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Subject :Software Quality

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Burton, John; Ó hAodha, Mícheál; Mc Caffery, Fergal; Richardson, Ita

The Medical Device Industry : Developments in Software Risk Management. Cambridge Scholars Publishing, 2009.

Abstract :

The Medical Device industry is one of the fastest growing industries in the world. Device manufacturers are producing increasingly sophisticated and complex medical device software to differentiate themselves in the battle for dominance in this sector. The increase in the complexity of medical device software has introduced new challenges with respect to making medical devices and their associated software safe. Risk management has emerged as key in addressing these challenges. Existing literature on risk management for medical devices has been slow to adequately account for the complex nature of software in modern medical devices. Conversely, excellent progress has been made in the broader Software Engineering community with the production of holistic software risk based models such as the Capability Maturity Model Integration (CMMI®) and SPICE™. However, these models do not account for medical device specific requirements. This book examines the possibility of a unified approach whilst investigating the relevance of the CMMI® SPI model to the medical device regulatory requirements.

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Chopra, Rajiv

Software Quality Assurance : A Self-Teaching Introduction. Mercury Learning & Information, 2018.

Abstract :

This overview of software quality assurance testing in a “self-teaching” format contains easy-to- understand chapters with tips and insights about software quality, its basic concepts, applications, and practical case studies. It includes numerous, end-of-chapter questions with answers to test your knowledge and reinforce mastery of the concepts being presented. The book also includes state of the art material on the video-game testing process (Chapter 14) and a game-testing plan template (Chapter 15) and Game Testing by the Numbers (Chapter 16). Features: • Covers important topics such as black, white, and gray box testing, test management, automation, levels of testing, quality models, system and acceptance testing and more • Covers video game testing and effectiveness• Self-teaching method includes software lab experiments, numerous exercises (many with answers), projects, and case studies

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Craig, Rick D.; Jaskiel, Stefan P.

Systematic Software Testing. Artech House, Inc, 2002.

Abstract :

Gain an in-depth understanding of software testing management and process issues that are critical for delivering high-quality software on time and within budget. Written by leading experts in the field, this book offers those involved in building and maintaining complex, mission-critical software systems a flexible, risk-based process to improve their software testing capabilities. Whether your organization currently has a well-defined testing process or almost no process, Systematic Software Testing provides unique insights into better ways to test your software. This book describes how to use a preventive method of testing, which parallels the software development lifecycle, and explains how to create and subsequently use test plans, test design, and test metrics. Detailed instructions are presented to help you decide what to test, how to prioritize tests, and when testing is complete.

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Du Zhang; Jeffrey J P Tsai

Machine Learning Applications In Software Engineering. World Scientific, 2005.

Abstract :

Machine learning deals with the issue of how to build computer programs that improve their performance at some tasks through experience. Machine learning algorithms have proven to be of great practical value in a variety of application domains. Not surprisingly, the field of software engineering turns out to be a fertile ground where many software development and maintenance tasks could be formulated as learning problems and approached in terms of learning algorithms. This book deals with the subject of machine learning applications in software engineering. It provides an overview of machine learning, summarizes the state-of-the-practice in this niche area, gives a classification of the existing work, and offers some application guidelines. Also included in the book is a collection of previously published papers in this research area.

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Evans, Isabel

Achieving Software Quality Through Teamwork. Artech House, Inc, 2004.

Abstract :

'Artech House computing library.'

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PLink : http://search.ebscohost.com/login.aspx?direct=true&db=e000xww&AN=113799&site=ehost-live&scope=site

Gao, Jerry; Tsao, H.-S. J.; Wu, Ye

Testing and Quality Assurance for Component-based Software. Artech House, Inc, 2003.

Abstract :

Presenting the state-of-the-art in component-based software testing, this new, cutting-edge resource offers you an in-depth understanding of the current issues, challenges, needs, and solutions in this critical area. The book discusses the very latest advances in component-based testing and quality assurance in an accessible tutorial format, making the material easy to comprehend and benefit from no matter what your professional level. The book clearly explains what component-based software testing is, why it is important, and how it differs from traditional software testing. From an introduction to software components, testing component-based software, and validation methods for software components, to performance testing and measurement, standards and certification, and verification of quality for component-based systems, you get a revealing snapshot of the key developments in this area, including important research findings.

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Hass, Anne Mette Jonassen

Guide to Advanced Software Testing. Artech House, Inc, 2008.

Abstract :

Software testing is a critical aspect of the software development process, and this heavily illustrated reference takes professionals on a complete tour of this increasingly important, multi-dimensional area. The book offers a practical understanding of all the most critical software testing topics and their relationships and inter-dependencies.

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Hauptmann, Benedikt; Grumberg, Orna; Nipkow, Tobias; IOS Press (Firm)

Software Safety and Security : Tools for Analysis and Verification. IOS Press, 2012.

Abstract :

Recent decades have seen major advances in methods and tools for checking the safety and security of software systems. Automatic tools can now detect security flaws not only in programs of the order of a million lines of code, but also in high-level protocol descriptions. There has also been something of a breakthrough in the area of operating system verification. This book presents the lectures from the NATO Advanced Study Institute on Tools for Analysis and Verification of Software Safety and Security; a summer school held at Bayrischzell, Germany, in 2011. This Advanced Study Institute was divided into three integrated modules: Foundations of Safety and Security, Applications of Safety Analysis and Security Analysis. Subjects covered include mechanized game-based proofs of security protocols, formal security proofs, model checking, using and building an automatic program verifier and a hands-on introduction to interactive proofs. Bringing together many leading international experts in the field, this NATO Advanced Study Institute once more proved invaluable in facilitating the connections which will influence the quality of future research and the potential to transfer research into practice. This book will be of interest to all those whose work depends on the safety and security of software systems.

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Horch, John W.

Practical Guide to Software Quality Management. Artech House, Inc, 2003.

Abstract :

'Software engineering'--Cover.

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PLink : http://search.ebscohost.com/login.aspx?direct=true&db=e000xww&AN=87742&site=ehost-live&scope=site

Kshirasagar Naik; Priyadarshi Tripathy

Software Testing and Quality Assurance : Theory and Practice. Wiley-Spektrum, 2008.

Abstract :

A superior primer on software testing and quality assurance, from integration to execution and automation This important new work fills the pressing need for a user-friendly text that aims to provide software engineers, software quality professionals, software developers, and students with the fundamental developments in testing theory and common testing practices. Software Testing and Quality Assurance: Theory and Practice equips readers with a solid understanding of: Practices that support the production of quality software Software testing techniques Life-cycle models for requirements, defects, test cases, and test results Process models for units, integration, system, and acceptance testing How to build test teams, including recruiting and retaining test engineers Quality Models, Capability Maturity Model, Testing Maturity Model, and Test Process Improvement Model Expertly balancing theory with practice, and complemented with an abundance of pedagogical tools, including test questions, examples, teaching suggestions, and chapter summaries, this book is a valuable, self-contained tool for professionals and an ideal introductory text for courses in software testing, quality assurance, and software engineering.

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Mark Last; Abraham Kandel; Horst Bunke

Artificial Intelligence Methods In Software Testing. World Scientific, 2004.

Abstract :

An inadequate infrastructure for software testing is causing major losses to the world economy. The characteristics of software quality problems are quite similar to other tasks successfully tackled by artificial intelligence techniques. The aims of this book are to present state-of-the-art applications of artificial intelligence and data mining methods to quality assurance of complex software systems, and to encourage further research in this important and challenging area.

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Patrick Li

Jira Software Essentials : Plan, Track, and Release Great Applications with Jira Software, 2nd Edition. Packt Publishing, 2018.

Abstract :

Explore Jira Software to manage your projects proficientlyKey FeaturesPlan and manage projects effortlessly with Jira Software by integrating it with other applicationsImprove your team's performance with Scrum and Kanban, together with agile methodologyEasy-to-follow learning guide to install Jira Software and understand how it fits in with Atlassian JiraBook DescriptionJira Software is an agile project management tool that supports any agile methodology, be it scrum, Kanban, or your own unique flavour. From agile boards to reports, you can plan, track, and manage all your agile software development projects from a single tool. Jira Software brings the power of agile methodology to Atlassian Jira.This second edition of JIRA Agile Essentials, will help you dive straight into the action, exploring critical agile terminologies and concepts in the context of Jira Software. You will learn how to plan, track, and release great software. This book will teach you how to install and run Jira Software and set it up to run with Scrum and Kanban. It will also teach you to use Jira Software your way and run projects beyond the out-of-box Scrum and Kanban way, including a hybrid approach of both the methodologies and other options that come with Jira Software. Later, you will learn how to integrate it with the tools you are already using and enhance Jira with add-ons such as Confluence. You will learn to stay connected with your team from anywhere to ensure great development. Jira Software has numerous deployment options in the cloud, on your own infrastructure, or at a massive scale. You will be introduced to Bitbucket, Atlassian's distributed version control system, which integrates seamlessly with Jira, allowing your team to work within the two applications as one harmonious environment.With this practical guide, you will develop a great working knowledge of Jira Software and your project management will become much more efficient.What you will learnUnderstand the basics and agile methodologies of Jira software Use Jira Software in a Scrum environmentManage and run Jira Software projects beyond the out of box Scrum and Kanban wayCombine Scrum and Kanban and use other project management options beyond just agileCustomize Jira Software's various features and options as per your requirementsWork with Jira Agile offline, and plan and forecast projects with agile portfolioIntegrate Jira Agile with Confluence and BitbucketWho this book is forIf you want to get started with Jira Software and learn how to run your Jira projects the agile way, then this is the perfect book for you. You will need to be familiar with the basics of Jira, both from an end user's and an administrator's perspective. Experience with workflows, custom fields, and other administrative functions of Jira will be useful.

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Rakitin, Steven R.

Software Verification and Validation for Practitioners and Managers. Artech House, Inc, 2001.

Abstract :

Rev. ed. of: Software verification and validation.

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Robert G Reynolds; George S Cowan

Acquisition Of Software Engineering Knowledge - Sweep: An Automatic Programming System Based On Genetic Programming And Cultural Algorithms. World Scientific, 2003.

Abstract :

This is the first book that attempts to provide a framework in which to embed an automatic programming system based on evolutionary learning (genetic programming) into a traditional software engineering environment. As such, it looks at how traditional software engineering knowledge can be integrated with an evolutionary programming process in a symbiotic way.

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Ron S. Kenett; Emanuel Baker

Software Process Quality : Management and Control. CRC Press, 1999.

Abstract :

Using actual examples of software process improvement from the private sector and government, this work demonstrates how quality systems, measurement techniques and performance evaluations work. It presents a methodology for analyzing an ongoing software development process and establishing a rational plan for process improvement.

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S., Subashni; N., Satheesh Kumar

Software Testing Using Visual Studio 2010 : A Step-by-step Guide to Understanding the Features and Concepts of Testing Applications Using Visual Studio. Packt Publishing, 2010.

Abstract :

'This is a practical hands-on book with clear instructions and lot of code examples. It takes a simple approach, guiding you through different architectural topics using realistic sample projects. A single project is implemented using different architectural styles to make the reader understand the details of each style. There are also many small independent code samples to explain design patterns, WCF, and localization. This book is for people familiar with the ASP.NET framework using either C# or VB.NET. You don't need to be an ASP.NET guru – the book is ideal for novice and intermediate developers. If reading about application architecture usually confuses you or sends you to sleep, then this book will be perfect for you! In short, any ASP.NET programmer who is confused or disoriented reading different books or materials on architectures wondering how and what to implement in their application, will definitely benefit from this book!'

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Satheesh Kumar, N.; Subashni S.

Software Testing Using Visual Studio 2012. Packt Publishing, 2013.

Abstract :

We will be setting up a sample test scenario, then we'll walk through the features available to deploy tests.This book is for developers and testers who want to get to grips with Visual Studio 2012 and Test Manager for all testing activities and managing tests and results in Team Foundation Server. It requires a minimal understanding of testing practices and the software development life cycle; also, some coding skills would help in customizing and updating the code generated from the web UI testing.

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Scott Dick; Abraham Kandel

Computational Intelligence In Software Quality Assurance. World Scientific, 2005.

Abstract :

Software systems surround us. Software is a critical component in everything from the family car through electrical power systems to military equipment. As software plays an ever-increasing role in our lives and livelihoods, the quality of that software becomes more and more critical. However, our ability to deliver high-quality software has not kept up with those increasing demands. The economic fallout is enormous; the US economy alone is losing over US$50 billion per year due to software failures. This book presents new research into using advanced artificial intelligence techniques to guide software quality improvements. The techniques of chaos theory and data mining are brought to bear to provide new insights into the software development process. Written for researchers and practitioners in software engineering and computational intelligence, this book is a unique and important bridge between these two fields.

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Shulmeyer, G. Gordon

Handbook of Software Quality Assurance. Artech House, Inc, 2008.

Abstract :

This thoroughly revised fourth edition of the popular book, Handbook of Software Quality Assurance, brings together the latest SQA (software quality assurance) methods, recognizing the importance of CMMI® and the ISO 900-3 standard. This unique book offers you a wide spectrum of experiences and issues presented in papers from leading experts in SQA, DQA (development quality assurance), and software development and management. The fourth edition is a significant update to past editions, bringing you the very latest on current best practices in the field. You learn the role of SQA/DQA with regard to ISO 9001-2000 requirements and the criteria from the Software Engineering Institute for the various levels of CMMI®. You also find an updated discussion on the American Society for Quality (ASQ) SQA certification program, covering the benefits of becoming an ASQ certified software quality engineer. This practical resource shows you how to move an organization from CMMI® software quality assurance compliance to developmental quality assurance compliance. The book covers the commercial standards and modern development methods of SQA and DQA, and details how SQA can be implemented in organizations large and small. This volume also helps you better understand the requirements of the ASQ's CSQE examination. From quality management concepts for IT, teaching SQA in an industrial environment, and the inspection process, to the impact of SQA certification on the hiring process, software quality metrics recommendations, and software reliability, this invaluable book serves as your a one-stop resource for complete and current software quality assurance knowledge.

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Singh, Yogesh

Software Testing. Cambridge University Press, 2011.

Abstract :

Software testing is conducted to provide stakeholders with information about the quality of a product under testing. The book, which is a result of the two decades of teaching experience of the author, aims to present testing concepts and methods that can be used in practice. The text will help readers to learn how to find faults in software before it is made available to users. A judicious mix of software testing concepts, solved problems and real-life case studies makes the book ideal for a basic course in software testing. The book will be a useful resource for senior undergraduate/graduate students of engineering, academics, software practitioners and researchers.

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Vogel, David A.

Medical Device Software Verification, Validation and Compliance. Artech House, Inc, 2011.

Abstract :

'Here's the first book written specifically to help medical device and software engineers, QA and compliance professionals, and corporate business managers better understand and implement critical verification and validation processes for medical device software. Offering you a much broader, higher-level picture than other books in this field, this book helps you think critically about software validation -- to build confidence in your software's safety and effectiveness. The book presents validation activities for each phase of the development lifecycle and shows: why these activities are important and add value; how to undertake them; and what outputs need to be created to document the validation process. From software embedded within medical devices, to software that performs as a medical device itself, this comprehensive book explains how properly handled validation throughout the development lifecycle can help bring medical devices to completion sooner, at higher quality, in compliance with regulations.'

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W Eric Wong; Bojan Cukic

Adaptive Control Approach For Software Quality Improvement. World Scientific, 2011.

Abstract :

This book focuses on the topic of improving software quality using adaptive control approaches. As software systems grow in complexity, some of the central challenges include their ability to self-manage and adapt at run time, responding to changing user needs and environments, faults, and vulnerabilities. Control theory approaches presented in the book provide some of the answers to these challenges.The book weaves together diverse research topics (such as requirements engineering, software development processes, pervasive and autonomic computing, service-oriented architectures, on-line adaptation of software behavior, testing and QoS control) into a coherent whole.Written by world-renowned experts, this book is truly a noteworthy and authoritative reference for students, researchers and practitioners to better understand how the adaptive control approach can be applied to improve the quality of software systems. Book chapters also outline future theoretical and experimental challenges for researchers in this area.

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Watkins, John

Testing IT : An Off-the-Shelf Software Testing Process. Cambridge University Press, 2001.

Abstract :

This pragmatic guide provides a testing framework that can be used by all members of staff involved in software development and testing within an organisation to improve the quality and to reduce timescales, effort, and cost. This book covers all aspects of testing, as well as software developed or modified in-house, the modification or extension of existing legacy software systems, as well as software developed on behalf of an organisation by a third party. This framework can be customised to match the particular testing requirements of any particular organisation, and a series of real-world case studies are provided to illustrate how this can be achieved. The book also provides a comprehensive set of standard testing document templates, proformas, and checklists for the reader to use in their testing projects. These items are provided electronically, which allows the reader to customised them to match the particular requirements of their business.

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Watkins, John; Mills, Simon

Testing IT : An Off-the-Shelf Software Testing Process. Cambridge University Press, 2011.

Abstract :

Testing IT provides a complete, off-the-shelf software testing process framework for any testing practitioner who is looking to research, implement, roll out, adopt, and maintain a software testing process. It covers all aspects of testing for software developed or modified in-house, modified or extended legacy systems, and software developed by a third party. Software professionals can customize the framework to match the testing requirements of any organization, and six real-world testing case studies are provided to show how other organizations have done this. Packed with a series of real-world case studies, the book also provides a comprehensive set of downloadable testing document templates, proformas, and checklists to support the process of customizing. This new edition demonstrates the role and use of agile testing best practices and includes a specific agile case study.

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Ye, Wayne

Instant Cucumber BDD How-to : A Short and Quick Guide to Mastering Behavior-driven Software Development with Cucumber. Packt Publishing, 2013.

Abstract :

Instant Cucumber BDD How-to will cover basics of Cucumber in a Behaviour Driven Development (BDD) style and explain the essence of Cucumber, describe how to write Cucumber features to drive development in a real project, and also describe many pro tips for writing good Cucumber features and steps. Cucumber is a very fun and cool tool for writing automated acceptance tests to support software development in a Behaviour Driven Development (BDD) style.

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