Software Engineering By Technical Publications

Taking a learn-by-doing approach, Software Engineering Design: Theory and Practice uses examples, review questions, chapter exercises, and case study assignments to provide students and practitioners with the understanding required to design complex software systems. Explaining the concepts that are immediately relevant to software designers, it be
Today, software engineers need to know not only how to program effectively but also how to develop proper engineering practices to make their codebase sustainable and healthy. This book emphasizes this difference between programming and software engineering. How can software engineers manage a living codebase that evolves and responds to changing requirements and demands over the length of its life? Based on their experience at Google, software engineers Titus Winters and Hyrum Wright, along with technical writer Tom Manshreck, present a candid and insightful look at how some of the world ' s leading practitioners construct and maintain software. This book covers Google ' s unique engineering culture, processes, and tools and how these aspects contribute to the effectiveness of an engineering organization. You ' ll explore three fundamental principles that software organizations should keep in mind when designing, architecting, writing, and maintaining code: How time affects the sustainability of software and how to make your code resilient over time How scale affects the viability of software practices within an engineering organization What trade-offs a typical engineer needs to make when evaluating design and development decisions
Taking a learn-by-doing approach, Software Engineering Design: Theory and Practice uses examples, review questions, chapter exercises, and case study assignments to provide students and practitioners with the understanding required to design complex software systems. Explaining the concepts that are immediately relevant to software designers, it begins with a review of software design fundamentals. The text presents a formal top-down design process that consists of several design activities with varied levels of detail, including the macro-, micro-, and construction-design levels. As part of the top-down approach, it provides in-depth coverage of applied architectural, creational, structural, and behavioral design patterns. For each design issue covered, it includes a step-by-step breakdown of the execution of the design solution, along with an evaluation, discussion, and justification for using that particular solution. The book outlines industry-proven software design practices for leading large-scale software design efforts, developing reusable and high-quality software systems, and producing technical and customer-driven design documentation. It also: Offers one-stop guidance for mastering the Software Design & Construction sections of the official Software Engineering Body of Knowledge (SWEBOK®) Details a collection of standards and guidelines for structuring high-quality code Describes techniques for analyzing and evaluating the quality of software designs Collectively, the text supplies comprehensive coverage of the software design concepts students will need to succeed as professional design leaders. The section on engineering leadership for software designers covers the necessary ethical and leadership skills required of software developers in the public domain. The section on creating software design documents (SDD) familiarizes students with the software design notations, structural descriptions, and behavioral models required for SDDs. Course notes, exercises with answers, online resources, and an instructor ' s manual are available upon qualified course adoption. Instructors can contact the author about these resources via the author's website: http://softwareengineeringdesign.com/
In the decade since the idea of adapting the evidence-based paradigm for software engineering was first proposed, it has become a major tool of empirical software engineering. Evidence-Based Software Engineering and Systematic Reviews provides a clear introduction to the use of an evidence-based model for software engineering research and practice.
Software Engineering in C
A Guide for Project Managers
Software Engineering at Google
Report on Planning Session on Software Engineering Handbook
Encyclopedia of Software Engineering Three-Volume Set (Print)
Computer Systems Engineering Management

Practical Guidance on the Efficient Development of High-Quality Software Introduction to Software Engineering, Second Edition equips students with the fundamentals to prepare them for satisfying careers as software engineers regardless of future changes in the field, even if the changes are unpredictable or disruptive in nature. Retaining the same organization as its predecessor, this second edition adds considerable material on open source and agile development models. The text helps students understand software development techniques and processes at a reasonably sophisticated level. Students acquire practical experience through team software projects. Throughout much of the book, a relatively large project is used to teach about the requirements, design, and coding of software. In addition, a continuing case study of an agile software development project offers a complete picture of how a successful agile project can work. The book covers each major phase of the software development life cycle, from developing software requirements to software maintenance. It also discusses project management and explains how to read software engineering literature. Three appendices describe software patents, command-line arguments, and flowcharts.

"This book presents current, effective software engineering methods for the design and development of modern Web-based applications"--Provided by publisher.

Computer Systems Engineering Management provides a superb guide to the overall effort of computer systems bridge building. It explains what to do before you get to the river, how to organise your work force, how to manage the construction, and what do when you finally reach the opposite shore. It delineates practical approaches to real-world development issues and problems presents many examples and case histories and explains techniques that apply to everything from microprocessors to mainframes and from person computer applications to extremely sophisticated systems

Innovations and Advanced Techniques in Systems, Computing Sciences and Software Engineering includes a set of rigorously reviewed world-class manuscripts addressing and detailing state-of-the-art research projects in the areas of Computer Science, Software Engineering, Computer Engineering, and Systems Engineering and Sciences. Innovations and Advanced Techniques in Systems, Computing Sciences and Software Engineering includes selected papers form the conference proceedings of the International Conference on Systems, Computing Sciences and Software Engineering (SCSS 2007) which was part of the International Joint Conferences on Computer, Information and Systems Sciences and Engineering (CISSE 2007).

Technology, Marketing and Internet

Analysis and Design of Algorithms

What Really Works, and Why We Believe It

Lessons Learned from Programming Over Time

Innovations and Advanced Techniques in Systems, Computing Sciences and Software Engineering

Proceedings of ESA/ESTEC Seminar, Noordwijk, The Netherlands, 11-14 October 1983

The author starts with the premise that C is an excellent language for software engineering projects. The book con- centrates on programming style,particularly readability, maintainability, and portability. Documents the proposed ANSI Standard, which is expected to be ratified in 1987. This book is designed as a text for both beginner and inter- mediate-level programmers.
This textbook is designed to learn python programming from scratch. At the beginning of the book general problem solving concepts such as types of problems, difficulties in problem solving, and problem solving aspects are discussed. From this book, you will start learning the Python programming by knowing about the variables, constants, keywords, data types, indentation and various programming constructs. The most commonly used types such as Lists, Tuples, dictionaries are also discussed with necessary examples and illustrations. The book includes the concepts of functions, lambda functions, modules and strings. In the later part of this book the concept of object oriented programming using Python is discussed in detail. Finally how to handle files and directories using Python is discussed. At the end of book some sample programs in Python are given that are based on the programming constructs. Python will be most demanded language after Java in future. So learning Python is need for today's software professionals. This book serves the purpose of teaching Python programming in the simplest and easiest manner.
This is the digital version of the printed book (Copyright © 1996). Written in a remarkably clear style, Creating a Software Engineering Culture presents a comprehensive approach to improving the quality and effectiveness of the software development process. In twenty chapters spread over six parts, Wiegers promotes the tactical changes required to support process improvement and high-quality software development. Throughout the text, Wiegers identifies scores of culture builders and culture killers, and he offers a wealth of references to resources for the software engineer, including seminars, conferences, publications, videos, and on-line information. With case studies on process improvement and software metrics programs and an entire part on action planning (called “What to Do on Monday”), this practical book guides the reader in applying the concepts to real life. Topics include software culture concepts, team behaviors, the five dimensions of a software project, recognizing achievements, optimizing customer involvement, the project champion model, tools for sharing the vision, requirements traceability matrices, the capability maturity model, action planning, testing, inspections, metrics-based project estimation, the cost of quality, and much more! Principles from Part 1 Never let your boss or your customer talk you into doing a bad job. People need to feel the work they do is appreciated. Ongoing education is every team member’s responsibility. Customer involvement is the most critical factor in software quality. Your greatest challenge is sharing the vision of the final product with the customer. Continual improvement of your software development process is both possible and essential. Written software development procedures can help build a shared culture of best practices. Quality is the top priority; long-term productivity is a natural consequence of high quality. Strive to have a peer, rather than a customer, find a defect. A key to software quality is to iterate many times on all development steps except coding: Do this once. Managing bug reports and change requests is essential to controlling quality and maintenance. If you measure what you do, you can learn to do it better. You can’t change everything at once. Identify those changes that will yield the greatest benefits, and begin to implement them next Monday. Do what makes sense; don’t resort to dogma.
Many claims are made about how certain tools, technologies, and practices improve software development. But which claims are verifiable, and which are merely wishful thinking? In this book, leading thinkers such as Steve McConnell, Barry Boehm, and Barbara Kitchenham offer essays that uncover the truth and unmask myths commonly held among the software development community. Their insights may surprise you. Are some programmers really ten times more productive than others? Does writing tests first help you develop better code faster? Can code metrics predict the number of bugs in a piece of software? Do design patterns actually make better software? What effect does personality have on pair programming? What matters more: how far apart people are geographically, or how far apart they are in the org chart? Contributors include: Jorge Aranda Tom Ball Victor R. Basili Andrew Begel Christian Bird Barry Boehm Marcelo Cataldo Steven Clarke Jason Cohen Robert DeLine Madeline Diep Hakan Erdogmus Michael Godfrey Mark Guzdial Jo E. Hannay Ahmed E. Hassan Israel Herraiz Kim Sebastian Herzig Cory Kapser Barbara Kitchenham Andrew Ko Lucas Layman Steve McConnell Tim Menzies Gail Murphy Nachi Nagappan Thomas J. Ostrand Dewayne Perry Marian Petre Lutz Prechelt Rahul Premraj Forrest Shull Beth Simon Diomidis Spinellis Neil Thomas Walter Tichy Burak Turhan Elaine J. Weyuker Michele A. Whitecraft Laurie Williams Wendy M. Williams Andreas Zeller Thomas Zimmermann
6th International Workshop, DAS 2004, Florence, Italy, September 8-10, 2004, Proceedings
Computer Systems and Software Engineering: Concepts, Methodologies, Tools, and Applications
Monthly Catalog of United States Government Publications
Software Engineering for Modern Web Applications: Methodologies and Technologies
Proceedings of the 1987 SEI Conference on Software Engineering Education, Held in Monroeville, Paris, April 30- May 1, 1987
Making Software

LogiQL is a new state-of-the-art programming language based on Datalog. It can be used to build applications that combine transactional, analytical, graph, probabilistic, and mathematical programming. LogiQL makes it possible to build hybrid applications that previously required multiple programming languages and databases. In this first book to cover LogiQL, the authors explain how to design, implement, and query deductive databases using this new programming language. LogiQL's declarative approach enables complex data structures and business rules to be simply specified and then automatically executed. It is especially suited to business applications requiring complex rules to be implemented efficiently, for example predictive analytics and supply chain optimization. Suitable for both novices and experienced developers, the book is written in easy-to-understand language. It includes many examples and exercises throughout to illustrate the main concepts and consolidate understanding.

"This book provides analysis, characterization and refinement of software engineering data in terms of machine learning methods. It depicts applications of several machine learning approaches in software systems development and deployment, and the use of machine learning methods to establish predictive models for software quality while offering readers suggestions by proposing future work in this emerging research field"--Provided by publisher.

Software Security Engineering draws extensively on the systematic approach developed for the Build Security In (BSI) Web site. Sponsored by the Department of Homeland Security Software Assurance Program, the BSI site offers a host of tools, guidelines, rules, principles, and other resources to help project managers address security issues in every phase of the software development life cycle (SDLC). The book's expert authors, themselves frequent contributors to the BSI site, represent two well-known resources in the security world: the CERT Program at the Software Engineering Institute (SEI) and Cigital, Inc., a consulting firm specializing in software security. This book will help you understand why Software security is about more than just eliminating vulnerabilities and conducting penetration tests Network security mechanisms and IT infrastructure security services do not sufficiently protect application software from security risks Software security initiatives should follow a risk-management approach to identify priorities and to define what is "good enough"–understanding that software security risks will change throughout the SDLC Project managers and software engineers need to learn to think like an attacker in order to address the range of functions that software should not do, and how software can better resist, tolerate, and recover when under attack

The practice of building software is a “new kid on the block” technology. Though it may not seem this way for those who have been in the field for most of their careers, in the overall scheme of professions, software builders are relative “newbies.” In the short history of the software field, a lot of facts have been identified, and a lot of fallacies promulgated. Those facts and fallacies are what this book is about. There's a problem with those facts–and, as you might imagine, those fallacies. Many of these fundamentally important facts are learned by a software engineer, but over the short lifespan of the software field, all too many of them have been forgotten. While reading Facts and Fallacies of Software Engineering , you may experience moments of “Oh, yes, I had forgotten that,” alongside some “Is that really true?” thoughts. The author of this book doesn't shy away from controversy. In fact, each of the facts and fallacies is accompanied by a discussion of whatever controversy envelops it. You may find yourself agreeing with a lot of the facts and fallacies, yet emotionally disturbed by a few of them! Whether you agree or disagree, you will learn why the author has been called “the premier curmudgeon of software practice.” These facts and fallacies are fundamental to the software building field–forget or neglect them at your peril!

Advances in Machine Learning Applications in Software Engineering

LogiQL

Issues in Software Engineering Education

The Leprechauns of Software Engineering

Overcoming Challenges in Software Engineering Education: Delivering Non-Technical Knowledge and Skills

Professionals in the interdisciplinary field of computer science focus on the design, operation, and maintenance of computational systems and software. Methodologies and tools of engineering are utilized alongside computer applications to develop efficient and precise information databases. Computer Systems and Software Engineering: Concepts, Methodologies, Tools, and Applications is a comprehensive reference source for the latest scholarly material on trends, techniques, and uses of various technology applications and examines the benefits and challenges of these computational developments. Highlighting a range of pertinent topics such as utility computing, computer security, and information systems applications, this multi-volume book is ideally designed for academicians, researchers, students, web designers, software developers, and practitioners interested in computer systems and software engineering.

Thisvolumecontainspapersselectedforpresentationatthe6thIAPRWorkshop on Document Analysis Systems (DAS 2004) held during September 8–10, 2004 at the University of Florence, Italy. Several papers represent the state of the art in a broad range of “traditional” topics such as layout analysis, applications to graphics recognition, and handwritten documents. Other contributions address the description of complete working systems, which is one of the strengths of this workshop. Some papers extend the application domains to other media, like the processing of Internet documents. The peculiarity of this 6th workshop was the large number of papers related to digital libraries and to the processing of historical documents, a taste which frequently requires the analysis of color documents. A total of 17 papers are associated with these topics, whereas two yearsago (in DAS 2002) only a couple of papers dealt with these problems. In our view there are three main reasons for this new wave in the DAS community. From the scienti?c point of view, several research ?elds reached a thorough knowledge of techniques and problems that can be e?ectively solved, and this expertise can now be applied to new domains. Another incentive has been provided by several research projects funded by the EC and the NSF on topics related to digital libraries.

The best way to learn software engineering is by understanding its core and peripheral areas. Foundations of Software Engineering provides in-depth coverage of the areas of software engineering that are essential for becoming proficient in the field. The book devotes a complete chapter to each of the core areas. Several peripheral areas are also explained by assigning a separate chapter to each of them. Rather than using UML or other formal notations, the content in this book is explained in easy-to-understand language. Basic programming knowledge using an object-oriented language is helpful to understand the material in this book. The knowledge gained from this book can be readily used in other relevant courses or in real-world software development environments. This textbook educates students in software engineering principles. It covers almost all facets of software engineering, including requirement engineering, system specifications, system modeling, system architecture, system implementation, and system testing. Emphasizing practical issues, such as feasibility studies, this book explains how to add and develop software requirements to evolve software systems. This book was written after receiving feedback from several professors and software engineers. What resulted is a textbook on software engineering that not only covers the theory of software engineering but also presents real-world insights to aid students in proper implementation. Students learn key concepts through carefully explained and illustrated theories, as well as concrete examples and a complete case study using Java. Source code is also available on the book’s website. The examples and case studies increase in complexity as the book progresses to help students build a practical understanding of the required theories and applications.

This book offers a primer on the valuation of digital intangibles, a trending class of immaterial assets. Startups like successful unicorns, as well as consolidated firms desperately working to re-engineer their business models, are now trying to go digital and to reap higher returns by exploiting new intangibles. This book is innovative in its design and concept since it tackles a frontier topic with an original methodology, combining academic rigor with practical insights. Digital intangibles range from digitized versions of traditional immaterial assets (brands, patents, know-how, etc.) to more trendy applications like big data, Internet of Things, interoperable databases, artificial intelligence, digital newspapers, social networks, blockchains, FinTech applications, etc. This book comprehensively addresses related valuation issues, and demonstrates how best practices can be applied to specific asset appraisals, making it of interest to researchers, students, and practitioners alike.

Handbook of Software Engineering

Delivering Non-Technical Knowledge and Skills

Theory and Practice

Foundations, Theory, and Practice

Programming and Problem Solving using Python

NASA Scientific and Technical Publications: A Catalog of Special Publications, Reference Publications, Conference Publications, and Technical Papers, 1991-1992

Software engineering requires specialized knowledge of a broad spectrum of topics, including the construction of software and the platforms, applications, and environments in which the software operates as well as an understanding of the people who build and use the software. Offering an authoritative perspective, the two volumes of the Encyclopedia of Software Engineering cover the entire multidisciplinary scope of this important field. More than 200 expert contributors and reviewers from industry and academia across 21 countries provide easy-to-read entries that cover software requirements, design, construction, testing, maintenance, configuration management, quality control, and software engineering management tools and methods. Editor Phillip A. Laplante uses the most universally recognized definition of the areas of relevance to software engineering, the Software Engineering Body of Knowledge (SWEBOK®), as a template for organizing the material. Also available in an electronic format, this encyclopedia supplies software engineering students, IT professionals, researchers, managers, and scholars with unrivaled coverage of the topics that encompass this ever-changing field. Also Available Online This Taylor & Francis encyclopedia is also available through online subscription, offering a variety of extra benefits for researchers, students, and librarians, including: Citation tracking and alerts Active reference linking Saved searches and marked lists HTML and PDF format options Contact Taylor and Francis for more information or to inquire about subscription options and print/online combination packages. US: (Tel) 1.888.318.2367; (E-mail) e-reference@taylorandfrancis.com International: (Tel) +44 (0) 20 7017 6062; (E-mail) online.sales@tandf.co.uk

This well-organized textbook provides the design techniques of algorithms in a simple and straight forward manner. The book begins with a description of the fundamental concepts such as algorithm, functions and relations, vectors and matrices. Then it focuses on efficiency analysis of algorithms. In this unit, the technique of computing time complexity of the algorithm is discussed along with illustrative examples. Gradually, the text discusses various algorithmic strategies such as divide and conquer, dynamic programming, Greedy algorithm, backtracking and branch and bound. Finally the string matching algorithms and introduction to NP completeness is discussed. Each algorithmic strategy is explained in stepwise manner, followed by examples and pseudo code. Thus this book helps the reader to learn the analysis and design of algorithms in the most lucid way.

A concise and practical introduction to the foundations and engineering principles of self-adaptation Though it has recently gained significant momentum, the topic of self-adaptation remains largely under-addressed in academic and technical literature. This book changes that. Using a systematic and holistic approach, An Introduction to Self-adaptive Systems: A Contemporary Software Engineering Perspective provides readers with an accessible set of basic principles, engineering foundations, and applications of self-adaptation in software-intensive systems. It places self-adaptation in the context of techniques like uncertainty management, feedback control, online reasoning, and machine learning while acknowledging the growing consensus in the software engineering community that self-adaptation will be a crucial enabling feature in tackling the challenges of new, emerging, and future systems. The author combines cutting-edge technical research with basic principles and real-world insights to create a practical and strategically effective guide to self-adaptation. He includes features such as: An analysis of the foundational engineering principles and applications of self-adaptation in different domains, including the Internet-of-Things, cloud computing, and cyber-physical systems End-of-chapter exercises at four different levels of complexity and difficulty An accompanying author-hosted website with slides, selected exercises and solutions, models, and code Perfect for researchers, students, teachers, industry leaders, and practitioners in fields that directly or peripherally involve software engineering, as well as those in academia involved in a class on self-adaptivity, this book belongs on the shelves of anyone with an interest in the future of software and its engineering.

This handbook provides a unique and in-depth survey of the current state-of-the-art in software engineering, covering its major topics, the conceptual genealogy of each subfield, and discussing future research directions. Subjects include foundational areas of software engineering (e.g. software processes, requirements engineering, software architecture, software testing, formal methods, software maintenance) as well as emerging areas (e.g., self-adaptive systems, software engineering in the cloud, coordination technology). Each chapter includes an introduction to central concepts and principles, a guided tour of seminal papers and key contributions, and promising future research directions. The authors of the individual chapters are all acknowledged experts in their field and include many who have pioneered the techniques and technologies discussed. Readers will find an authoritative and concise review of each subject, and will also learn how software engineering technologies have evolved and are likely to develop in the years to come. This book will be especially useful for researchers who are new to software engineering, and for practitioners seeking to enhance their skills and knowledge.

Introduction to Software Engineering

Document Analysis Systems VI

Software Security Engineering

Software Engineering Notebook 2nd Edition

Conference and Convention: Technical Papers

Rethinking Productivity in Software Engineering

Computer science graduates often find software engineering knowledge and skills are more in demand after they join the industry. However, given the lecture-based curriculum present in academia, it is not an easy undertaking to deliver industry-standard knowledge and skills in a software engineering classroom as such lectures hardly engage or convince students. Overcoming Challenges in Software Engineering Education: Delivering Non-Technical Knowledge and Skills combines recent advances and best practices to improve the curriculum of software engineering education. This book is an essential reference source for researchers and educators seeking to bridge the gap between industry expectations and what academia can provide in software engineering education.
Software Engineering And Quality AssuranceSoftware EngineeringTechnical PublicationsRethinking Productivity in Software EngineeringApress
For over 20 years, Software Engineering: A Practitioner's Approach has been the best selling guide to software engineering for students and industry professionals alike. The sixth edition continues to lead the way in software engineering. A new Part 4 on Web Engineering presents a complete engineering approach for the analysis, design, and testing of Web Applications, increasingly important for today's students. Additionally, the UML coverage has been enhanced and signficantly increased in this new edition. The pedagogy has also been improved in the new edition to include sidebars. They provide information on relevant softare tools, specific work flow for specific kinds of projects, and additional information on various topics. Additionally, Pressman provides a running case study called "Safe Home" throughout the book, which provides the application of software engineering to an industry project. New additions to the book also include chapters on the Agile Process Models, Requirements Engineering, and Design Engineering. The book has been completely updated and contains hundreds of new references to software tools that address all important topics in the book. The ancillary material for the book includes an expansion of the case study, which illustrates it with UML diagrams. The On-Line Learning Center includes resources for both instructors and students such as checklists, 700 categorized web references, Powerpoints, a test bank, and a software engineering library-containing over 500 software engineering papers.TAKEAWY HERE IS THE FOLLOWING:1. AGILE PROCESS METHODS ARE COVERED EARLY IN CH. 42. NEW PART ON WEB APPLICATIONS --5 CHAPTERS
This volume combines the proceedings of the 1987 SEI Conference on Software Engineering Education, held in Monroeville, Pennsylvania on April 30 and May 1, 1987, with the set of papers that formed the basis for that conference. The conference was sponsored by the Software Engineering Institute (SEI) of Carnegie-Mellon University. SEI is a federally-funded research and development center established by the United States Department of Defense to improve the state of software technology. The Education Division of SEI is charged with improving the state of software engineering education. This is the third volume on software engineering education to be pub lished by Springer-Verlag. The first (Software Engineering Education: Needs and Objectives, edited by Tony Wasserman and Peter Freeman) was published in 1976. That volume documented a workshop in which educa tors and industrialists explored needs and objectives in software engineering education. The second volume (Software Engineering Education: The Educational Needs of the Software Community, edited by Norm Gibbs and Richard Fairley) was published in 1986. The 1986 volume contained the proceedings of a limited attendance workshop held at SEI and sponsored by SEI and Wang Institute. In contrast to the 1986 Workshop, which was limited in attendance to 35 participants, the 1987 Conference attracted approximately 180 participants.
Facts and Fallacies of Software Engineering
A Catalog of Special Publications, Reference Publications, Conference Publications, and Technical Papers, 1987-1990
The Valuation of Digital Intangibles
ASME Technical Papers
Software Architecture
Software Engineering And Quality Assurance

The software profession has a problem, widely recognized but which nobody seems willing to do anything about; a variant of the well known ""telephone game,"" where some trivial rumor is repeated from one person to the next until it has become distorted beyond recognition and blown up out of all proportion. Unfortunately, the objects of this telephone game are generally considered cornerstone truths of the discipline, to the point that their acceptance now seems to hinder further progress. This book takes a look at some of those ""ground truths"" the claimed 10x variation in productivity between developers; the ""software crisis""; the cost-of-change curve; the ""cone of uncertainty""; and more. It assesses the real weight of the evidence behind these ideas - and confronts the scary prospect of moving the state of the art forward in a discipline that has had the ground kicked from under it.

Software architecture is foundational to the development of large, practical software-intensive applications. This brand-new text covers all facets of software architecture and how it serves as the intellectual centerpiece of software development and evolution. Critically, this text focuses on supporting creation of real implemented systems. Hence the text details not only modeling techniques, but design, implementation, deployment, and system adaptation -- as well as a host of other topics -- putting the elements in context and comparing and contrasting them with one another. Rather than focusing on one method, notation, tool, or process, this new text/reference widely surveys software architecture techniques, enabling the instructor and practitioner to choose the right tool for the job at hand. Software Architecture is intended for upper-division undergraduate and graduate courses in software architecture, software design, component-based software engineering, and distributed systems; the text may also be used in introductory as well as advanced software engineering courses.

Get the most out of this foundational reference and improve the productivity of your software teams. This open access book collects the wisdom of the 2017 "Dagstuhl" seminar on productivity in software engineering, a meeting of community leaders, who came together with the goal of rethinking traditional definitions and measures of productivity. The results of their work, Rethinking Productivity in Software Engineering, includes chapters covering definitions and core concepts related to productivity, guidelines for measuring productivity in specific contexts, best practices and pitfalls, and theories and open questions on productivity. You'll benefit from the many short chapters, each offering a focused discussion on one aspect of productivity in software engineering. Readers in many fields and industries will benefit from their collected work. Developers wanting to improve their personal productivity, will learn effective strategies for overcoming common issues that interfere with progress. Organizations thinking about building internal programs for measuring productivity of programmers and teams will learn best practices from industry and researchers in measuring productivity. And researchers can leverage the conceptual frameworks and rich body of literature in the book to effectively pursue new research directions. What You'll LearnReview the definitions and dimensions of software productivity See how time management is having the opposite of the intended effect Develop valuable dashboards Understand the impact of sensors on productivity Avoid software development waste Work with human-centered methods to measure productivity Look at the intersection of neuroscience and productivity Manage interruptions and context-switching Who Book Is For Industry developers and those responsible for seminar-style courses that include a segment on software developer productivity. Chapters are written for a generalist audience, without excessive use of technical terminology.

Concepts, Methodologies, Tools, and Applications

A Contemporary Software Engineering Perspective

Creating a Software Engineering Culture

Software Engineering

Methodologies and Technologies

Foundations of Software Engineering