unfortunately much of what has been written about software engineering comes from an academic perspective which does not always address the everyday concerns that software developers and managers face with decreasing software budgets and increasing demands from users and senior management technology directors need a complete guide to the subject although the precepts of software engineering have been around for decades the field has failed to keep pace with rapid advancements in computer hardware and software modern systems that integrate multiple platforms and architectures along with the collaborative nature of users who expect an instantaneous global reach via the internet require an effective systems development and design process is far easier to explain than it is to implement a framework is needed that organizes the life cycle activities that form the process this framework is configuration management cm software configuration management discusses the framework from a standards viewpoint using the original from operating systems to the cloud oracle s products and services are everywhere and it has the market share to prove it given the share diversity of the oracle product line and the level of complexity of integration management can be quite a daunting task the cio s guide to oracle products and solutions is the go to guide for all things oracle although the precepts of software engineering have been around for decades the field has failed to keep pace with rapid advancements in computer hardware and software modern systems that integrate multiple platforms and architectures along with the collaborative nature of users who expect an instantaneous global reach via the internet require an business managers have long known the power of the balanced scorecard in executing corporate strategy implementing the project management balanced scorecard shows project managers how they too can use this framework to meet strategic objectives it supplies valuable insight into the project management process as a whole and provides detailed explanations on how to effectively implement the balanced scorecard to measure and manage performance and projects the book details a tactical approach for implementing the scorecard approach at the project level and investigates numerous sample scorecards metrics and techniques it examines recent research on critical issues such as performance measurement and management continuous process improvement benchmarking metrics selection and people management it also explains how to integrate these issues with the four perspectives of the balanced scorecard customer business processes learning and innovation and financial filled with examples and case histories the book directly relates the scorecard concept to the major project management steps of determining scope scheduling estimation risk management procurement and project termination it includes a plethora of resources on the accompanying cd rom including detailed instructions for developing a measurement program a full metrics guide a sample project plan and a set of project management fill in forms in an age of globalization widely distributed systems and rapidly advancing technological change it professionals and their managers must understand that risk is ever present the key to project success is to identify risk and subsequently deal with it the cio s guide to risk addresses the many faces of risk whether it be in systems development adoption of bleeding edge tech the push for innovation and even the march toward all things social media risk management planning risk identification qualitative and quantitative risk analysis contingency planning and risk monitoring and control are all addressed on a macro as well as micro level the book begins with a big picture view of analyzing technology trends to evaluate risk it shows how to conceptualize trends analyze their effect on infrastructure develop metrics to measure success and assess risk in adapting new technology the book takes an in depth look at project related risks it explains the fundamentals of project management and how project management relates to systems development and technology implementation techniques for analyzing project risk include brainstorming the delphi technique assumption analysis and decision analysis metrics to track and control project risks include the balance scorecard project monitoring and reporting and business and technology metrics the book also takes an in depth look at the role of knowledge management and innovation management in identifying assessing and managing risk the book concludes with an executive s guide to the legal and privacy issues related to risk management as well overviews of risks associated with social media and mobile environments with its
checklists templates and worksheets the book is an indispensable reference on risk and information technology managing it performance to create business value provides examples case histories and current research for critical business issues such as performance measurement and management continuous process improvement knowledge management risk management benchmarking metrics selection and people management it gives it executives strategies for improving it performance and delivering value plus it guides them in selecting the right metrics for their it organizations additionally it offers knowledge management strategies to mature an organization shows how to manage risks to exploit opportunities and prepare for threats and explains how to baseline an it organization’s performance and measure its improvement consisting of 10 chapters plus appendices the book begins with an overview of performance based strategic planning after which it discusses the development of a quality improvement qi plan establishing benchmarks and measuring performance improvements it covers how to design it specific measures and financial metrics as well as the establishment of a software measurement program from there it moves on to designing people improvement systems and discusses such topics as leadership motivation recruitment and employee appraisal the final few chapters show how to use balanced scorecards to manage and measure knowledge based social enterprising and to identify analyze and avoid risks in addition to covering new methods and metrics for measuring and improving it processes the author looks at strategies for measuring product development and implementing continuous innovation the final chapter considers customer value systems and explains how to use force field analysis to listen to customers with the goal of improving customer satisfaction and operational excellence the pervasiveness of software in business makes it crucial that software engineers and developers understand how software development impacts an entire organization strategic software engineering an interdisciplinary approach presents software engineering as a strategic business oriented interdisciplinary endeavor rather than simply a technical process as it has been described in previous publications the book addresses technical scientific and management aspects of software development in a way that is accessible to a wide audience it provides a detailed critical review of software development models and processes followed with a strategic assessment of how process models evolved over time and how to improve them the authors then focus on the relation between problem solving techniques and strategies for effectively confronting real world business problems they also analyze the impact of interdisciplinary factors on software development including the role of people and business economics the book concludes with a brief look at specialized system development the diverse backgrounds of the authors encompassing computer science information systems technology and business management help create this book’s integrated approach which answers the demand for a comprehensive interdisciplinary outlook encompassing all facets of how software relates to an organization the executable internet x internet brings new power and sophistication in delivering services and capabilities to users the x internet both the executable internet and the extended internet fundamentally alters the desktop and internet landscapes by blurring their distinction both online and off resulting in a new era of information technology authoritative and comprehensive x internet the executable and extendable internet examines this new paradigm from practical and strategic perspectives it provides a roadmap for building applications that deliver x internet capabilities from a strategic angle it delves into the legal aspects of using and creating this new breed of internet applications discussing computer human interaction the book details the development of a rich internet environment including graphical design multimedia architectures software development techniques tools and information management for x enriched systems the components that make up many of the 2.0 applications so popular today it also includes appendices that contain information on a framework for auditing x systems and various guides for using audio and video and building user interfaces x internet systems offer almost limitless possibilities for building rich interactive systems that increase productivity and dramatically enhance the user experience x internet the executable and extendable internet provides a thorough yet accessible understanding of this new internet that is becoming critical to software development and systems management learn how to attract and keep successful software professionals software engineering quality practices describes how software engineers and the managers that supervise them can develop quality software in an effective efficient and professional manner this volume conveys practical advice quickly and clearly while avoiding the dogma that surrounds the software profession it concentrates on what the real requirements of a system are what constitutes an appropriate solution and how you can ensure that the realized solution fulfills the desired qualities of relevant stakeholders the book also discusses
how successful organizations attract and keep people who are capable of building high quality systems the
author succinctly describes the nature and fundamental principles of design and incorporates them into an
architectural framework enabling you to apply the framework to the development of quality software for
most applications the text also analyzes engineering requirements identifies poor requirements and
demonstrates how bad requirements can be transformed via several important quality practices enterprise 2 0
has caught the collective imagination of executives who are innovating to radically change the face of
business e 2 0 takes full benefit of social networking including blogs discussion boards mashups and all that
is sharable and combinable examining organizations and their social activities enterprise 2 0 social n where
end users once queued up to ask the it department for permission to buy a new computer or a new version of
software they are now bypassing it altogether and buying it on their own from laptops and smartphones to
ipads and virtually unlimited software apps end users have tasted their freedom and love it it will simply
never be the same bri with 70 percent of organizations already adopting bring your own device byod and
gartner expecting this number to increase to 90 percent by the end of 2014 it is not a question of if or when it
s a question of will you be ready byod for healthcare provides authoritative guidance to help you thrive
during the healthcare byod hbyod revolution jessica keyes president of new art technologies inc professor at
the university of liverpool and former managing director of r d for the new york stock exchange supplies an
understanding of these new end users their demands and the strategic and tactical ramifications of these
demands maintaining a focus on the healthcare industry the book considers the broad range of technical
considerations including selection connectivity training support and security it examines the integration of
byod to current health it legal regulatory and ethical issues it also covers risk assessment and mitigation
strategies for an hbyod environment that are in line with medical laws regulations ethics and the hipaa and
hitech act the text discusses byod security and provides time saving guidance on how to configure your
hbyod environment it also considers how byod impacts resource management certification of emr ehr
software health informatics and health information exchange the book covers content and data management
risk assessment and performance measurement and management it includes a set of quick start guides with
tips for assessing costs cloud integration and legal issues it also contains a robust appendix with information
on everything from security settings for apple ios devices to a sample employee mobile device agreement this
is the first handbook to cover comprehensively both software engineering and knowledge engineering two
important fields that have become interwoven in recent years over 60 international experts have contributed
to the book each chapter has been written in such a way that a practitioner of software engineering and
knowledge engineering can easily understand and obtain useful information each chapter covers one topic
and can be read independently of other chapters providing both a general survey of the topic and an in depth
exposition of the state of the art practitioners will find this handbook useful when looking for solutions to
practical problems researchers can use it for quick access to the background current trends and most
important references regarding a certain topic the handbook consists of two volumes volume one covers the
basic principles and applications of software engineering and knowledge engineering volume two will cover
the basic principles and applications of visual and multimedia software engineering knowledge engineering
data mining for software knowledge and emerging topics in software engineering and knowledge engineering
in this compendium readers should find current and classical articles and papers on software project
management useful for new software project managers seeking to come up to speed quickly experienced
software project managers looking for new approaches and software project team members looking for
insights this collection presents practical techniques and a scientific framework for managing the software
enterprise areas covered include managing projects and people software life cycle processes requirements
engineering reuse and reengineering reliability risk mitigation and avoidance using metrics and process
measurement and tools innovations in 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
topics covered image and pattern recognition compression image processing signal processing architectures
signal processing for communication signal processing implementation speech compression and video coding
architectures languages and systems algorithms databases embedded systems and applications file systems
and i o geographical information systems kernel and os structures knowledge based systems modeling and
simulation object based software engineering programming languages and programming models and tools
parallel processing distributed scheduling multiprocessing real time systems simulation modeling and development and applications signal and image processing content based video retrieval character recognition incremental learning for speech recognition signal processing theory and methods and vision based monitoring systems software and systems activity based software estimation algorithms genetic algorithms information systems security programming languages software protection techniques and user interfaces distributed processing asynchronous message passing system heterogeneous software environments mobile ad hoc networks resource allocation and sensor networks new trends in computing computers for people of special needs fuzzy inference human computer interaction incremental learning internet based computing models machine intelligence natural language accurate software engineering reviews and audits have become essential to the success of software companies and military and aerospace programs these reviews and audits define the framework and specific requirements for verifying software development efforts authored by an industry professional with three decades of experience software engineer in the rigors of engineering must soon be applied to the software development process or the complexities of new systems will initiate the collapse of companies that attempt to produce them software specification and design an engineering approach offers a foundation for rigorously engineered software it provides a clear vision of what occurs at each stage of development parsing the stages of specification design and coding into compartments that can be more easily analyzed formalizing the concepts of specification traceability witnessed at the software organizations of rockwell ibm fsd and nasa the author proposes a strategy for software development that emphasizes measurement he promotes the measurement of every aspect of the software environment from initial testing through test activity and deployment operation this book details the path to effective software and design it recognizes that each project is different with its own set of problems so it does not propose a specific model instead it establishes a foundation for the discipline of software engineering that is both theoretically rigorous and relevant to the real world engineering environment software requirements encapsulation quality and reuse describes how to make requirements easy to change by using encapsulation it introduces the freedom methodology that shows how to encapsulate requirements thereby promoting reuse and quality encapsulating requirements reduces software life cycle costs by making requirements and the code that the roi from software quality provides the tools needed for software engineers and project managers to calculate how much they should invest in quality what benefits the investment will reap and just how quickly those benefits will be realized this text provides the quantitative models necessary for making real and reasonable calculations and it defining and deploying software processes enables you to create efficient and effective processes that let you better manage project schedules and software quality the author s organized approach details how to deploy processes into your company s culture that are enthusiastically embraced by employees and explains how to implement a based process architecture that is completely flexible and extensible divided into four sections the book defines the software process architectural model then explores how this model is implemented it addresses both the importance of the in deploying processes and the importance of a version controlled repository tool for process management the third section examines the use of the software process model the author focuses on classes of process users metrics collection and presentation schedule creation and management earned value project estimation time card charging subcontract management and integrated teaming the final section discusses deployment of the model into an organization outlining how to rapidly confront pain issues process group creation and charter process champion development pilot and measure the model and prepare for external model appraisal e g scampi not connecting software project management spm to actual real world development processes can lead to a complete divorcing of spm to software engineering that can undermine any successful software project by explaining how a layered process architectural model improves operational efficiency process based software project management out modeling complex systems is a difficult challenge and all too often one in which modelers are left to their own devices using a multidisciplinary approach the art of software modeling covers theory practice and presentation in detail it focuses on the importance of model creation and demonstrates how to create meaningful models presenting three self contained sections the text examines the background of modeling and frameworks for organizing information it identifies techniques for researching and capturing client and system information and addresses the challenges of presenting models to specific audiences using concepts from art theory and aesthetics this broad based approach encompasses software practices cognitive science and information
presentation the book also looks at perception and cognition of diagrams view composition color theory and presentation techniques providing practical methods for investigating and organizing complex information the art of software modeling demonstrates the effective use of modeling techniques to improve the development process and establish a functional useful and maintainable software system to achieve consistent software project success under the pressures of today’s software development environment software organizations require achievable plans including viable estimates of schedule resources and risks to estimate realistically you must understand how to apply sound estimation processes tools and data software sizing reducing risk with software process improvement recommends the critical practices that aid in the successful delivery of software products and services the author describes the observations that he made over a period of ten years in it projects and organizations he focuses on the areas of software development and maintenance highlighting the most frequently encountered problems that occur due to poor processes the author derives recommendations from 40 comprehensive assessments of it organizations this book details the potential or real problems each organization experienced and offers anecdotes on how these problems resulted from deficient practices what their impacts were and how improving specific practices benefitted the organizations this volume provides valuable advice for project and application managers looking to minimize the number of crises they have to deal with and for it practitioners seeking the practical solutions that lead to career advancement it benefits customers who need to know what to look for before purchasing it products or services and helps investors analyze the efficiency of it companies before making investment decisions modeling software with finite state machines a practical approach explains how to apply finite state machines to software development it provides a critical analysis of using finite state machines as a foundation for executable specifications to reduce software development effort and improve quality this book discusses the design of a state machine and of a system of state machines it also presents a detailed analysis of development issues relating to behavior modeling with design examples and design rules for using finite state machines this volume describes a coherent and well tested framework for generating reliable software for even the most complex tasks the authors demonstrate that the established practice of using a specification as a basis for coding is wrong divided into three parts this book opens by delivering the authors expert opinions on software covering the evolution of development as well as costs methods programmers and the development cycle the remaining two parts encourage the use of state machines promoting the virtual finite state machine vfsm method and the stateworks development tools a developer’s knowledge of a computing system’s requirements is necessarily imperfect because organizations change many requirements lie in the future and are unknowable at the time the system is designed and built to avoid burdensome maintenance costs developers must therefore rely on a system’s ability to change gracefully its flexibility flex software configuration management scm is one of the scientific tools that is aimed to bring control to the software development process this new resource is a complete guide to implementing operating and maintaining a successful scm system for software development project managers system designers and software developers are presented with not only the basics of scm but also the different phases in the software development lifecycle and how scm plays a role in each phase the factors that should be considered and the pitfalls that should be avoided while designing the scm system and scm plan are also discussed in addition this third edition is updated to include cloud computing and on demand systems this book does not rely on one specific tool or standard for explaining the scm concepts and techniques in fact it gives readers enough information about scm the mechanics of scm and scm implementation so that they can successfully implement a scm system for today’s programmers it is impossible to foresee every input every usage scenario and every combination of applications that can cause errors when run simultaneously given all of these unknowns writing absolutely bug free code is unachievable but it is possible with the right knowledge to produce nearly bug free code and the debugger’s h accelerating process improvement using agile techniques explains how agile programming is applied to standard process improvement by applying agile techniques it organizations can speed up process improvement initiatives minimize the resources these initiatives require and maximize the benefits of process improvement the book details step by step how to implement the accelerating process improvement methodology apim and how to integrate apim with various standard process improvement models and methodologies including the iso 9000 series spice tqm spire pmbok and cmmi cmmi agile process improvement enables organizations to rapidly set strategic goals meet a greater percentage of user requirements and realize a quicker return on investment about the author deb jacobs is a professional
consultant with focal point associates specializing in process improvement and project management she
currently provides support to organizations in training process improvement consulting project management
consulting software engineering consulting and proposal development ms jacobs has over 25 year s in project
management process improvement management system software engineering and proposal development with
a bs in computer science antipatterns identification refactoring and management catalogs 48 bad management
practices and environments common to software development it and other organizations the authors cover
antipatterns of management along with environmental cultural antipatterns and personality antipatterns
phenotypes through the classification of these executives of it organizations are compelled to quickly
implement server virtualization solutions because of significant cost savings however most it professionals
tasked with deploying virtualization solutions have little or no experience with the technology this creates a
high demand for information on virtualization and how to properly implement it in a datacenter advanced
server virtualization vmware and microsoft platforms in the virtual data center focuses on the core knowledge
needed to evaluate implement and maintain an environment that is using server virtualization this book
emphasizes the design implementation and management of server virtualization from both a technical and a
consultative point of view it provides practical guides and examples demonstrating how to properly size and
evaluate virtualization technologies this volume is not based upon theory but instead on real world
experience in the implementation and management of large scale projects and environments currently there
are few experts in this relatively new field making this book a valuable resource the book is divided into
major sections making it both a step by step guide for learning and implementing server virtualization as well
as a quick reference the chapter organization focuses first on introducing concepts and background and then
provides real world scenarios this book offers a practical approach to understanding designing and building
sound software based on solid principles using a unique q a format this book addresses the issues that
engineers need to understand in order to successfully work with software engineers develop specifications for
quality software and learn the basics of the most common programming languages development approaches
and paradigms the new edition is thoroughly updated to improve the pedagogical flow and emphasize new
software engineering processes practices and tools that have emerged in every software engineering area
features defines concepts and processes of software and software development such as agile processes
requirements engineering and software architecture design and construction uncovers and answers various
misconceptions about the software development process and presents an up to date reflection on the state of
practice in the industry details how non software engineers can better communicate their needs to software
engineers and more effectively participate in design and testing to ultimately lower software development
and maintenance costs helps answer the question how can i better leverage embedded software in my design
add new chapters and sections on software architecture software engineering and systems and software
engineering and disruptive technologies as well as information on cybersecurity features new appendices that
describe a sample automation system covering software requirements architecture and design this book is
aimed at a wide range of engineers across many disciplines who work with software maximizing roi on
software development explains how to execute best quality software development and testing while
maximizing business value it discusses applied roi in the context of methodologies such as agile and extreme
programming and traditional methodologies including six sigma the capability maturity model cmm total cost
of ownership software engineering and computer science students need a resource that explains how to apply
design patterns at the enterprise level allowing them to design and implement systems of high stability and
quality software architecture design patterns in java is a detailed explanation of how to apply design patterns
and develop software architectures it provides in depth examples in java and guides students by detailing
when why and how to use specific patterns this textbook presents 42 design patterns including 23 gof
patterns categories include basic creational collectional structural behavioral and concurrency with multiple
examples for each the discussion of each pattern includes an example implemented in java the source code
for all examples is found on a companion site the author explains the content so that it is easy to understand
and each pattern discussion includes practice questions to aid instructors the textbook concludes with a case
study that pulls several patterns together to demonstrate how patterns are not applied in isolation but
collaborate within domains to solve complicated problems software testing and continuous quality
improvement second edition illustrates a quality framework for software testing in traditional structured and
unstructured environments it explains how a continuous quality improvement approach promotes effective
testing and it analyzes the various testing tools and techniques that you can choose do you use a computer to perform analysis or simulations in your daily work write short scripts or record macros to perform repetitive tasks need to integrate off the shelf software into your systems or require multiple applications to work together find yourself spending too much time working the kink the calculus of it support for the banking securities and insurance industries has changed dramatically and rapidly over the past few years consolidation and deregulation are creating opportunities and challenges never before seen unheard of just a few years ago e commerce has given birth to new infrastructures and departments needed to suppor

**Software Engineering Handbook**

2002-12-23

unfortunately much of what has been written about software engineering comes from an academic perspective which does not always address the everyday concerns that software developers and managers face with decreasing software budgets and increasing demands from users and senior management technology directors need a complete guide to the subject

**Social Software Engineering**

2016-04-19

although the precepts of software engineering have been around for decades the field has failed to keep pace with rapid advancements in computer hardware and software modern systems that integrate multiple platforms and architectures along with the collaborative nature of users who expect an instantaneous global reach via the internet require u

**Software Configuration Management**

2004-02-24

an effective systems development and design process is far easier to explain than it is to implement a framework is needed that organizes the life cycle activities that form the process this framework is configuration management cm software configuration management discusses the framework from a standards viewpoint using the original

**Software Engineering Productivity Handbook**

1993

from operating systems to the cloud oracle s products and services are everywhere and it has the market share to prove it given the share diversity of the oracle product line and the level of complexity of integration management can be quite a daunting task the cio s guide to oracle products and solutions is the go to guide for all things orac
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Social Software Engineering

2016

business managers have long known the power of the balanced scorecard in executing corporate strategy implementing the project management balanced scorecard shows project managers how they too can use this framework to meet strategic objectives it supplies valuable insight into the project management process as a whole and provides detailed explanations on how to effectively implement the balanced scorecard to measure and manage performance and projects the book details a tactical approach for implementing the scorecard approach at the project level and investigates numerous sample scorecards metrics and techniques it examines recent research on critical issues such as performance measurement and management continuous process improvement benchmarking metrics selection and people management it also explains how to integrate these issues with the four perspectives of the balanced scorecard customer business processes learning and innovation and financial filled with examples and case histories the book directly relates the scorecard concept to the major project management steps of determining scope scheduling estimation risk management procurement and project termination it includes a plethora of resources on the accompanying cd rom including detailed instructions for developing a measurement program a full metrics guide a sample project plan and a set of project management fill in forms

Implementing the Project Management Balanced Scorecard

2018-11-08

in an age of globalization widely distributed systems and rapidly advancing technological change it professionals and their managers must understand that risk is ever present the key to project success is to identify risk and subsequently deal with it the cio s guide to risk addresses the many faces of risk whether it be in systems development adoption of bleeding edge tech the push for innovation and even the march toward all things social media risk management planning risk identification qualitative and quantitative risk analysis contingency planning and risk monitoring and control are all addressed on a macro as well as micro level the book begins with a big picture view of analyzing technology trends to evaluate risk it shows how to conceptualize trends analyze their effect on infrastructure develop metrics to measure success and assess risk in adapting new technology the book takes an in depth look at project related risks it explains the fundamentals of project management and how project management relates to systems development and technology implementation techniques for analyzing project risk include brainstorming the delphi technique assumption analysis and decision analysis metrics to track and control project risks include the balance scorecard project monitoring and reporting and business and technology metrics the book also takes an in depth look at the role of knowledge management and innovation management in identifying assessing and managing risk the book concludes with an executive s guide to the legal and privacy issues related to risk
management as well overviews of risks associated with social media and mobile environments with its checklists templates and worksheets the book is an indispensable reference on risk and information technology

The CIO’s Guide to Risk

2017-11-22

managing it performance to create business value provides examples case histories and current research for critical business issues such as performance measurement and management continuous process improvement knowledge management risk management benchmarking metrics selection and people management it gives it executives strategies for improving it performance and delivering value plus it guides them in selecting the right metrics for their it organizations additionally it offers knowledge management strategies to mature an organization shows how to manage risks to exploit opportunities and prepare for threats and explains how to baseline an it organization s performance and measure its improvement consisting of 10 chapters plus appendices the book begins with an overview of performance based strategic planning after which it discusses the development of a quality improvement qi plan establishing benchmarks and measuring performance improvements it covers how to design it specific measures and financial metrics as well as the establishment of a software measurement program from there it moves on to designing people improvement systems and discusses such topics as leadership motivation recruitment and employee appraisal the final few chapters show how to use balanced scorecards to manage and measure knowledge based social enterprising and to identify analyze and avoid risks in addition to covering new methods and metrics for measuring and improving it processes the author looks at strategies for measuring product development and implementing continuous innovation the final chapter considers customer value systems and explains how to use force field analysis to listen to customers with the goal of improving customer satisfaction and operational excellence

Managing IT Performance to Create Business Value

2016-09-15

the pervasiveness of software in business makes it crucial that software engineers and developers understand how software development impacts an entire organization strategic software engineering an interdisciplinary approach presents software engineering as a strategic business oriented interdisciplinary endeavor rather than simply a technical process as it has been described in previous publications the book addresses technical scientific and management aspects of software development in a way that is accessible to a wide audience it provides a detailed critical review of software development models and processes followed with a strategic assessment of how process models evolved over time and how to improve them the authors then focus on the relation between problem solving techniques and strategies for effectively confronting real world business problems they also analyze the impact of interdisciplinary factors on software development including the role of people and business economics the book concludes with a brief look at specialized system development the diverse backgrounds of the authors encompassing computer science information systems technology and business management help create this book s integrated approach which answers the demand for a comprehensive interdisciplinary outlook encompassing all facets of how software relates to an organization

Strategic Software Engineering
the executable internet x internet brings new power and sophistication in delivering services and capabilities to users the x internet both the executable internet and the extended internet fundamentally alters the desktop and internet landscapes by blurring their distinction both online and off resulting in a new era of information technology authoritative and comprehensive x internet the executable and extendable internet examines this new paradigm from practical and strategic perspectives it provides a roadmap for building applications that deliver x internet capabilities from a strategic angle it delves into the legal aspects of using and creating this new breed of internet applications discussing computer human interaction the book details the development of a rich internet environment including graphical design multimedia architectures software development techniques and information management for x enriched systems the components that make up many of the 2 0 applications so popular today it also includes appendices that contain information on a framework for auditing x systems and various guides for using audio and video and building user interfaces x internet systems offer almost limitless possibilities for building rich interactive systems that increase productivity and dramatically enhance the user experience x internet the executable and extendable internet provides a thorough yet accessible understanding of this new internet that is becoming critical to software development and systems management

X Internet

2007-03-02

learn how to attract and keep successful software professionals software engineering quality practices describes how software engineers and the managers that supervise them can develop quality software in an effective efficient and professional manner this volume conveys practical advice quickly and clearly while avoiding the dogma that surrounds the software profession it concentrates on what the real requirements of a system are what constitutes an appropriate solution and how you can ensure that the realized solution fulfills the desired qualities of relevant stakeholders the book also discusses how successful organizations attract and keep people who are capable of building high quality systems the author succinctly describes the nature and fundamental principles of design and incorporates them into an architectural framework enabling you to apply the framework to the development of quality software for most applications the text also analyzes engineering requirements identifies poor requirements and demonstrates how bad requirements can be transformed via several important quality practices

Software Engineering Quality Practices

2005-11-01

enterprise 2 0 enterprise 2.0 has caught the collective imagination of executives who are innovating to radically change the face of business enterprise 2 0 takes full benefit of social networking including blogs discussion boards mashups and all that is sharable and combinable examining organizations and their social activities enterprise 2 0 social n

Enterprise 2.0
where end users once queued up to ask the IT department for permission to buy a new computer or a new version of software they are now bypassing it altogether and buying it on their own from laptops and smartphones to ipads and virtually unlimited software apps end users have tasted their freedom and love it it will simply never be the same bri

Bring Your Own Devices (BYOD) Survival Guide

2016-04-19

with 70 percent of organizations already adopting bring your own device byod and gartner expecting this number to increase to 90 percent by the end of 2014 it is not a question of if or when it s a question of will you be ready byod for healthcare provides authoritative guidance to help you thrive during the healthcare byod hbyod revolution jessica keyes president of new art technologies inc professor at the university of liverpool and former managing director of r d for the new york stock exchange supplies an understanding of these new end users their demands and the strategic and tactical ramifications of these demands maintaining a focus on the healthcare industry the book considers the broad range of technical considerations including selection connectivity training support and security it examines the integration of byod to current health it legal regulatory and ethical issues it also covers risk assessment and mitigation strategies for an hbyod environment that are in line with medical laws regulations ethics and the hipaa and hitech acts the text discusses byod security and provides time saving guidance on how to configure your hbyod environment it also considers how byod impacts resource management certification of emr ehr software health informatics and health information exchange the book includes a set of quick start guides with tips for assessing costs cloud integration and legal issues it also contains a robust appendix with information on everything from security settings for apple ios devices to a sample employee mobile device agreement

BYOD for Healthcare

2014-04-23

this is the first handbook to cover comprehensively both software engineering and knowledge engineering two important fields that have become interwoven in recent years over 60 international experts have contributed to the book each chapter has been written in such a way that a practitioner of software engineering and knowledge engineering can easily understand and obtain useful information each chapter covers one topic and can be read independently of other chapters providing both a general survey of the topic and an in depth exposition of the state of the art practitioners will find this handbook useful when looking for solutions to practical problems researchers can use it for quick access to the background current trends and most important references regarding a certain topic the handbook consists of two volumes volume one covers the basic principles and applications of software engineering and knowledge engineering volume two will cover the basic principles and applications of visual and multimedia software engineering knowledge engineering data mining for software knowledge and emerging topics in software engineering and knowledge engineering
Handbook Of Software Engineering And Knowledge Engineering, Vol 2: Emerging Technologies

2002-05-10

in this compendium readers should find current and classical articles and papers on software project management useful for new software project managers seeking to come up to speed quickly experienced software project managers looking for new approaches and software project team members looking for insights this collection presents practical techniques and a scientific framework for managing the software enterprise areas covered include managing projects and people software life cycle processes requirements engineering reuse and reengineering reliability risk mitigation and avoidance using metrics and process measurement and tools

Keys to Successful Software Development

1999

innovations in 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 topics covered image and pattern recognition compression image processing signal processing architectures signal processing for communication signal processing implementation speech compression and video coding architectures languages and systems algorithms databases embedded systems and applications file systems and i o geographical information systems kernel and os structures knowledge based systems modeling and simulation object based software engineering programming languages and programming models and tools parallel processing distributed scheduling multiprocessing real time systems simulation modeling and development and applications signal and image processing content based video retrieval character recognition incremental learning for speech recognition signal processing theory and methods and vision based monitoring systems software and systems activity based software estimation algorithms genetic algorithms information systems security programming languages software protection techniques software protection techniques and user interfaces distributed processing asynchronous message passing system heterogeneous software environments mobile ad hoc networks resource allocation and sensor networks new trends in computing computers for people of special needs fuzzy inference human computer interaction incremental learning internet based computing models machine intelligence natural language

Innovations in Computing Sciences and Software Engineering

2010-06-26

accurate software engineering reviews and audits have become essential to the success of software companies and military and aerospace programs these reviews and audits define the framework and specific requirements for verifying software development efforts authored by an industry professional with three decades of experience software engineerin
the rigors of engineering must soon be applied to the software development process or the complexities of new systems will initiate the collapse of companies that attempt to produce them software specification and design an engineering approach offers a foundation for rigorously engineered software it provides a clear vision of what occurs at each stage of development parsing the stages of specification design and coding into compartments that can be more easily analyzed formalizing the concepts of specification traceability witnessed at the software organizations of rockwell ibm fsd and nasa the author proposes a strategy for software development that emphasizes measurement he promotes the measurement of every aspect of the software environment from initial testing through test activity and deployment operation this book details the path to effective software and design it recognizes that each project is different with its own set of problems so it does not propose a specific model instead it establishes a foundation for the discipline of software engineering that is both theoretically rigorous and relevant to the real world engineering environment

Software Specification and Design

2005-09-26

software requirements encapsulation quality and reuse describes how to make requirements easy to change by using encapsulation it introduces the freedom methodology that shows how to encapsulate requirements thereby promoting reuse and quality encapsulating requirements reduces software life cycle costs by making requirements and the code that

Software Requirements

2016-04-19

the roi from software quality provides the tools needed for software engineers and project managers to calculate how much they should invest in quality what benefits the investment will reap and just how quickly those benefits will be realized this text provides the quantitative models necessary for making real and reasonable calculations and it

The ROI from Software Quality

2005-06-09

defining and deploying software processes enables you to create efficient and effective processes that let you better manage project schedules and software quality the author s organized approach details how to deploy processes into your company s culture that are enthusiastically embraced by employees and explains how to implement a based process architecture that is completely flexible and extensible divided into four sections the book defines the software process architectural model then explores how this model is implemented it addresses both the importance of the in deploying processes and the importance of a version controlled repository tool for process management the third section examines the use of the software process model the
author focuses on classes of process users metrics collection and presentation schedule creation and management earned value project estimation time card charging subcontract management and integrated teaming the final section discusses deployment of the model into an organization outlining how to rapidly confront pain issues process group creation and charter process champion development pilot and measure the model and prepare for external model appraisal e.g. scampi

**Defining and Deploying Software Processes**

2005-09-06

not connecting software project management spm to actual real world development processes can lead to a complete divorcing of spm to software engineering that can undermine any successful software project by explaining how a layered process architectural model improves operational efficiency process based software project management out

**Process-Based Software Project Management**

2006-05-30

modeling complex systems is a difficult challenge and all too often one in which modelers are left to their own devices using a multidisciplinary approach the art of software modeling covers theory practice and presentation in detail it focuses on the importance of model creation and demonstrates how to create meaningful models presenting three self contained sections the text examines the background of modeling and frameworks for organizing information it identifies techniques for researching and capturing client and system information and addresses the challenges of presenting models to specific audiences using concepts from art theory and aesthetics this broad based approach encompasses software practices cognitive science and information presentation the book also looks at perception and cognition of diagrams view composition color theory and presentation techniques providing practical methods for investigating and organizing complex information the art of software modeling demonstrates the effective use of modeling techniques to improve the development process and establish a functional useful and maintainable software system

**The Art of Software Modeling**

2006-12-26

to achieve consistent software project success under the pressures of today’s software development environment software organizations require achievable plans including viable estimates of schedule resources and risks to estimate realistically you must understand how to apply sound estimation processes tools and data software sizing

**Software Sizing, Estimation, and Risk Management**

2006-03-15
reducing risk with software process improvement recommends the critical practices that aid in the successful delivery of software products and services the author describes the observations that he made over a period of ten years in it projects and organizations he focuses on the areas of software development and maintenance highlighting the most frequently encountered problems that occur due to poor processes the author derives recommendations from 40 comprehensive assessments of it organizations this book details the potential or real problems each organization experienced and offers anecdotes on how these problems resulted from deficient practices what their impacts were and how improving specific practices benefitted the organizations this volume provides valuable advice for project and application managers looking to minimize the number of crises they have to deal with and for it practitioners seeking the practical solutions that lead to career advancement it benefits customers who need to know what to look for before purchasing it products or services and helps investors analyze the efficiency of it companies before making investment decisions

Reducing Risk with Software Process Improvement

2005-05-26

modeling software with finite state machines a practical approach explains how to apply finite state machines to software development it provides a critical analysis of using finite state machines as a foundation for executable specifications to reduce software development effort and improve quality this book discusses the design of a state machine and of a system of state machines it also presents a detailed analysis of development issues relating to behavior modeling with design examples and design rules for using finite state machines this volume describes a coherent and well tested framework for generating reliable software for even the most complex tasks the authors demonstrate that the established practice of using a specification as a basis for coding is wrong divided into three parts this book opens by delivering the authors expert opinions on software covering the evolution of development as well as costs methods programmers and the development cycle the remaining two parts encourage the use of state machines promoting the virtual finite state machine vfsm method and the stateworks development tools

Modeling Software with Finite State Machines

2006-05-15

a developer s knowledge of a computing system s requirements is necessarily imperfect because organizations change many requirements lie in the future and are unknowable at the time the system is designed and built to avoid burdensome maintenance costs developers must therefore rely on a system s ability to change gracefully its flexibility flex

Flexible Software Design

2005-06-17

software configuration management scm is one of the scientific tools that is aimed to bring control to the software development process this new resource is a complete guide to implementing operating and maintaining a successful scm system for software development project managers system designers and software developers are presented with not only the basics of scm but also the different phases in the software
development lifecycle and how scm plays a role in each phase the factors that should be considered and the pitfalls that should be avoided while designing the scm system and scm plan are also discussed in addition this third edition is updated to include cloud computing and on demand systems this book does not rely on one specific tool or standard for explaining the scm concepts and techniques in fact it gives readers enough information about scm the mechanics of scm and scm implementation so that they can successfully implement a scm system


2015-02-01

for today's programmers it is impossible to foresee every input every usage scenario and every combination of applications that can cause errors when run simultaneously given all of these unknowns writing absolutely bug free code is unachievable but it is possible with the right knowledge to produce nearly bug free code and the debugger's h

The Debugger's Handbook

2016-04-19

accelerating process improvement using agile techniques explains how agile programming is applied to standard process improvement by applying agile techniques it organizations can speed up process improvement initiatives minimize the resources these initiatives require and maximize the benefits of process improvement the book details step by step how to implement the accelerating process improvement methodology apim and how to integrate apim with various standard process improvement models and methodologies including the iso 9000 series spice tqm spire pmbok and cmm cmmi agile process improvement enables organizations to rapidly set strategic goals meet a greater percentage of user requirements and realize a quicker return on investment about the author deb jacobs is a professional consultant with focal point associates specializing in process improvement and project management she currently provides support to organizations in training process improvement consulting project management consulting software engineering consulting and proposal development ms jacobs has over 25 year s in project management process improvement management system software engineering and proposal development with a bs in computer science

Accelerating Process Improvement Using Agile Techniques

2005-12-16

antipatterns identification refactoring and management catalogs 48 bad management practices and environments common to software development it and other organizations the authors cover antipatterns of management along with environmental cultural antipatterns and personality antipatterns phenotypes through the classification of these
executives of IT organizations are compelled to quickly implement server virtualization solutions because of significant cost savings, however, most IT professionals tasked with deploying virtualization solutions have little or no experience with the technology. This creates a high demand for information on virtualization and how to properly implement it in a datacenter. Advanced server virtualization, VMware, and Microsoft platforms in the virtual data center focus on the core knowledge needed to evaluate, implement, and maintain an environment that is using server virtualization. This book emphasizes the design, implementation, and management of server virtualization from both a technical and a consultative point of view. It provides practical guides and examples demonstrating how to properly size and evaluate virtualization technologies. This volume is not based upon theory but instead on real-world experience in the implementation and management of large scale projects and environments. Currently, there are few experts in this relatively new field, making this book a valuable resource. The book is divided into major sections, making it both a step-by-step guide for learning and implementing server virtualization as well as a quick reference. The chapter organization focuses first on introducing concepts and background and then provides real-world scenarios.

**Advanced Server Virtualization**

2006-05-17

This book offers a practical approach to understanding, designing, and building sound software based on solid principles using a unique Q&A format. This book addresses the issues that engineers need to understand in order to successfully work with software engineers, develop specifications for quality software, and learn the basics of the most common programming languages, development approaches, and paradigms. The new edition is thoroughly updated to improve the pedagogical flow and emphasize new software engineering processes, practices, and tools that have emerged in every software engineering area. Features define concepts and processes of software and software development, such as agile processes, requirements engineering, and software architecture design and construction. It uncovers and answers various misconceptions about the software development process and presents an up-to-date reflection on the state of practice in the industry. It details how non-software engineers can better communicate their needs to software engineers and more effectively participate in design and testing to ultimately lower software development and maintenance costs. It helps answer the question: How can I better leverage embedded software in my design? It adds new chapters and sections on software architecture, software engineering and systems, and software engineering and disruptive technologies, as well as information on cybersecurity. New appendices describe a sample automation system covering software requirements, architecture, and design. This book is aimed at a wide range of engineers across many disciplines who work with software.

**What Every Engineer Should Know about Software Engineering**

2022-11-03

Maximizing ROI on software development explains how to execute best-quality software development and testing while maximizing business value. It discusses applied ROI in the context of methodologies such as agile and extreme programming and traditional methodologies including six sigma, the capability maturity model (CMM), total cost of ownership.
Maximizing ROI on Software Development

2004-10-28

Software engineering and computer science students need a resource that explains how to apply design patterns at the enterprise level allowing them to design and implement systems of high stability and quality. Software architecture design patterns in Java is a detailed explanation of how to apply design patterns and develop software architectures. It provides in-depth examples in Java and guides students by detailing when and how to use specific patterns. This textbook presents 42 design patterns, including 23 GOF patterns. Categories include basic creational, collectional, structural, behavioral, and concurrency. With multiple examples for each, the discussion of each pattern includes an example implemented in Java. The source code for all examples is found on a companion site. The author explains the content so that it is easy to understand, and each pattern discussion includes practice questions to aid instructors. The textbook concludes with a case study that pulls several patterns together to demonstrate how patterns are not applied in isolation but collaborate within domains to solve complicated problems.

Software Architecture Design Patterns in Java

2004-04-27

Software testing and continuous quality improvement, second edition, illustrates a quality framework for software testing in traditional structured and unstructured environments. It explains how a continuous quality improvement approach promotes effective testing and analyzes the various testing tools and techniques that you can choose.

Software Testing and Continuous Quality Improvement

2004-10-14

Do you use a computer to perform analysis or simulations in your daily work? Write short scripts or record macros to perform repetitive tasks. Need to integrate off-the-shelf software into your systems or require multiple applications to work together? Find yourself spending too much time working the kink.

What Every Engineer Should Know about Software Engineering

2007-04-25

The calculus of IT support for the banking, securities, and insurance industries has changed dramatically and rapidly over the past few years. Consolidation and deregulation are creating opportunities and challenges never before seen. Unheard of just a few years ago, e-commerce has given birth to new infrastructures and departments needed to support.
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