

Requirements Engineering Processes And Techniques

The Future of Intelligent Transport Systems considers ITS from three perspectives: users, business models and regulation/policy. Topics cover in-vehicle applications, such as autonomous driving, vehicle-to-vehicle/vehicle-to-infrastructure communication, and related applications, such as personalized mobility. The book also examines ITS technology enablers, such as sensing technologies, wireless communication, computational technology, user behavior as part of the transportation chain, financial models that influence ITS, regulations, policies and standards affecting ITS, and the future of ITS applications. Users will find a holistic approach to the most recent technological advances and the future spectrum of mobility. Systematically presents the whole spectrum of next generation Intelligent Transport Systems (ITS) technologies Integrates coverage of personalized mobility and digital assistants, big data analytics and autonomous driving Includes end-of-chapter, open-ended questions that trigger thinking on the technological, managerial and regulatory aspects of ITS

????:Software engineering economics

This book looks at how to design complex products that have many components with intricate relationships and requirements. It also discusses how to manage processes involved in their lifecycle, from concept generation to disposal, with the objectives of increasing customer satisfaction, quality, safety, and usability and meeting program timings and budgets. Part I covers systems engineering concepts, issues, and bases in product design. Part II examines quality, human factors, and safety engineering approaches. Part III describes important tools and methods used in these fields, and Part IV includes other relevant integration topics, interesting applications of useful techniques, and observations from a few "landmark" product development case studies.

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

This book constitutes the proceedings of the 17th International Conference on Product-Focused Software Process Improvement, PROFES 2016, held in Trondheim, Norway, in November 2016. The 24 revised full papers presented together with 21 short papers, 1 keynote, 3 invited papers, 5 workshop papers, 2 doctoral symposium papers, and 6 tutorials were carefully reviewed and selected from 82 submissions. The papers are organized in topical sections on Early Phases in Software Engineering; Organizational Models; Architecture; Methods and Tools; Verification and Validation; Process Improvement; Speed and Agility in System Engineering; Requirements and Quality; Process and Repository Mining; Business Value and Benefits; Emerging Research Topics; and Future of Computing.

"This book provides a compendium of terms, definitions, and explanations of concepts in various areas of systems and design, as well as a vast collection of cutting-edge research articles from the field's leading experts"--Provided by publisher.

The two-volume Advances in Information Systems Development: Bridging the Gap between Academia and Industry constitutes the collected proceedings of the Fourteenth International Conference on Information Systems Development: Methods and Tools, Theory and Practice – ISD'2005 Conference. The focus of these volumes is to examine the exchange of ideas between academia and industry and aims to explore new solutions. The proceedings follow the seven conference tracks highlighted at the Conference: Co-design of Business and IT; Communication and Methods; Human Values of Information Technology; Service Development and IT; Requirements Engineering in the IS Life-Cycle; Semantic Web Approaches and Applications; and Management and IT.

Requirements engineering is the process of eliciting individual stakeholder requirements and needs and developing them into detailed, agreed requirements documented and specified in such a way that they can serve as the basis for all other system development activities. In this textbook, Klaus Pohl provides a comprehensive and well-structured introduction to the fundamentals, principles, and techniques of requirements engineering. He presents approved techniques for eliciting, negotiating and documenting as well as validating, and managing requirements for software-intensive systems. The various aspects of the process and the techniques are illustrated using numerous examples based on his extensive teaching experience and his work in industrial collaborations. His presentation aims at professionals, students, and lecturers in systems and software engineering or business applications development. Professionals such as project managers, software architects, systems analysts, and software engineers will benefit in their daily work from the didactically well-presented combination of validated procedures and industrial experience. Students and lecturers will appreciate the comprehensive description of sound fundamentals, principles, and techniques, which is completed by a huge commented list of references for further reading. Lecturers will find additional teaching material on the book's website, www.requirements-book.com.

Recent growth in knowledge management concepts has played a vital role in the improvement of organizational performance. These knowledge management approaches have been influential in achieving the goal of efficient production of software development processes. Knowledge-Based Processes in Software Development focuses on the inherent issues to help practitioners in gaining understanding of software development processes. The best practices highlighted in this publication will be essential to software professionals working in the industry as well as students and researchers in the domain of software engineering in order to successfully employ knowledge management procedures.

If you have picked up this book and are browsing the Preface, you may well be asking yourself "What makes this book different from the large number I can find on amazon. com?". Well, the answer is a blend of the academic and the practical, and views of the subject you won't get from anybody else: how psychology and linguistics influence the field of requirements engineering (RE). The title might seem to be a bit of a conundrum; after all, surely requirements come from people so all requirements should be user-centred. Sadly, that is not always so; many system disasters have been caused simply because requirements engineering was not user-centred or, worse still, was not practised at all. So this book is about putting the people back into computing, although not simply from the HCI (human-computer interaction) sense; instead, the focus is on how to understand what people want and then build appropriate computer systems.

This book constitutes the refereed proceedings of the 6th Software Quality Days Conference (SWQD) held in Vienna, Austria, in January 2014. This professional symposium and conference offers a range of comprehensive and valuable opportunities for advanced professional training, new ideas and networking with a series of keynote speeches, professional lectures, exhibits and

tutorials. The four scientific full papers accepted for SWQD were each peer reviewed by three or more reviewers and selected out of 24 high-quality submissions. Further, one keynote and ten short papers on promising research directions were also presented and included in order to spark discussions between researchers and practitioners. The papers are organized into topical sections on software process improvement and measurement, requirements management, value-based software engineering, software and systems testing, automation-supported testing and quality assurance and collaboration.

Efficient communication, collaboration, data exchange and sharing are crucial for the success of today's many multi-disciplinary and interdisciplinary work environments. The implementation of computer-integrated environments (CIE) is increasing and the requirements engineering necessary for the development of these systems is critical. Requirements Engineering for Computer Integrated Environments in Construction provides an important source of information and advice for organizations needing to bridge the gap between users and developers in the implementation of computer-integrated solutions as well as for consultants providing services to their clients in CIE development. The framework explained in the book is comprehensive and accessible. It provides a set of tools and techniques enabling readers to design, manage and deliver effective CIE-type systems in any complex organization – from construction and manufacturing to the information technology and service sectors. Construction companies for example, can use the framework provided to implement building information modelling to manage the diagnosis, planning, implementation and monitoring stages in BIM adoption. Based on real experiences and lessons learned from many years of system development, this book offers an excellent resource for researchers and postgraduate students interested in CIE development for all multi-disciplinary and interdisciplinary work environments.

This book contains the refereed proceedings of the 4th International Conference on Software Business (ICSOB) held in Potsdam, Germany, in June 2013. The theme of the event was "From Physical Products to Software Services and Solutions." The 15 full papers, seven short papers, and six doctoral symposium papers accepted for ICSOB were selected from 44 submissions and are organized in sections on: software business models and business process modeling; IT markets and software industry; IT within organizations; software product management; cloud computing; entrepreneurship and startup companies; software platforms and software ecosystems; and doctoral symposium.

The International Federation for Information Processing (IFIP) is a non-profit umbrella organization for national societies working in the field of information processing. It was founded in 1960 under the auspices of UNESCO. It is organized into several technical committees. This book represents the proceedings of the 2006 conference of technical committee 8 (TC8), which covers the field of information systems. This conference formed part of IFIP's World Computer Congress in Chile. The occasion celebrated the 30th anniversary of IFIP TC8 by looking at the past, present and future of information systems. The proceedings reflect not only the breadth and depth of the work of TC8, but also the international nature of the group, with authors from 18 countries being represented in the 21 papers (including two invited papers) and 2 panels. All submissions were rigorously refereed by at least two reviewers and an associate editor and following the review and resubmission process nearly 50% of submissions were accepted. This paper introduces the papers and panels presented at the conference and published in this volume. It is never straightforward to classify a set of papers but we have made an attempt and this classification is also reflected in the sessions of the conference itself. The classification for the papers is as follows: the world of information systems - early pioneers; developing improved information systems; information systems in their domains of application; the discipline of information systems; issues of production; IT impacts on the organization; tools and modeling and new directions.

This book constitutes the refereed proceedings of the IFIP WG 8.6 International Working Conference on Governance and Sustainability in Information Systems, held in Hamburg, Germany, in September 2011. The 14 revised full papers and 16 research in progress and practice papers presented were carefully reviewed and selected from 47 submissions. The full research papers are organized in the following topical sections: governance, sustainability, design themes, customer and user integration, and future subjects.

This book constitutes the refereed proceedings of the 8th International Conference on Software Reuse, ICSR-8, held in Madrid, Spain in July 2004. The 28 revised full papers presented were carefully reviewed and selected from numerous submissions. The papers are organized in topical sections on software variability: requirements; testing reusable software; feature modeling; aspect-oriented software development; component and service development; code level reuse; libraries, classification, and retrieval; model-based approaches; transformation and generation; and requirements.

Gathering customer requirements is a key activity for developing software that meets the customer's needs. A concise and practical overview of everything a requirements analyst needs to know about establishing customer requirements, this first-of-its-kind book is the perfect desk guide for systems or software development work.

Welcome to the Proceedings of the 2010 International Conference on Advanced Software Engineering and Its Applications (ASEA 2010) – one of the partnering events of the Second International Mega-Conference on Future Generation Information Technology (FGIT 2010). ASEA brings together researchers from academia and industry as well as practitioners to share ideas, problems and solutions relating to the multifaceted aspects of software engineering, including its links to computational sciences, mathematics and information technology. In total, 1,630 papers were submitted to FGIT 2010 from 30 countries, which includes 175 papers submitted to ASEA 2010. The submitted papers went through a rigorous reviewing process: 395 of the 1,630 papers were accepted for FGIT 2010, while 40 papers were accepted for ASEA 2010. Of the 640 papers were selected for the special FGIT 2010 volume published by Springer in the LNCS series. 32 papers are published in this volume, and 2 papers were withdrawn due to technical reasons. We would like to acknowledge the great effort of the ASEA 2010 International Advisory Board and members of the International Program Committee, as well as all the organizations and individuals who supported the idea of publishing this volume of proceedings, including SERSC and Springer. Also, the success of the conference would not have been possible without the huge support from our sponsors and the work of the Chairs and Organizing Committee.

This book constitutes the refereed proceedings of the 19th International Working Conference on Requirements Engineering: Foundation for Software Quality, REFSQ 2013, held in Essen, Germany, in April 2013. The papers are organized in 8 topical sections on requirements engineering and architecture; natural language requirements; requirements engineering and quality; traceability; requirements engineering and business/goals; requirements engineering and software development; requirements engineering in practice;

product lines and product management.

Inhaltsangabe:Abstract: The first step during the software development, requirements engineering, is very critical because of the high effort (in time and costs) that has to be made to correct mistakes detected later that have been made in this early phase of software life-cycle. In order to support the aim of high-quality software, the goals of requirements engineering are developing a complete as possible specification, providing integrated representation formalisms and accomplishing a common agreement on the specification. The very first activity that has to be passed through is requirements elicitation. There are existing three main problems: the problem of defining the scope, the problem of understanding the users needs and the problem of requirements volatility over time. You can follow several heuristics and guidelines to find solutions to these problems. In addition, several techniques and methodologies have been suggested to support the process of requirements elicitation. They differ in several ways: the kind of problem they intend to solve, the methods used for achieving this aim, the kind of people involved, the level of abstraction and precision the requirements have to be formulated in. In this report, a selection of these techniques and methodologies is chosen and they are classified into a classification scheme worked out. The techniques and methodologies can coarsely be divided into four classes: interview-oriented approaches, objective and goal analysis-oriented approaches, viewpoint analysis-oriented approaches, and scenario analysis-oriented approaches. There are others that do not fit into this division, but provide nevertheless help for requirements elicitation. The developed classification scheme highlights the differences between the existing techniques. It should serve as an overview of existing techniques and methods as a guideline for analysts and developers for finding an appropriate method for problems at hand. Inhaltsverzeichnis:Table of Contents: 1.Introduction1 2.Conceptions and Guidelines5 2.1Requirements Elicitation Process Model5 2.2Guidelines for Requirements Elicitation9 3.Framework for Understanding Elicitation Approaches13 3.1Problem14 3.2Methods15 3.3People16 3.4Type17 3.5Solution18 4.Categorization of Requirements Elicitation Approaches19 4.1Interview-Oriented Approaches20 4.2Objective and Goal-Oriented Approaches25 4.3Viewpoint Analysis-Oriented Approaches32 4.4Scenario [...]

Requirements EngineeringProcesses and TechniquesWiley

This book constitutes the refereed proceedings of the 13th International Working Conference on Requirements Engineering: Foundation for Software Quality, REFSQ 2007, held in Trondheim, Norway. It covers goal-driven requirements engineering (RE), products and product-lines, value-based RE and the value of RE, requirements elicitation, requirements specification, industrial experience of RE, and requirements quality and quality requirements.

This book constitutes the refereed proceedings of the 13th International Conference on Evaluation of Novel Approaches to Software Engineering, ENASE 2018, held in Funchal, Madeira, Portugal, in March 2018. The 17 revised full papers and 5 revised short papers presented were carefully reviewed and selected from 95 submissions. The papers are organized in topical sections on service science and business information systems and software engineering.

Requirements Engineering Processes and Techniques Why this book was written The value of introducing requirements engineering to trainee software engineers is to equip them for the real world of software and systems development. What is involved in Requirements Engineering? As a discipline, newly emerging from software engineering, there are a range of views on where requirements engineering starts and finishes and what it should encompass. This book offers the most comprehensive coverage of the requirements engineering process to date - from initial requirements elicitation through to requirements validation. How and Which methods and techniques should you use? As there is no one catch-all technique applicable to all types of system, requirements engineers need to know about a range of different techniques. Tried and tested techniques such as data-flow and object-oriented models are covered as well as some promising new ones. They are all based on real systems descriptions to demonstrate the applicability of the approach. Who should read it? Principally written for senior undergraduate and graduate students studying computer science, software engineering or systems engineering, this text will also be helpful for those in industry new to requirements engineering. Accompanying Website: <http://www.comp.lancs.ac.uk/computing/resources/re> Visit our Website: <http://www.wiley.com/college/wws>

This book constitutes the refereed proceedings of the 14th International Working Conference on Requirements Engineering: Foundation for Software Quality, REFSQ 2008, held in Montpellier, France, in June 2008. The 17 revised full papers presented together with an introduction of the editors and the keynote lecture were carefully reviewed and selected from 50 submissions. The papers are organized in thematic sections on fitness of RE, requirements elicitation, industrial experience of RE, innovative systems, maturing research, and empirical studies.

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.

Information Systems Development: Business Systems and Services: Modeling and Development, is the collected proceedings of the 19th International Conference on Information Systems Development held in Prague, Czech Republic, August 25 - 27, 2010. It follows in the tradition of previous conferences in the series in exploring the connections between industry, research and education. These proceedings represent ongoing reflections within the academic community on established information systems topics and emerging concepts, approaches and ideas. It is hoped that the papers herein contribute towards disseminating research and improving practice.

On behalf of the PROFES Organizing Committee, we are proud to present to you the proceedings of the 9th International Conference on Product-Focused Software Process Improvement (PROFES 2008) held in Frascati - Monteporzio Catone, Rome, Italy. Since 1999, PROFES has established itself as one of the recognized international process improvement conferences. The main theme of PROFES is professional software process improvement (SPI) motivated by product and service quality needs. Focussing on a product to be developed, PROFES 2008 addressed both quality engineering and management topics including processes, methods, techniques, tools, organizations, and enabling SPI. Both solutions found in practice and the relevant research results from academia were presented. Domains such as the automotive and mobile applications industry are growing rapidly, resulting in a strong need for professional development and improvement. Nowadays, the majority of embedded software is developed in collaboration, and distribution of embedded software development continues to increase. Thus, PROFES 2008 addressed different development modes, roles in the value chain, stakeholders' viewpoints, collaborative development, as well as economic and quality aspects. Mobile development was included again as one of the themes. Since the beginning of the series of PROFES conferences, the purpose has been to bring to light the most recent findings and novel results in the area of process improvement, and to stimulate discussion among researchers, experienced professionals, and technology providers from around the world.

Component-based software development, CBSD, is no longer just one more new paradigm in software engineering, but is effectively used in development and practice. So far, however, most of the efforts from the software engineering community have concentrated on the functional aspects of CBSD, leaving aside the treatment of the quality issues and extra-functional properties of software components and component-based systems. This book is the first one focusing on quality issues of components and component-based systems. The 16 revised chapters presented were carefully reviewed and selected for inclusion in the book; together with an introductory survey, they give a coherent and competent survey of the state of the art in the area. The book is organized in topical parts on COTS selection, testing and certification, software component quality models, formal models to quality assessment, and CBSD management.

The 16th CAiSE 2004 was the 16th in the series of International Conferences on Advanced Information Systems Engineering. In the year 2004 the conference was hosted by the Faculty of Computer Science and Information Technology, Riga Technical University, Latvia. Since the late 1980s, the CAiSE conferences have provided a forum for the presentation and exchange of research results and practical experiences within the field of Information Systems Engineering. The conference theme of CAiSE 2004 was Knowledge and Model Driven Information Systems Engineering for Networked Organizations. Modern businesses and IT systems are facing an ever more complex environment characterized by openness, variety, and change. Organizations are becoming less self-sufficient and increasingly dependent on business partners and other actors. These trends call for openness of business as well as IT systems, i.e. the ability to connect and interoperate with other systems. Furthermore, organizations are experiencing ever more variety in their business, in all conceivable dimensions. The different competencies required by the workforce are multiplying. In the same way, the variety in technology is overwhelming with a multitude of languages, platforms, devices, standards, and products. Moreover, organizations need to manage an environment that is constantly changing and where lead times, product life cycles, and partner relationships are shortening. The demand of having to constantly adapt IT to changing technologies and business practices has resulted in the birth of new ideas which may have a profound impact on the information systems engineering practices in future years, such as autonomic computing, component and services marketplaces and dynamically generated software.

Software engineering techniques, Computer software, Life cycle, Life (durability), Systemology, Maintenance, Quality assurance, Verification, Management

The Concurrent Engineering (CE) approach was developed in the 1980s, based on the concept that different phases of a product life cycle should be conducted concurrently and initiated as early as possible within the Product Creation Process (PCP). CE concepts have matured and become the foundation of many new ideas, methodologies, initiatives, approaches and tools. This book contains the proceedings from the 23rd ISPE Inc. International Conference on Transdisciplinary (formerly: Concurrent) Engineering, held in Curitiba, Parana, Brazil, in October 2016. The conference, entitled 'Transdisciplinary Engineering: Crossing Boundaries', provides an important forum for international scientific exchange on Concurrent Engineering and collaborative enterprises, and attracts the participation of researchers, industry experts and students, as well as government representatives. The 108 peer reviewed papers and keynote speech included here, range from theoretical and conceptual to strongly pragmatic works, which are organized into 17 sections including: Concurrent Engineering and knowledge exchange; engineering for sustainability; multidisciplinary project management; collaborative design and engineering; optimization of engineering operations and data analytics; and multidisciplinary design optimization, among others. The book gives an overview of the latest research, advancements and applications in the field and will be of interest to researchers, design practitioners and educators.

Requirements engineering is the process by which the requirements for software systems are gathered, analyzed, documented, and managed throughout their complete lifecycle. Traditionally it has been concerned with technical goals for, functions of, and constraints on software systems. Aurum and Wohlin, however, argue that it is no longer appropriate for software systems professionals to focus only on functional and non-functional aspects of the intended system and to somehow assume that organizational context and needs are outside their remit. Instead, they call for a broader perspective in order to gain a better understanding of the interdependencies between enterprise stakeholders, processes, and software systems, which would in turn give rise to more appropriate techniques and higher-quality systems. Following an introductory chapter that provides an exploration of key issues in requirements engineering, the book is organized in three parts. Part 1 presents surveys of state-of-the-art requirements engineering process research along with critical assessments of existing models, frameworks and techniques. Part 2 addresses key areas in requirements engineering, such as market-driven requirements engineering, goal modeling, requirements ambiguity, and others. Part 3 concludes the book with articles that present empirical evidence and experiences from practices in industrial projects. Its broader perspective gives this book its distinct appeal and makes it of interest to both researchers and practitioners, not only in software engineering but also in other disciplines such as business process engineering and management science.

This volume contains the papers presented at the third biennial Information Systems Foundations ('Theory, Representation and Reality') Workshop, held at The Australian National University in Canberra from 27-28 September 2006. The focus of the workshop was, as for the others in the series, the foundations of Information Systems as an academic discipline. The particular emphasis was, as in past workshops, the adequacy and completeness of theoretical underpinnings and the research methods employed. At the same time the practical nature of the applications and phenomena with which the discipline deals were kept firmly in view. Accordingly, the papers in this volume range from the unashamedly theoretical in their focus (Designing for Mutability in Information Systems Artifacts; Towards a

Unified Theory of Fit: Task, Technology and Individual) to the much more practically oriented (An Action-Centred Approach to Conceptualising Information Support for Routine Work).

This book constitutes the refereed post-conference proceedings of the 14th International Workshop on Groupware: Design, Implementation, and Use, held in Omaha, Nebraska, USA, during September 14-18, 2008. The 30 papers presented were carefully reviewed and selected from numerous submissions. The topics covered are groupware solutions, co-located groups, groupware for health care, collaborative systems development, collaborative emergency response, groupware approaches, patterns of collaboration, thinklets-based process design, mobile applications, knowledge and learning, groupware technologies, and collaborative modeling.

This book focuses on various topics related to engineering and management of requirements, in particular elicitation, negotiation, prioritisation, and documentation (whether with natural languages or with graphical models). The book provides methods and techniques that help to characterise, in a systematic manner, the requirements of the intended engineering system. It was written with the goal of being adopted as the main text for courses on requirements engineering, or as a strong reference to the topics of requirements in courses with a broader scope. It can also be used in vocational courses, for professionals interested in the software and information systems domain. Readers who have finished this book will be able to: - establish and plan a requirements engineering process within the development of complex engineering systems; - define and identify the types of relevant requirements in engineering projects; - choose and apply the most appropriate techniques to elicit the requirements of a given system; - conduct and manage negotiation and prioritisation processes for the requirements of a given engineering system; - document the requirements of the system under development, either in natural language or with graphical and formal models. Each chapter includes a set of exercises.

As future generation information technology (FGIT) becomes specialized and fragmented, it is easy to lose sight that many topics in FGIT have common threads and, because of this, advances in one discipline may be transmitted to others. Presentation of recent results obtained in different disciplines encourages this interchange for the advancement of FGIT as a whole. Of particular interest are hybrid solutions that combine ideas taken from multiple disciplines in order to achieve something more significant than the sum of the individual parts. Through such hybrid philosophy, a new principle can be discovered, which has the propensity to propagate throughout multifaceted disciplines. FGIT 2009 was the first mega-conference that attempted to follow the above idea of hybridization in FGIT in a form of multiple events related to particular disciplines of IT, conducted by separate scientific committees, but coordinated in order to expose the most important contributions. It included the following international conferences: Advanced Software Engineering and Its Applications (ASEA), Bio-Science and Bio-Technology (BSBT), Control and Automation (CA), Database Theory and Application (DTA), Disaster Recovery and Business Continuity (DRBC; published independently), Future Generation Communication and Networking (FGCN) that was combined with Advanced Communication and Networking (ACN), Grid and Distributed Computing (GDC), Multimedia, Computer Graphics and Broadcasting (MulGraB), Security Technology (SecTech), Signal Processing, Image Processing and Pattern Recognition (SIP), and u- and e-Service, Science and Technology (UNESST).

This volume is comprised of the proceedings of the 13th International Conference on Information Systems Development held August 26th-28th, 2004, at Vilnius Gediminas Technical University, Vilnius, Lithuania. The aim of this volume is to provide a forum for the research and practices addressing current issues associated with Information Systems Development (ISD). Every day, new technologies, applications, and methods raise the standards for the quality of systems expected by organizations as well as end users. All are becoming dependent on systems reliability, scalability, and performance. Thus, it is crucial to exchange ideas and experiences, and to stimulate exploration of new solutions. This proceedings provides a forum for both technical and organizational issues.

Since its inception in 1968, software engineering has undergone numerous changes. In the early years, software development was organized using the waterfall model, where the focus of requirements engineering was on a frozen requirements document, which formed the basis of the subsequent design and implementation process. Since then, a lot has changed: software has to be developed faster, in larger and distributed teams, for pervasive as well as large-scale applications, with more flexibility, and with ongoing maintenance and quick release cycles. What do these ongoing developments and changes imply for the future of requirements engineering and software design? Now is the time to rethink the role of requirements and design for software intensive systems in transportation, life sciences, banking, e-government and other areas. Past assumptions need to be questioned, research and education need to be rethought. This book is based on the Design Requirements Workshop, held June 3-6, 2007, in Cleveland, OH, USA, where leading researchers met to assess the current state of affairs and define new directions. The papers included were carefully reviewed and selected to give an overview of the current state of the art as well as an outlook on probable future challenges and priorities. After a general introduction to the workshop and the related NSF-funded project, the contributions are organized in topical sections on fundamental concepts of design; evolution and the fluidity of design; quality and value-based requirements; requirements intertwining; and adapting requirements practices in different domains.

This book constitutes the refereed proceedings of the 5th IFIP TC 5 International Conference on Computer Science and Its Applications, CIIA 2015, held in Saida, Algeria, in May 2015. The 56 revised papers presented were carefully reviewed and selected from 225 submissions. The papers are organized in the following four research tracks: computational intelligence; security and network technology; information technology; and software engineering.

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

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