Software Requirements Third Edition

“We need better approaches to understanding and managing software requirements, and Dean provides them in this book. He draws ideas from three very useful intellectual pools: classical management practices, Agile methods, and lean product development. By combining the strengths of these three approaches, he has produced something that works better than any one in isolation.” –From the Foreword by Don Reinertsen, President of Reinertsen & Associates; author of Managing the Design Factory; and leading expert on rapid product development Effective requirements discovery and analysis is a critical best practice for serious application development. Until now, however, requirements and Agile methods have rarely coexisted peacefully. For many enterprises considering Agile approaches, the absence of effective and scalable Agile requirements processes has been a showstopper for Agile adoption. In Agile Software Requirements, Dean Leffingwell shows exactly how to create effective requirements in Agile environments. Part I presents the “big picture” of Agile requirements in the enterprise, and describes an overall process model for Agile requirements at the project team, program, and portfolio levels Part II describes a simple and lightweight, yet comprehensive model that Agile project teams can use to manage requirements Part III shows how to develop Agile requirements for complex systems that require the cooperation of multiple teams Part IV guides enterprises in developing Agile requirements for ever-larger “systems of systems,” application suites, and product portfolios This book will help you leverage the benefits of Agile without sacrificing the value of effective requirements discovery and analysis. You’ll find proven solutions you can apply right now–whether you’re a software developer or tester, executive, project/program manager, architect, or team leader.

Now in its second edition, this book focuses on practical algorithms for mining data from even the largest datasets.

A classic treatise that defined the field of applied demand analysis, Consumer Demand in the United States: Prices, Income, and Consumption Behavior is now fully updated and expanded for a new generation. Consumption expenditures by households in the United States account for about 70% of Americaâ__s GDP. The primary focus in this book is on how households adjust these expenditures in response to changes in price and income. Econometric estimates of price and income elasticities are obtained for an exhaustive array of goods and services using data from surveys conducted by the Bureau of Labor Statistics, providing a better understanding of consumer demand. Practical models for forecasting future price and income elasticities are also demonstrated. Fully revised with over a dozen new chapters and appendices, the book revisits the original Taylor-Houthakker models while examining new material as well, such as the use of quantile regression and the stationarity of consumer preference. It also explores the emerging connection between neuroscience and consumer behavior, integrating the economic literature on demand theory with psychology literature. The most comprehensive treatment of the topic to date, this volume will be an essential resource for any researcher, student or professional economist working on consumer behavior or demand theory, as well as investors and policymakers concerned with the impact of economic fluctuations.

Now in its third edition, this classic book is widely considered the leading text on Bayesian methods, lauded for its accessible, practical approach to analyzing data and solving research problems. Bayesian Data Analysis, Third Edition continues to take an applied approach to analysis using up-to-date Bayesian methods. The authors—all leaders in the statistics community—introduce basic concepts from a data-analytic perspective before presenting advanced methods. Throughout the text, numerous worked examples drawn from real applications and research emphasize the use of Bayesian inference in practice. New to the Third Edition Four new chapters on nonparametric modeling Coverage of weakly informative priors and boundary-avoiding priors Updated discussion of cross-validation and predictive information criteria Improved convergence monitoring and effective sample size calculations for iterative simulation Presentations of Hamiltonian Monte Carlo, variational Bayes, and expectation propagation New and revised software code The book can be used in three different ways. For undergraduate students, it introduces Bayesian inference starting from first principles. For graduate students, the text presents effective current approaches to Bayesian modeling and computation in statistics and related fields. For researchers, it provides an assortment of Bayesian methods in applied statistics. Additional materials, including data sets used in the examples, solutions to selected exercises, and software instructions, are available on the book’s web page.

It is clear that the development of large software systems is an extremely complex activity, which is full of various opportunities to introduce errors. Software engineering is the discipline that provides methods to handle this complexity and enables us to produce reliable software systems with maximum productivity. An Integrated Approach to Software Engineering is different from other approaches because the various topics are not covered in isolation. A running case study is employed throughout the book, illustrating the different activity of software development on a single project. This work is important and instructive because it not only teaches the principles of software engineering, but also applies them to a software development project such that all aspects of development can be clearly seen on a project.

Publisher Fact Sheet A concise, hands-on approach to managing & improving the critical requirements process in software development.

This book is based on class notes for a course in the MS program in Systems Engineering at Johns Hopkins University. The program was a cooperative effort between senior systems engineers from the Johns Hopkins University Applied Physics Laboratory and the Westinghouse Electric Company. The authors were part of the curriculum design team as well as members of the faculty.

"Mastering the Requirements Process: Getting Requirements Right" sets out an industry-proven process for gathering and verifying requirements, regardless of whether you work in a traditional or agile development environment. In this sweeping update of the bestselling guide, the authors show how to discover precisely what the customer wants and needs, in the most efficient manner possible.

the definitive guide to the theory and practice of water treatment engineering THIS NEWLY REVISED EDITION of the classic reference provides complete, up-to-date coverage of both theory and practice of water treatment system design. The Third Edition brings the field up to date, addressing new regulatory requirements, ongoing environmental concerns, and the emergence of pharmacological agents and other new chemical constituents in water. Written by some of the foremost experts in the field of public water supply, Water Treatment, Third Edition maintains the book's broad scope and reach, while reorganizing the material for even greater clarity and readability. Topics span from the fundamentals of water chemistry and microbiology to the latest methods for detecting constituents in water, leading-edge technologies for implementing water treatment processes, and the increasingly important topic of managing residuals from water treatment plants. Along with hundreds of illustrations, photographs, and extensive tables listing chemical properties and design data, this volume: Introduces a number of new topics such as advanced oxidation and enhanced coagulation Discusses treatment strategies for removing pharmaceuticals and personal care products Examines advanced treatment technologies such as membrane filtration, reverse osmosis, and ozone addition Details reverse osmosis applications for brackish groundwater, wastewater, and other water sources Provides new case studies demonstrating the synthesis of full-scale treatment trains A must-have resource for engineers designing or operating water treatment plants, Water Treatment, Third Edition is also useful for students of civil, environmental, and water resources engineering.

This updated edition describes both the mathematical theory behind a modern photorealistic rendering system as well as its practical implementation. Through the ideas and software in this book, designers will learn to design and employ a full-featured rendering system for creating stunning imagery. Includes a companion site complete with source code for the rendering system described in the book, with support for Windows, OS X, and Linux.

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

Since the last publication of this international bestseller, software testing has seen a renaissance of renewed interest and technology. The biggest change comes in the growing prominence and acceptance of Agile Programming. Software Testing: A Craftsman's Approach, Third Edition extends the combination of theory and practicality of the first two editions to include agile programming development and discusses the serious effect this emerging area is having on software testing. The third edition of the widely adopted text and reference book is comprised of six parts. It begins by providing the mathematical background in discrete mathematics and linear graph theory that is used in subsequent sections. The book continues to describe specification-based (functional) and code-based (structural) test development techniques, while extending this theoretical approach to less understood levels of integration and system testing. The author further develops this discussion to include object-oriented software. A completely new section relates all of the previously discussed concepts to the agile software development movement and highlights issues such as how agile and XP development environments are radically changing the role of software testers by making testing integral at every phase of the development process. Thoroughly revised and updated, Software Testing: A Craftsman's Approach, Third Edition is sure to become a standard reference for those who need to stay up-to-date with evolving technologies in software testing. Carrying on the tradition of previous editions, it will continue to serve as a valuable reference for software testers, developers, and engineers.

Written for those who want to develop their knowledge of requirements engineering process, whether practitioners or students. Using the latest research and driven by practical experience from industry, this book gives useful hints to practitioners on how to write and structure requirements. - Explains the importance of Systems Engineering and the creation of effective solutions to problems - Describes the underlying representations used in system modeling - data flow diagrams; statecharts; object-oriented approaches - Covers a generic multi-layer requirements process - Discusses the key elements of effective requirements management - Includes a chapter written by one of the developers of rich traceability - Introduces an overview of DOORS - a software tool which serves as an enabler of a requirements management process Additional material and links are available at: http://www.requirementsengineering.info

"In recent years we have been finding ourselves with a shortage of engineers with good competence in requirements engineering. Perhaps this is in part because requirements management tool vendors have persuaded management that a glitzy tool will solve their requirements engineering problems. Of course, the tools only make it possible for engineers who understand requirements engineering to do a better job. This book goes a long way towards building a foundational set of skills in requirements engineering, so that today's powerful tools can be used sensibly. Of particular value is a recognition of the place software requirements have within the system context, and of ways for dealing with that sensitive connection. This is an important book. I think its particular value in industry will be to bring the requirements engineers and their internal customers to a practical common understanding of what can and should be achieved." (Byron Purves, Technical Fellow, The Boeing Company)

Written for those who want to develop their knowledge of requirements engineering process, whether practitioners or students. Using the latest research and driven by practical experience from industry, Requirements Engineering gives useful hints to practitioners on how to write and structure requirements. It explains the importance of Systems Engineering and the creation of effective solutions to problems. It describes the underlying representations used in system modeling and introduces the UML2, and considers the relationship between requirements and modeling. Covering a generic multi-layer requirements process, the book discusses the key elements of effective requirements management. The latest version of DOORS (Version 7) - a software tool which serves as an enabler of a requirements management process - is also introduced to the reader here. Additional material and links are available at: http://www.requirementsengineering.info

Essay Collection covering the point where software, law and social justice meet.

Apply best practices for capturing, analyzing, and implementing software requirements through visual models—and deliver better results for your business. The authors—experts in eliciting and visualizing requirements—walk you through a simple but comprehensive language of visual models that has been used on hundreds of real-world, large-scale projects. Build your fluency with core concepts—and gain essential, scenario-based context and implementation advice—as you progress through each chapter. Transcend the limitations of text-based requirements data using visual models that more rigorously identify, capture, and validate requirements Get real-world guidance on best ways to use visual models—how and when, and ways to combine them for best project outcomes Practice the book's concepts as you work through chapters Change your focus from writing a good requirement to ensuring a complete system

Effective techniques and experienced insights to maximize your C# 6 and 7 programming skills Key Features Written by C# legend and top StackOverflow contributor Jon Skeet Unlock the new features of C# 6 and 7 Insights on the future of the C# language Master asynchronous functions, interpolated strings, tuples, and more Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. "An excellent overview of C# with helpful and realistic examples that make learning the newest features of C# easy." —Meredith Godar About The Book C# is the foundation of .NET development. New features added in C# 6 and 7 make it easier to take on big data applications, cloud-centric web development, and cross-platform software using .NET Core. Packed with deep insight from C# guru Jon Skeet, this book takes you deep into concepts and features other C# books ignore. C# in Depth, Fourth Edition is an authoritative and engaging guide that reveals the full potential of the language, including the new features of C# 6 and 7. It combines deep dives into the C# language with practical techniques for enterprise development, web applications, and systems programming. As you absorb the wisdom and techniques in this book, you'll write better code, and become an exceptional troubleshooter and problem solver. What You Will Learn Comprehensive guidance on the new features of C# 6 and 7 Important legacies and greatest hits of C# 2–5 Expression-bodied members

Extended pass-by-reference functionality Writing asynchronous C# code String interpolation Composition with tuples Decomposition and pattern matching This Book Is Written For For intermediate C# developers. About The Author Jon Skeet is a senior software engineer at Google. He studied mathematics and computer science at Cambridge, is a recognized authority in Java and C#, and maintains the position of top contributor to Stack Overflow. Table of Contents 1. Survival of the sharpest 2. C# 2 3. C# 3: LINQ and everything that comes with it 4. C# 4: Improving interoperability 5. Writing asynchronous code 6. Async implementation 7. C# 5 bonus features 8. Super-sleek properties and expression-bodied members 9. Stringy features 10. A smörgåsbord of features for concise code 11. Composition using tuples 12. Deconstruction and pattern matching 13. Improving efficiency with more pass by reference 14. Concise code in C# 7 15. C# 8 and beyond PART 1 C# IN CONTEXT PART 2 C# 2–5 PART 3 C# 6 PART 4 C# 7 AND BEYOND

The classic, landmark work on software testing The hardware and software of computing have changed markedly in the three decades since the first edition of The Art of Software Testing, but this book's powerful underlying analysis has stood the test of time. Whereas most books on software testing target particular development techniques, languages, or testing methods, The Art of Software Testing, Third Edition provides a brief but powerful and comprehensive presentation of time-proven software testing approaches. If your software development project is mission critical, this book is an investment that will pay for itself with the first bug you find. The new Third Edition explains how to apply the book's classic principles to today's hot topics including: Testing apps for iPhones, iPads, BlackBerrys, Androids, and other mobile devices Collaborative (user) programming and testing Testing for Internet applications, e-commerce, and agile programming environments Whether you're a student looking for a testing guide you'll use for the rest of your career, or an IT manager overseeing a software development team, The Art of Software Testing, Third Edition is an expensive book that will pay for itself many times over.

Summary This third revision of Manning's popular The Quick Python Book offers a clear, crisp updated introduction to the elegant Python programming language and its famously easy-to-read syntax. Written for programmers new to Python, this latest edition includes new exercises throughout. It covers features common to other languages concisely, while introducing Python's comprehensive standard functions library and unique features in detail. Foreword by Nicholas Tollervey, Python Software Foundation. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the Technology Initially Guido van Rossum's 1989 holiday project, Python has grown into an amazing computer language. It's a joy to learn and read, and powerful enough to handle everything from low-level system resources to advanced applications like deep learning. Elegantly simple and complete, it also boasts a massive ecosystem of libraries and frameworks. Python programmers are in high demand/mdash;you can't afford not to be fluent! About the Book The Quick Python Book, Third Edition is a comprehensive guide to the Python language by a Python authority, Naomi Ceder. With the personal touch of a skilled teacher, she beautifully balances details of the language with the insights and advice you need to handle any task. Extensive, relevant examples and learn-by-doing exercises help you master each important concept the first time through. Whether you're scraping websites or playing around with nested tuples, you'll appreciate this book's clarity, focus, and attention to detail. What's Inside Clear coverage of Python 3 Core libraries, packages, and tools In-depth exercises Five new data science-related chapters About the Reader Written for readers familiar with programming concepts--no Python experience assumed. About the Author Naomi Ceder is chair of the Python Software Foundation. She has been learning, using, and teaching Python since 2001. Table of Contents PART 1 - STARTING OUT 1. About Python 2. Getting started 3. The Quick Python overview PART 2 - THE ESSENTIALS 4. The absolute basics 5. Lists, tuples, and sets 6. Strings 7. Dictionaries 8. Control flow 9. Functions 10. Modules and scoping rules 11. Python programs 12. Using the filesystem 13. Reading and writing files 14. Exceptions PART 3 - ADVANCED LANGUAGE FEATURES 15. Classes and object-oriented programming 16. Regular expressions 17. Data types as objects 18. Packages 19. Using Python libraries PART 4 - WORKING WITH DATA 20. Basic file wrangling 21. Processing data files 22. Data over the network 23. Saving data 24. Exploring data

Now in its third edition, this classic guide to software requirements engineering has been fully updated with new topics, examples, and guidance. Two leaders in the requirements community have teamed up to deliver a contemporary set of practices covering the full range of requirements development and management activities on software projects. Describes practical, effective, field-tested techniques for managing the requirements engineering process from end to end. Provides examples demonstrating how requirements "good practices" can lead to fewer change requests, higher customer satisfaction, and lower development costs. Fully updated with contemporary examples and many new practices and techniques. Describes how to apply effective requirements practices to agile projects and numerous other special project situations. Targeted to business analysts, developers, project managers, and other software project stakeholders who have a general understanding of the software development process. Shares the insights gleaned from the authors' extensive experience delivering hundreds of software-requirements training courses, presentations, and webinars. New chapters are included on specifying data requirements, writing high-quality functional requirements, and requirements reuse. Considerable depth has been added on business requirements, elicitation techniques, and nonfunctional requirements. In addition, new chapters recommend effective requirements practices for various special project situations, including enhancement and replacement, packaged solutions, outsourced, business process automation, analytics and reporting, and embedded and other real-time systems projects.

Widely considered one of the best practical guides to programming, Steve McConnell's original CODE COMPLETE has been helping developers write better software for more than a decade. Now this classic book has been fully updated and revised with leading-edge practices—and hundreds of new code samples—illustrating the art and science of software construction. Capturing the body of knowledge available from research, academia, and everyday commercial practice, McConnell synthesizes the most effective techniques and must-know principles into clear, pragmatic guidance. No matter what your experience level, development environment, or project size, this book will inform and stimulate your thinking—and help you build the highest quality code. Discover the timeless techniques and strategies that help you: Design for minimum complexity and maximum creativity Reap the benefits of collaborative development

Apply defensive programming techniques to reduce and flush out errors Exploit opportunities to refactor—or evolve—code, and do it safely Use construction practices that are right-weight for your project Debug problems quickly and effectively Resolve critical construction issues early and correctly Build quality into the beginning, middle, and end of your project

Learn programming in Java from scratch - and keep on learning! The new edition of this excellent primer teaches how to program in an object-oriented style. Objects come first providing a framework for understanding how Java programs work and how they can be designed, in an organised and systematic way. Programming is taught with a view to quality software engineering and is anchored in real world issues, particularly testing. Examples and exercises provide motivation. Self- tests and class project suggestions enhance this comprehensive study package. The purpose of this book is to take readers from the basic principles of object-oriented design and programming using Java through to class library construction and application development. New to this edition: JDK 2 compliant Part 1 - objects and object oriented programming concepts have been made more student friendly with a lot of additional small scale examples to aid understanding Part 2 - Language Reference now appears at the back of the book so as not to interrupt the flow The new JFC (including Swing and the container classes) replaces obsolescent AWT Go to the support website at: http://www.dcs.kcl.ac.uk/DevJavaSoft/ to find: More exercises Selected solutions Instructor's notes and resources Code for case studies Updates, revisions and bug fixes Reviews and feedback

In what ways are Software requirements vendors and us interacting to ensure safe and effective use? Among the Software requirements product and service cost to be estimated, which is considered hardest to estimate? What is the purpose of Software requirements in relation to the mission? Is Software requirements Required? Is the scope of Software requirements defined? This on-of-a-kind Software requirements self-assessment will make you the accepted Software requirements domain visionary by revealing just what you need to know to be fluent and ready for any Software requirements challenge. How do I reduce the effort in the Software requirements work to be done to get problems solved? How can I ensure that plans of action include every Software requirements task and that every Software requirements outcome is in place? How will I save time investigating strategic and tactical options and ensuring Software requirements opportunity costs are low? How can I deliver tailored Software requirements advice instantly with structured going-forward plans? There's no better guide through these mind-expanding questions than acclaimed best-selling author Gerard Blokdyk. Blokdyk ensures all Software requirements essentials are covered, from every angle: the Software requirements self-assessment shows succinctly and clearly that what needs to be clarified to organize the business/project activities and processes so that Software requirements outcomes are achieved. Contains extensive criteria grounded in past and current successful projects and activities by experienced Software requirements practitioners. Their mastery, combined with the uncommon elegance of the self-assessment, provides its superior value to you in knowing how to ensure the outcome of any efforts in Software requirements are maximized with professional results. Your purchase includes access details to the Software requirements self-assessment dashboard download which gives you your dynamically prioritized projects-ready tool and shows your organization exactly what to do next. Your exclusive instant access details can be found in your book.

A Practical Guide to SysML: The Systems Modeling Language is a comprehensive guide to SysML for systems and software engineers. It provides an advanced and practical resource for modeling systems with SysML. The source describes the modeling language and offers information about employing SysML in transitioning an organization or project to model-based systems engineering. The book also presents various examples to help readers understand the OMG Systems Modeling Professional (OCSMP) Certification Program. The text is organized into four parts. The first part provides an overview of systems engineering. It explains the model-based approach by comparing it with the document-based approach and providing the modeling principles. The overview of SYsML is also discussed. The second part of the book covers a comprehensive description of the language. It discusses the main concepts of model organization, parametrics, blocks, use cases, interactions, requirements, allocations, and profiles. The third part presents examples that illustrate how SysML supports different model-based procedures. The last part discusses how to transition and deploy SysML into an organization or project. It explains the integration of SysML into a systems development environment. Furthermore, it describes the category of data that are exchanged between a SysML tool and other types of tools, and the types of exchange mechanisms that can be used. It also covers the criteria that must be considered when selecting a SysML. Software and systems engineers, programmers, IT practitioners, experts, and non-experts will find this book useful. *The authoritative guide for understanding and applying SysML *Authored by the foremost experts on the language *Language description, examples, and quick reference guide included

It's easier to learn how to program a computer than it has ever been before. Now everyone can learn to write programs for themselves - no previous experience is necessary. Chris Pine takes a thorough, but lighthearted approach that teaches you the fundamentals of computer programming, with a minimum of fuss or bother. Whether you are interested in a new hobby or a new career, this book is your doorway into the world of programming. Computers are everywhere, and being able to program them is more important than it has ever been. But since most books on programming are written for other programmers, it can be hard to break in. At least it used to be. Chris Pine will teach you how to program. You'll learn to use your computer better, to get it to do what you want it to do. Starting with small, simple one-line programs to calculate your age in seconds, you'll see how to write interactive programs, to use APIs to fetch live data from the internet, to rename your photos from your digital camera, and more. You'll learn the same technology used to drive modern dynamic websites and large, professional applications. Whether you are looking for a fun new hobby or are interested in entering the tech world as a professional, this book gives you a solid foundation in programming. Chris teaches the basics, but also shows you how to think like a programmer. You'll learn through tons of examples, and through programming challenges throughout the book. When you finish, you'll know how and where to learn more - you'll be on your way. What You Need: All you need to learn how to program is a computer (Windows, macOS, or Linux) and an internet connection. Chris Pine will lead you through setting set up with the software you will need to start writing programs of your own.

"This set of books represents a detailed compendium of authoritative, research-based entries that define the contemporary state of knowledge on technology"--Provided by publisher.

It is often assumed that software testing is based on clearly defined requirements and software development standards. However, testing is typically performed against changing, and sometimes inaccurate, requirements. The third edition of a bestseller, Software Testing and Continuous Quality Improvement, Third Edition provides a continuous quality framework for the software testing process within traditionally structured and unstructured environments. This framework aids in creating meaningful test cases for systems with evolving requirements. This completely revised reference provides a comprehensive look at software testing as part of the project management process, emphasizing testing and quality goals early on in development. Building on the success of previous editions, the text explains testing in a Service Orientated Architecture (SOA) environment, the building blocks of a Testing Center of Excellence (COE), and how to test in an agile development. Fully updated, the sections on test effort estimation provide greater emphasis on testing metrics. The book also examines all aspects of functional testing and looks at the relation between changing business strategies and changes to applications in development. Includes New Chapters on Process, Application, and Organizational Metrics All IT organizations face software testing issues, but most are unprepared to manage them. Software Testing and Continuous Quality Improvement, Third Edition is enhanced with an up-to-date listing of free software tools and a question-and-answer checklist for choosing the best tools for your organization. It equips you with everything you need to effectively address testing issues in the most beneficial way for your business.

Onshape is an exciting, completely cloud based CAD tool. Getting Started with Onshape is a quick paced guide geared towards users who have no experience with 2D or 3D modeling. This edition has been fully updated to match all the recent changes to Onshape. This edition also features new content covering sheet metal features (including flat pattern views), hole tables, parts lists, and using standard content. Because Onshape can be used for free it opens up CAD to anybody who is interested in creating their own models, including members of the bourgeoning Maker community and students who want to learn how to use 3D design tools. Because Onshape is 100% cloud based, there is no software to install, and it is always up to date. New features are available to use as soon as they are ready. The good news is that the tools, as outlined in this book, will continue to work the same way even as Onshape evolves. This book guides you through the very basics of how to create models, make engineering drawings and bill of materials, and finally export to an stl file, which can be used to create a 3D print. Then you can send your stl file to one of many local or online shops that can print out an stl file. When you have completed this book, you will have taken the first step to the Maker Faire journey. In the first chapter of Getting Started with Onshape you will learn how to create an account, explore the workspace, and learn how to share your documents with other people. Chapter two features a project where you are guided, step by step, to design your own singlet ring. Throughout this chapter you will learn many of the basic tools you will need to use in nearly every project you create. The third chapter features a project where you create all the parts of a scooter. This project builds on what you learned previously to create more complex designs while new features of Onshape are introduced. In the remaining chapters you will learn how to import parts from other CAD systems, assemble the parts of your scooter, create a set of engineering drawings for your scooter, add and use apps from the Onshape app store to extend the capabilities of Onshape, and complete several more projects.

Environment Modeling-Based Requirements Engineering for Software Intensive Systems provides a new and promising approach for engineering the requirements of software-intensive systems, presenting a systematic, promising approach to identifying, clarifying, modeling, deriving, and validating the requirements of software-intensive systems from well-modeled environment simulations. In addition, the book presents a new view of software capability, i.e. the effect-based software capability in terms of environment modeling. Provides novel and systematic methodologies for engineering the requirements of software-intensive systems Describes ontologies and easily-understandable notations for modeling software-intensive systems Analyzes the functional and non-functional requirements based on the properties of the software surroundings Provides an essential, practical guide and formalization tools for the task of identifying the requirements of software-intensive systems Gives system analysts and requirements engineers insight into how to recognize and structure the problems of developing software-intensive systems

You may be contemplating your first Linux installation. Or you may have been using Linux for years and need to know more about adding a network printer or setting up an FTP server. Running Linux, now in its fifth edition, is the book you'll want on hand in either case. Widely recognized in the Linux community as the ultimate getting-started and problem-solving book, it answers the questions and tackles the configuration issues that frequently plague users, but are seldom addressed in other books. This fifth edition of Running Linux is greatly expanded, reflecting the maturity of the operating system and the teeming wealth of software available for it. Hot consumer topics suchas audio and video playback applications, groupware functionality, and spam filtering are covered, along with the basics in configuration and management that always have made the book popular. Running Linux covers basic communications such as mail, web surfing, and instant messaging, but also delves into the subtleties of network configuration--including dial-up, ADSL, and cable modems--in case you need to set up your network manually. The book canmake you proficient on office suites and personal productivity applications--and also tells you what programming tools are available if you're interested in contributing to these applications. Other new topics in the fifth edition include encrypted email and filesystems, advanced shell techniques, and remote login applications. Classic discussions on booting, package management, kernel recompilation, and X configuration have also been updated. The authors of Running Linux have anticipated problem areas, selected stable and popular solutions, and provided clear instructions to ensure that you'll have a satisfying experience using Linux. The discussion is direct and complete enough to guide novice users, while still providing the additional information experienced users will need to progress in their mastery of Linux. Whether you're using Linux on a home workstation or maintaining a network server, Running Linux will provide expert advice just when you need it.

The third edition of this bestseller examines the principles of artificial intelligence and their application to engineering and science, as well as techniques for developing intelligent systems to solve practical problems. Covering the full spectrum of intelligent systems techniques, it incorporates knowledge-based systems, computational intelligence, and their hybrids. Using clear and concise language, Intelligent Systems for Engineers and Scientists, Third Edition features updates and improvements throughout all chapters. It includes expanded and separated chapters on genetic algorithms and single-candidate optimization techniques, while the chapter on neural networks now covers spiking networks and a range of recurrent networks. The book also provides extended coverage of fuzzy logic, including type-2 and fuzzy control systems. Example programs using rules and uncertainty are presented in an industry-standard format, so that you can run them yourself. The first part of the book describes key techniques of artificial intelligence—including rule-based systems, Bayesian updating, certainty theory, fuzzy logic (types 1 and 2), frames, objects, agents, symbolic learning, case-based reasoning, genetic algorithms, optimization algorithms, neural networks, hybrids, and the Lisp and Prolog languages. The second part describes a wide range of practical applications in interpretation and diagnosis, design and selection, planning, and control. The author provides sufficient detail to help you develop your own intelligent systems for real applications. Whether you are building intelligent systems or you simply want to know more about them, this book provides you with detailed and up-to-date guidance. Check out the significantly expanded set of free web-based resources that support the book at: http://www.adrianhopgood.com/aitoolkit/

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.

Computer Architecture/Software Engineering

Computing Handbook, Third Edition: Computer Science and Software Engineering mirrors the modern taxonomy of computer science and software engineering as described by the Association for Computing Machinery (ACM) and the IEEE Computer Society (IEEE-CS). Written by established leading experts and influential young researchers, the first volume of this popular handbook examines the elements involved in designing and implementing software, new areas in which computers are being used, and ways to solve computing problems. The book also explores our current understanding of software engineering and its effect on the practice of software development and the education of software professionals. Like the second volume, this first volume describes what occurs in research laboratories, educational institutions, and public and private organizations to advance the effective development and use of computers and computing in today’s world. Research-level survey articles provide deep insights into the computing discipline, enabling readers to understand the principles and practices that drive computing education, research, and development in the twenty-first century.

An examination of the methods and techniques used in the analysis and design phases of Information System development. Emphasis is placed upon the application of object technology in enterprise information systems (EIS) with UML being used throughout. Through its excellent balance of practical explanation and theoretical insight the book manages to avoid unnecessary, complicating details without sacrificing rigor. Examples of real-world scenarios are used throughout, giving the reader an understanding of what really goes on within the field of Software Engineering.

Software RequirementsPearson Education

Written by the founder and executive director of the Quality Assurance Institute, which sponsors the most widely accepted certification program for software testing Software testing is a weak spot for most developers, and many have no system in place to find and correct defects quickly and efficiently This comprehensive resource provides step-by-step guidelines, checklists, and templates for each testing activity, as well as a self-assessment that helps readers identify the sections of the book that respond to their individual needs Covers the latest regulatory developments affecting software testing, including Sarbanes-Oxley Section 404, and provides guidelines for agile testing and testing for security, internal controls, and data warehouses CD-ROM with all checklists and templates saves testers countless hours of developing their own test documentation Note: CD-ROM/DVD and other supplementary materials are not included as part of eBook file.

Solid requirements engineering has increasingly been recognized as the key to improved, on-time, and on-budget delivery of software and systems projects. This textbook provides a comprehensive treatment of the theoretical and practical aspects of discovering, analyzing, modeling, validating, testing, and writing requirements for systems of all kinds, with an intentional focus on software-intensive systems. It brings into play a variety of formal methods, social models, and modern requirements for writing techniques to be useful to the practicing engineer. This book was written to support both undergraduate and graduate requirements engineering courses. Each chapter includes simple, intermediate, and advanced exercises. Advanced exercises are suitable as a research assignment or independent study and are denoted by an asterisk. Various exemplar systems illustrate points throughout the book, and four systems in particular—a baggage handling system, a point of sale system, a smart home system, and a wet well pumping system—are used repeatedly. These systems involve application domains with which most readers are likely to be familiar, and they cover a wide range of applications from embedded to organic in both industrial and consumer implementations. Vignettes at the end of each chapter provide mini-case studies showing how the learning in the chapter can be employed in real systems. Requirements engineering is a dynamic field and this text keeps pace with these changes. Since the first edition of this text, there have been many changes and improvements. Feedback from instructors, students, and corporate users of the text was used to correct, expand, and improve the material. This third edition includes many new topics, expanded discussions, additional exercises, and more examples. A focus on safety critical systems, where appropriate in examples and exercises, has also been introduced. Discussions have also been added to address the important domain of the Internet of Things. Another significant change involved the transition from the retired IEEE Standard 830, which was referenced throughout previous editions of the text, to its successor, the ISO/IEC/IEEE 29148 standard.

PART I: FUNDAMENTALS OF MEASUREMENT AND EXPERIMENTATION 1. Measurement: What Is It and Why Do It? 2. The Basics of Measurement 3. A Goal-Based Framework for Software Measurement 4. Empirical Investigation 5. Software Metrics Data Collection 6. Analyzing Software-Measurement Data PART II: SOFTWARE-ENGINEERING MEASUREMENT 7. Measuring Internal Product Attributes: Size 8. Measuring Internal Product Attributes: Structure 9. Measuring Internal Product Attributes 10. Software Reliability: Measurement and Prediction 11.

Resource Measurement: Productivity, Teams, and Tools 12. Making Process Predictions PART III: MEASUREMENT AND MANAGEMENT 13. Planning a Measurement Program 14. Measurement in Practice 15. Empirical Research in Software Engineering APPENDIXES: A. Solutions to Selected Exercises / B. Metric Tools / C. Acronyms and Glossary / ANNOTATED BIBLIOGRAPHY / INDEX

No matter how much instruction you’ve had on managing software requirements, there’s no substitute for experience. Too often, lessons about requirements engineering processes lack the no-nonsense guidance that supports real-world solutions. Complementing the best practices presented in his book, Software Requirements, Second Edition, requirements engineering authority Karl Wiegers tackles even more of the real issues head-on in this book. With straightforward, professional advice and practical solutions based on actual project experiences, this book answers many of the tough questions raised by industry professionals. From strategies for estimating and working with customers to the nuts and bolts of documenting requirements, this essential companion gives developers, analysts, and managers the cosmic truths that apply to virtually every software development project. Discover how to: • Make the business case for investing in better requirements practices • Generate estimates using three specific techniques • Conduct inquiries to elicit meaningful business and user requirements • Clearly document project scope • Implement use cases, scenarios, and user stories effectively • Improve inspections and peer reviews • Write requirements that avoid ambiguity