples are provided to help you better understand how the patterns work but are kept general so that you can

see how the solutions may be applied to disparate technologies that will inevitably change in the years to come. This book will help readers answer the following questions: How do you create a web service API, what are the common API styles, and when should a particular style be used? How can clients and web services communicate, and what are the foundations for creating complex conversations in which multiple parties exchange data over extended periods of time? What are the options for implementing web service logic, and when should a particular approach be used? How can clients become less coupled to the underlying systems used by a service? How can information about a web service be discovered? How can generic functions like authentication, validation, caching, and logging be supported on the client or service? What changes to a service cause clients to break? What are the common ways to version a service? How can web services be designed to support the continuing evolution of business logic without forcing clients to constantly upgrade? This book is an invaluable resource for enterprise architects, solution architects, and developers who use web services to create enterprise IT applications, commercial or open source products, and Software as a Service (SaaS) products that leverage emerging Cloud platforms.

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.

Database Administration - Craig Mullins 2002

A thorough reference on database administration outlines a variety of DBA roles and responsibilities and discusses such topics as data modeling and normalization, database/application design, change management, database security and data integrity, performance issues, disaster planning, and other essentials. Original. (Advanced)

Big Data Analytics Beyond Hadoop - Vijay Srinivas Agneeswaran 2014-05-15

Master alternative Big Data technologies that can do what Hadoop can't: real-time analytics and iterative machine learning. When most technical professionals think of Big Data analytics today, they think of Hadoop. But there are many cutting-edge applications that Hadoop isn't well suited for, especially real-time analytics and contexts requiring the use of iterative machine learning algorithms. Fortunately, several powerful new technologies have been developed specifically for use cases such as these. *Big Data Analytics Beyond Hadoop* is the first guide specifically designed to help you take the next steps beyond Hadoop. Dr. Vijay Srinivas Agneeswaran introduces the breakthrough Berkeley Data Analysis Stack (BDAS) in detail, including its motivation, design, architecture, Mesos cluster management, performance, and more. He presents realistic use cases and up-to-date example code for: Spark, the next generation in-memory computing technology from UC Berkeley Storm, the parallel real-time Big Data analytics technology from Twitter GraphLab, the next-generation graph processing paradigm from CMU and the University of Washington (with comparisons to alternatives such as Pregel and Piccolo) Halo also offers architectural and design guidance and code sketches for scaling machine learning algorithms to Big Data, and then realizing them in real-time. He concludes by previewing emerging trends, including real-time video analytics, SDNs, and even Big Data governance, security, and privacy issues. He identifies intriguing startups and new research possibilities, including BDAS extensions and cutting-edge model-driven analytics. *Big Data Analytics Beyond Hadoop* is an indispensable resource for everyone who wants to reach the cutting edge of Big Data analytics, and stay there: practitioners, architects, programmers, data scientists, researchers, startup entrepreneurs, and advanced students.

Building Applications in the Cloud - Christopher M. Moyer 2011-04-18

Following the familiar "Design Patterns" format, expert cloud developer Chris Moyer introduces proven patterns for cloud platforms from Amazon, Google, and other providers. Moyer demonstrates these patterns at work through extensive example code and case study applications for Amazon Web Services (AWS). As you increasingly move to the cloud, you'll constantly encounter the challenges this book solves. You'll rely on it for years—whenever you need a cloud solution you can trust.

Microsoft .NET - Architecting Applications for the Enterprise - Dino Esposito 2014-08-28

A software architect's digest of core practices, pragmatically applied. Designing effective architecture is your best strategy for managing project complexity—and improving your results. But the principles and practices of software architecting—what the authors call the "science of

hard decisions"—have been evolving for cloud, mobile, and other shifts. Now fully revised and updated, this book shares the knowledge and real-world perspectives that enable you to design for success—and deliver more successful solutions. In this fully updated Second Edition, you will: Learn how only a deep understanding of domain can lead to appropriate architecture Examine domain-driven design in both theory and implementation Shift your approach to code first, model later—including multilayer architecture Capture the benefits of prioritizing software maintainability See how readability, testability, and extensibility lead to code quality Take a user experience (UX) first approach, rather than designing for data Review patterns for organizing business logic Use event sourcing and CQRS together to model complex business domains more effectively Delve inside the persistence layer, including patterns and implementation.

The Internet of Things - Michael Miller 2015

The old Internet typically connected personal computers. But a radically new Internet is emerging. Some call it an "Internet of Things" (IoT) or "Internet of Everything" (IoE). The IoT won't just connect people: it'll connect "smart" homes, appliances, cars, aircraft (a.k.a. drones)... offices, factories, cities... the world. By some estimates, the IoE will explode into a \$19 trillion market in just a few years. If that happens... when that happens... it will transform your life. ∴ You need to know what's coming. But, until now, most guides to the Internet of Everything have been written for technical experts. Now, the world's #1 author of beginning technology books has written the perfect introduction for every consumer and citizen. In *The Internet of Things*, Michael Miller reveals how a new generation of autonomously connected smart devices is emerging, and how it will enable people and devices to do more things, more intelligently, and more rapidly. ∴ Miller demystifies every type of smart device, both current and future. Each chapter ends with a special "...and You" section, offering up-to-the-minute advice for using today's IoE technologies or preparing for tomorrow's. ∴ You'll also discover the potential downsides and risks associated with intelligent, automatic interaction. When all your devices can communicate with each other (and with the companies that sell and monitor them), how private is your private life? Do the benefits outweigh the risks? And what does a connected world do when the connections suddenly go down? Packed with scenarios and insider interviews, *The Internet of Things* makes our future utterly, vividly real.

Smalltalk Best Practice Patterns - Kent Beck 1996-10-03

This classic book is the definitive real-world style guide for better Smalltalk programming. This author presents a set of patterns that organize all the informal experience successful Smalltalk programmers have learned the hard way. When programmers understand these patterns, they can write much more effective code. The concept of Smalltalk patterns is introduced, and the book explains why they work. Next, the book introduces proven patterns for working with methods, messages, state, collections, classes and formatting. Finally, the book walks through a development example utilizing patterns. For programmers, project managers, teachers and students -- both new and experienced. This book presents a set of patterns that organize all the informal experience of successful Smalltalk programmers. This book will help you understand these patterns, and empower you to write more effective code.

Domain-driven Design - Eric Evans 2004

Describes ways to incorporate domain modeling into software development.

Introduction to Design Patterns in C++ with Qt - Alan Ezust 2011-08-29

Master C++ "The Qt Way" with Modern Design Patterns and Efficient Reuse This fully updated, classroom-tested book teaches C++ "The Qt Way," emphasizing design patterns and efficient reuse. Readers will master both the C++ language and Qt libraries, as they learn to develop maintainable software with well-defined code layers and simple, reusable classes and functions. Every chapter of this edition has been improved with new content, better organization, or both. Readers will find extensively revised coverage of QObjects, Reflection, Widgets, Main Windows, Models and Views, Databases, Multi-Threaded Programming, and Reflection. This edition introduces the powerful new Qt Creator IDE; presents new multimedia APIs; and offers extended coverage of Qt Designer and C++ Integration. It has been restructured to help readers start writing software immediately and write robust, effective software sooner. The authors introduce several new design patterns, add many quiz questions and labs, and present more efficient solutions relying on new Qt features and best practices. They also provide an up-to-date C++

reference section and a complete application case study. Master C++ keywords, literals, identifiers, declarations, types, and type conversions. Understand classes and objects, organize them, and describe their interrelationships. Learn consistent programming style and naming rules. Use lists, functions, and other essential techniques. Define inheritance relationships to share code and promote reuse. Learn how code libraries are designed, built, and reused. Work with QObject, the base class underlying much of Qt. Build graphical user interfaces with Qt widgets. Use templates to write generic functions and classes. Master advanced reflective programming techniques. Use the Model-View framework to cleanly separate data and GUI classes. Validate input using regular expressions and other techniques. Parse XML data with SAX, DOM, and QDomStreamReader. Master today's most valuable creational and structural design patterns. Create, use, monitor, and debug processes and threads. Access databases with Qt's SQL classes. Manage memory reliably and efficiently. Understand how to effectively manage QThreads and use QtConcurrent algorithms. Click here to obtain supplementary materials for this book.

Cloud Computing - Venkata Josyula 2012

The complete guide to provisioning and managing cloud-based Infrastructure as a Service (IaaS) data center solutions Cloud computing will revolutionize the way IT resources are deployed, configured, and managed for years to come. Service providers and customers each stand to realize tremendous value from this paradigm shift--if they can take advantage of it. Cloud Computing brings together the realistic, start-to-finish guidance they need to plan, implement, and manage cloud solution architectures for tomorrow's virtualized data centers. It introduces cloud "newcomers" to essential concepts, and offers experienced operations professionals detailed guidance on delivering Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS). This book's replicable solutions and fully-tested best practices will help enterprises, service providers, consultants, and Cisco partners meet the challenge of provisioning end-to-end cloud infrastructures. Drawing on extensive experience working with leading cloud vendors and integrators, the authors present detailed operations workflow examples, proven techniques for operating cloud-based network, compute, and storage infrastructure; a comprehensive management reference architecture; and a complete case study demonstrating rapid, lower-cost solutions design. Cloud Computing will be an indispensable resource for all network/IT professionals and managers involved with planning, implementing, or managing the next generation of cloud computing services. Venkata (Josh) Josyula, Ph.D., CCIE® No. 13518 is a Distinguished Services Engineer in Cisco Services Technology Group (CSTG) and advises Cisco customers on OSS/BSS architecture and solutions. Malcolm Orr, Solutions Architect for Cisco's Services Technology Solutions, advises telecoms and enterprise clients on architecting, building, and operating OSS/BSS and cloud management stacks. He is Cisco's lead architect for several Tier 1 public cloud projects. Greg Page has spent the last eleven years with Cisco in technical consulting roles relating to data center architecture/technology and service provider security. He is now exclusively focused on developing cloud/IaaS solutions with service providers and systems integrator partners.

- Review the key concepts needed to successfully deploy clouds and cloud-based services
- Transition common enterprise design patterns and use cases to the cloud
- Master architectural principles and infrastructure designs for "real-time" managed IT services
- Understand the Cisco approach to cloud-related technologies, systems, and services
- Develop a cloud management architecture using ITIL, TMF, and ITU-TMN standards
- Implement best practices for cloud service provisioning, activation, and management
- Automate cloud infrastructure to simplify service delivery, monitoring, and assurance
- Choose and implement the right billing/chargeback approaches for your business
- Design and build IaaS services, from start to finish
- Manage the unique capacity challenges associated with sporadic, real-time demand
- Provide a consistent and optimal cloud user experience

This book is part of the Networking Technology Series from Cisco Press®, which offers networking professionals valuable information for constructing efficient networks, understanding new technologies, and building successful careers. Category: Cloud Computing Covers: Virtualized Data Centers

Patterns of Information Management - Mandy Chessell 2013

In the era of "Big Data," effective information management has become crucial to the success of virtually all organizations. Unfortunately, few IT practitioners know today's best practices for successfully managing enterprise information resources. *Patterns for Information Management*

offers the solution: a multi-disciplinary patterns-based approach that reflects where information comes from, how it is distributed, protected, governed, monitored -- and, ultimately, utilized.

Cloud Computing Design Patterns (paperback) - Thomas Erl
2017-03-09

"This book continues the very high standard we have come to expect from ServiceTech Press. The book provides well-explained vendor-agnostic patterns to the challenges of providing or using cloud solutions from PaaS to SaaS. The book is not only a great patterns reference, but also worth reading from cover to cover as the patterns are thought-provoking, drawing out points that you should consider and ask of a potential vendor if you're adopting a cloud solution." --Phil Wilkins, Enterprise Integration Architect, Specsavers "Thomas Erl's text provides a unique and comprehensive perspective on cloud design patterns that is clearly and concisely explained for the technical professional and layman alike. It is an informative, knowledgeable, and powerful insight that may guide cloud experts in achieving extraordinary results based on extraordinary expertise identified in this text. I will use this text as a resource in future cloud designs and architectural considerations." --Dr. Nancy M. Landreville, CEO/CISO, NML Computer Consulting The Definitive Guide to Cloud Architecture and Design Best-selling service technology author Thomas Erl has brought together the de facto catalog of design patterns for modern cloud-based architecture and solution design. More than two years in development, this book's 100+ patterns illustrate proven solutions to common cloud challenges and requirements. Its patterns are supported by rich, visual documentation, including 300+ diagrams. The authors address topics covering scalability, elasticity, reliability, resiliency, recovery, data management, storage, virtualization, monitoring, provisioning, administration, and much more. Readers will further find detailed coverage of cloud security, from networking and storage safeguards to identity systems, trust assurance, and auditing. This book's unprecedented technical depth makes it a must-have resource for every cloud technology architect, solution designer, developer, administrator, and manager. Topic Areas

- Enabling ubiquitous, on-demand, scalable network access to shared pools of configurable IT resources
- Optimizing multitenant environments to efficiently serve multiple unpredictable consumers
- Using elasticity best practices to scale IT resources transparently and automatically
- Ensuring runtime reliability, operational resiliency, and automated recovery from any failure
- Establishing resilient cloud architectures that act as pillars for enterprise cloud solutions
- Rapidly provisioning cloud storage devices, resources, and data with minimal management effort
- Enabling customers to configure and operate custom virtual networks in SaaS, PaaS, or IaaS environments
- Efficiently provisioning resources, monitoring runtimes, and handling day-to-day administration
- Implementing best-practice security controls for cloud service architectures and cloud storage
- Securing on-premise Internet access, external cloud connections, and scaled VMs
- Protecting cloud services against denial-of-service attacks and traffic hijacking
- Establishing cloud authentication gateways, federated cloud authentication, and cloud key management
- Providing trust attestation services to customers
- Monitoring and independently auditing cloud security
- Solving complex cloud design problems with compound super-patterns

Elemental Design Patterns - Jason McC. Smith 2012-03-23

2012 Jolt Award Finalist! Even experienced software professionals find it difficult to apply patterns in ways that deliver substantial value to their organizations. In *Elemental Design Patterns*, Jason McC. Smith addresses this problem head-on, helping developers harness the true power of patterns, map them to real software implementations more cleanly and directly, and achieve far better results. Part tutorial, part example-rich cookbook, this resource will help developers, designers, architects, and analysts successfully use patterns with a wide variety of languages, environments, and problem domains. Every bit as important, it will give them a deeper appreciation for the work they've chosen to pursue. Smith presents the crucial missing link that patterns practitioners have needed: a foundational collection of simple core patterns that are broken down to their core elements. If you work in software, you may already be using some of these elemental design patterns every day. Presenting them in a comprehensive methodology for the first time, Smith names them, describes them, explains their importance, helps you compare and choose among them, and offers a framework for using them together. He also introduces an innovative Pattern Instance Notation diagramming system that makes it easier to work with patterns at many levels of granularity, regardless of your goals or role. If you're new to patterns, this example-rich approach will help

you master them piece by piece, logically and intuitively. If you're an experienced patterns practitioner, Smith follows the Gang of Four format you're already familiar with, explains how his elemental patterns can be

composed into conventional design patterns, and introduces highly productive new ways to apply ideas you've already encountered. No matter what your level of experience, this infinitely practical book will help you transform abstract patterns into high-value solutions.