

Case Study The Zachman Framework Populated With Baseball

This book constitutes the refereed proceedings of the 5th International Conference, ICDEc 2020, held in Bucharest, Romania, in June 2020. Due to the COVID-19 pandemic the conference took place virtually. The 13 full papers presented in this volume together with 3 abstracts of keynotes and 1 introductory paper by the steering committee were carefully reviewed and selected from a total of 41 submissions. The core theme of this year's conference was "Emerging Technologies & Business Innovation". The papers were organized in four topical sections named: digital transformation, data analytics, digital marketing, and digital business models.

"Understanding the technology dynamics is a required capability in today's technology driven industries. This volume focuses on three areas: technology assessment, technology forecasting and technology diffusion. It shows: an introduction to different types of assessment methods and applications from different sectors including energy, healthcare and communications; technology forecasting and foresight and a review of conventional and emerging methods; and the diffusion of technologies by exploring adoption of products and services from different sectors."--Back cover.

"Adaptation of applied Information and Communication Technologies (ICT) research results is one of the greatest challenges faced today in building the global Knowledge Economy. While research challenges can be quite similar across the world thus facilitating cross-border cooperation between researchers, government and industry, how actual research results can be exploited or implemented can vary considerably depending on the social, cultural and infrastructural context of the target country, province or region. This offers opportunities as well as challenges in terms of how applied ICT can be used to both support economic development and inform future research challenges. When cross-border collaboration is effective, there can be a valuable exchange of knowledge that can not only lead to successful adaptation of research results or lessons learnt from successful implementations in other countries, but can also provide insight into different problem solving techniques and new ways of thinking that can enrich the ICT research agenda. It is only through such mutually beneficial shared insight that the Digital Divide can be bridged. This set of two books brings together a comprehensive collection of over 220 contributions on commercial, government or societal exploitation of applied ICT, representing cutting edge research, good practice and practical eAdoption from Africa, the Americas, Asia & Europe."

Digital forensics deals with the acquisition, preservation, examination, analysis and presentation of electronic evidence. Networked computing, wireless communications and portable electronic devices have expanded the role of digital forensics beyond traditional computer crime investigations. Practically every crime now involves some aspect of digital evidence; digital forensics provides the techniques and tools to articulate this evidence. Digital forensics also has myriad intelligence applications. Furthermore, it has a vital role in information assurance -- investigations of security breaches yield valuable information that can be used to design more secure systems. Advances in Digital Forensics VII describes original research results and innovative applications in the discipline of digital forensics. In addition, it highlights some of the major technical and legal issues related to digital evidence and electronic crime investigations. The areas of coverage include: Themes and Issues, Forensic Techniques, Fraud and Malware Investigations, Network Forensics, and Advanced Forensic Techniques. This book is the 7th volume in the annual series produced by the International Federation for Information Processing (IFIP) Working Group 11.9 on Digital Forensics, an international community of scientists, engineers and practitioners dedicated to advancing the state of the art of research and practice in digital forensics. The book contains a selection of 21 edited papers from the 7th Annual IFIP WG 11.9 International Conference on Digital Forensics, held at the National Center for Forensic Science, Orlando, Florida, USA in the spring of 2011. Advances in Digital Forensics VII is an important resource for researchers, faculty members and graduate students, as well as for practitioners and individuals engaged in research and development efforts for the law enforcement and intelligence communities. Gilbert Peterson is an Associate Professor of Computer Engineering at the Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio, USA. Sujeet Shenoj is the F.P. Walter Professor of Computer Science at the University of Tulsa, Tulsa, Oklahoma, USA.

Steps to Improved Firm Performance with Business Process Management

Exploiting the Knowledge Economy

IFIP TC 8 WG 8.9 International Conference on Research and Practical Issues of Enterprise Information Systems (CONFENIS 2007), October 14-16, 2007, Beijing, China

4th International Conference, ADVIS 2006, Izmir, Turkey, October 18-20, 2006

9th International Conference, ENASE 2014, Lisbon, Portugal, April 28-30, 2014. Revised Selected Papers

5th International Conference on Digital Economy, ICDEc 2020, Bucharest, Romania, June 11-13, 2020, Proceedings Enterprise Architecture for Business Success

A new edition of a bestselling industrial and systems engineering reference, Handbook of Industrial and Systems Engineering, Second Edition provides students, researchers, and practitioners with easy access to a wide range of industrial engineering tools and techniques in a concise format. This edition expands the breadth and depth of coverage, emphasizing new systems engineering tools, techniques, and models. See What's New in the Second Edition: Section covering safety, reliability, and quality Section on operations research, queuing, logistics, and scheduling Expanded appendix to include conversion factors and engineering, systems, and statistical formulae Topics such as control charts, engineering economy, health operational efficiency, healthcare systems, human systems integration, Lean systems, logistics transportation, manufacturing systems, material handling systems, process view of work, and Six Sigma techniques The premise of the handbook remains: to expand the breadth and depth of coverage beyond the traditional handbooks on industrial engineering. The book begins with a general introduction with specific reference to the origin of industrial engineering and the ties to the Industrial Revolution. It covers the fundamentals of industrial engineering and the fundamentals of systems engineering. Building on this foundation, it presents chapters on manufacturing, production

systems, and ergonomics, then goes on to discuss economic and financial analysis, management, information engineering, and decision making. Two new sections examine safety, reliability, quality, operations research, queuing, logistics, and scheduling. The book provides an updated collation of the body of knowledge of industrial and systems engineering. The handbook has been substantively expanded from the 36 seminal chapters in the first edition to 56 landmark chapters in the second edition. In addition to the 20 new chapters, 11 of the chapters in the first edition have been updated with new materials. Filling the gap that exists between the traditional and modern practice of industrial and systems engineering, the handbook provides a one-stop resource for teaching, research, and practice.

This double volumes LNCS 11229-11230 constitutes the refereed proceedings of the Confederated International Conferences: Cooperative Information Systems, CoopIS 2018, Ontologies, Databases, and Applications of Semantics, ODBASE 2018, and Cloud and Trusted Computing, C&TC, held as part of OTM 2018 in October 2018 in Valletta, Malta. The 64 full papers presented together with 22 short papers were carefully reviewed and selected from 173 submissions. The OTM program every year covers data and Web semantics, distributed objects, Web services, databases, informationsystems, enterprise workflow and collaboration, ubiquity, interoperability, mobility, grid and high-performance computing.

This book constitutes the refereed proceedings of the 40th International Conference on Conceptual Modeling, ER 2021, which will be held as virtual event, in October 2021. The 14 full and 18 short papers were carefully reviewed and selected from 85 submissions. The conference presents topics on conceptual modeling, its foundations and applications.

Celebrating its 40th anniversary this year, the overall theme of ER 2021 is: *Conceptual Modeling in an Age of Uncertainty*. Enterprise Architecture (EA) has evolved to become a prominent presence in today's information systems and technology landscape. The EA discipline is rich in frameworks, methodologies, and the like. However, the question of 'value' for business ;professionals remains largely unanswered – that is, how best can Enterprise Architecture and Enterprise Architects deliver value to the enterprise? *Enterprise Architecture for Business Success* answers this question. *Enterprise Architecture for Business Success* is primarily intended for IT professionals working in the area of Enterprise Architecture. The eBook gives practical insights into what constitutes EA and how it might be practiced in a typical resource constrained business environment. The contents of the eBook include a brief guideline about EA systems and terminology, followed by notes on how to design enterprise systems in line with business strategies. The eBook also presents case studies which help to demonstrate the distance between theory and reality when it comes to optimizing IT infrastructure for successfully achieving business goals. Lengthy theoretical discussions are avoided in favor of focusing more on the practice and tools of EA. Readers will find value in this eBook, whether they are an IT consultant or a manager, an EA team lead or member, or just someone keen to learn about real-world EA.

Technology Assessment

Information Systems Development

Advances and Innovations in Systems, Computing Sciences and Software Engineering

14th International Workshop, EOMAS 2018, Held at CAiSE 2018, Tallinn, Estonia, June 11-12, 2018, Selected Papers

Enterprise and Organizational Modeling and Simulation

Cloud Security: Concepts, Methodologies, Tools, and Applications

Advances in Information Systems

This book constitutes the thoroughly refereed proceedings of the 9th International Conference on Evaluation of Novel Approaches to Software Engineering, ENASE 2014, held in Lisbon, Portugal, in April 2014. The 11 full papers presented were carefully reviewed and selected from 58 submissions. The papers reflect a growing effort to increase the dissemination of new results among researchers and professionals related to evaluation of novel approaches to software engineering. By comparing novel approaches with established traditional practices and by evaluating them against software quality criteria, the ENASE conferences advance knowledge and research in software engineering, identify most hopeful trends, and propose new directions for consideration by researchers and practitioners involved in large-scale software development and integration.

This book constitutes extended, revised and selected papers from the 22nd International Conference on Enterprise Information Systems, ICEIS 2020, held online during May 5-7, 2020. The 41 papers presented in this volume were carefully reviewed and selected for inclusion in this book from a total of 255 submissions. They were organized in topical sections as follows: database and information systems integration; artificial intelligence and decision support systems; information systems analysis and specification; software agents and internet computing; human-computer interaction; and enterprise architecture.

This book presents Systems Engineering from a modern, multidisciplinary engineering approach, providing the understanding that all aspects of systems design, systems, software, test, security, maintenance and the full life-cycle must be factored in to any large-scale system design; up front, not factored in later. It lays out a step-by-step approach to systems-of-systems architectural design, describing in detail the documentation flow throughout the systems engineering design process. It provides a straightforward look and the entire systems engineering process, providing realistic case studies, examples, and design problems that will enable students to gain a firm grasp on the fundamentals of modern systems engineering. Included is a comprehensive design problem that weaves throughout the entire text book, concluding with a complete top-level systems architecture for a real-world design problem.

Research and Practical Issues of Enterprise Information Systems II Volume 2 IFIP TC 8 WG 8.9

International Conference on Research and Practical Issues of Enterprise Information Systems (CONFENIS 2007), October 14-16, 2007, Beijing, China Springer Science & Business Media

Conceptual Modeling

Enterprise Architecture

7th IFIP WG 11.9 International Conference on Digital Forensics, Orlando, FL, USA, January 31 -

February 2, 2011, Revised Selected Papers

Forecasting Future Adoption of Emerging Technologies

Architecting the Design Process

Complex Systems Design & Management

Proceedings of the 18th CIRP International Conference on Life Cycle Engineering, Technische Universität Braunschweig, Braunschweig, Germany, May 2nd - 4th, 2011

Information Systems Development (ISD) progresses rapidly, continually creating new challenges for the professionals involved. New concepts, approaches and techniques of systems development emerge constantly in this field. Progress in ISD comes from research as well as from practice. This conference will discuss issues pertaining to information systems development (ISD) in the inter-networked digital economy. Participants will include researchers, both experienced and novice, from industry and academia, as well as students and practitioners. Themes will include methods and approaches for ISD; ISD education; philosophical, ethical, and sociological aspects of ISD; as well as specialized tracks such as: distributed software development, ISD and knowledge management, ISD and electronic business / electronic government, ISD in public sector organizations, IOS.

This book constitutes the refereed proceedings of the 4th International Conference on Advances in Information Systems, ADVIS 2006, held in Izmir, Turkey in October 2006. The 38 revised full papers presented together with four invited lectures were carefully reviewed and selected from 120 submissions. The papers are organized in topical sections.

This volume presents work from the IFIP TC 8 WG 8.9 International Conference on the Research and Practical Issues of Enterprise Information Systems (CONFENIS 2007). Enterprise information systems (EIS) have become increasingly popular. EIS integrate and support business processes across functional boundaries in a supply chain environment. In recent years, more and more enterprises world-wide have adopted EIS such as Enterprise Resource Planning (ERP) for running their businesses.

Digital Enterprise Technology (DET) is more than a concept. Companies are facing new challenges in a context where the references are mostly numerical. Nowadays, digital methods and tools are widely generalized. DET 2008 allowed excellent exchanges about "the collection of systems and methods for the digital modelling and analysis of the global product development and realisation process, in the context of lifecycle management". This book of proceedings gives a short vices of the keynotes and proposes the text of the papers that have been presented during DET 2008. This gives a clear view of the actual state of the art and of the industrial needs. This book of proceedings is organized with respect to the topics that were addressed during the conference.

Enterprise Information Systems

40th International Conference, ER 2021, Virtual Event, October 18-21, 2021, Proceedings

Asian Experiences

Modelling, Communication and Analysis

Adding Business Value with Business Process Management and its Systems

On the Move to Meaningful Internet Systems. OTM 2018 Conferences

Methods and Applications

Job titles like “Technical Architect” and “Chief Architect” nowadays abound in software industry, yet many people suspect that “architecture” is one of the most overused and least understood terms in professional software development. Gorton’s book tries to resolve this dilemma. It concisely describes the essential elements of knowledge and key skills required to be a software architect. The explanations encompass the essentials of architecture thinking, practices, and supporting technologies. They range from a general understanding of structure and quality attributes through technical issues like middleware components and service-oriented architectures to recent technologies like model-driven architecture, software product lines, aspect-oriented design, and the Semantic Web, which will presumably influence future software systems. This second edition contains new material covering enterprise architecture, agile development, enterprise service bus technologies, RESTful Web services, and a case study on how to use the MeDICi integration framework. All approaches are illustrated by an ongoing real-world example. So if you work as an architect or senior designer (or want to someday), or if you are a student in software engineering, here is a valuable and yet approachable knowledge source for you.

An enterprise architecture tries to describe and control an organisation’s structure, processes, applications, systems and techniques in an integrated way. The unambiguous specification and description of components and their relationships in such an architecture requires a coherent architecture modelling language. Lankhorst and his co-authors present such an enterprise modelling language that captures the complexity of architectural domains and their relations and allows the construction of integrated enterprise architecture models. They provide architects with concrete instruments that improve their architectural practice. As this is not enough, they additionally present techniques and heuristics for communicating with all relevant stakeholders about these architectures. Since an architecture model is useful not only for providing insight into the current or future situation but can also be used to evaluate the transition from ‘as-is’ to ‘to-be’, the authors also describe analysis methods for assessing both the qualitative impact of changes to an architecture and the quantitative aspects of architectures, such as performance and cost issues. The modelling language and the other techniques presented have been proven in practice in many real-life case studies. So this book is an ideal companion for enterprise IT or business architects in industry as well as for computer or management science students studying the field of enterprise architecture.

Collaborative Network Organizations (CNO) corresponds to a very active and steadily growing area. For instance, Virtual enterprises/Virtual Organizations (PVC) suggest new ways of work and put the emphasis on collaborative networks of human actors. Further to these main lines, other collaborative forms and patterns of collaborative behavior are emerging, not only in industry, but also in service sector, as well as governmental and non-government social organizations, e.g. the collaborative networks for rescue tasks in disaster situations, time bank organizations, etc. The concept of breeding environment is now understood as a fundamental entity to enable dynamic collaborative organizations.

This book constitutes the refereed proceedings of the 10th IFIP WG 5.1 International Conference on Product Lifecycle Management, PLM 2013, held in Nantes, France, in July 2013. The 63 full papers presented together with 2 keynote talks were carefully reviewed and selected from 91 submissions. They are organized in the following topical sections: PLM for sustainability, traceability and performance; PLM infrastructure and implementation processes; capture and reuse of product and process information; PLM and knowledge management; enterprise system integration; PLM and influence

of/from social networks; PLM maturity and improvement concepts; PLM and collaborative product development; PLM virtual and simulation environments; and building information modeling.

Glocalized Solutions for Sustainability in Manufacturing

Enterprise Architecture Using the Zachman Framework

Public IT Investment

10th IFIP WG 5.1 International Conference, PLM 2013, Nantes, France, July 8-10, 2013, Proceedings

Concepts, Methodologies, Tools, and Applications

Product Lifecycle Management (Volume 4): The Case Studies

Interoperability Strategies for the Enterprise Architect

Enterprise architecture is leading IT's way to the executive boardroom, as CIOs are now taking their place at the management table. Organizations investing their time, money, and talent in enterprise architecture (EA) have realized significant process improvement and competitive advantage. However, as these organizations discovered, it is one thing to acquire a game-changing technology but quite another to discover ways to use it well. A project of the Society for Information Management's Enterprise Architecture Working Group and edited by Leon A. Kappelman, *The SIM Guide to Enterprise Architecture* provides insights from leading authorities on EA, including John Zachman, Larry DeBoever, George Paras, Jeanne Ross, and Randy Hite. The book supplies a solid understanding of key concepts for effectively leveraging EA to redesign business processes, integrate services, and become an Information Age enterprise. Beginning with a look at current theory and frameworks, the book discusses the practical application of enterprise architecture and includes a wealth of best practices, resources, and references. It contains the SIM survey of IT organizations' EA activities, which provides important metrics for evaluating progress and success. Successful businesses exploit synergy among business functions and push the boundaries of process design. IT's cross-functional position uniquely qualifies it to lead process innovation. EA lets CIOs integrate technology with business vision and is the roadmap for implementing new systems, changing behavior, and driving value. This book explores the vision, foundation, and enabling technology required to successfully transform organizations with enterprise architecture.

Business Process Management (BPM) has become a widely adopted management approach, prompting significant investments by private and public companies since 2000. Since neither the concept of BPM nor the factors leading to successful BPM initiatives are grounded in theory and also lack empirical support, Tahvo Hyötyläinen explores what business value BPM and BPM Systems can cause and how they can bring about improved firm performance. The author's main implication is to show how to enhance the probability of success with BPM and its Systems. His research also adds to the understanding on how to increase customer-centricity – an empirically supported yet less studied direction of BPM.

The rapid development of new Information Infrastructure combined with the increased user needs in specific areas of Information Technology (mostly related to Web applications) has created the need for designing new modeling techniques more innovative and targeted on specific areas of Information Systems in order to successfully model the rapidly changed environment, along with the newly introduced concepts and user requirements. Therefore, this book aims to introduce readers to a number of innovative Information modeling techniques. It is titled "Innovative Information Systems Modelling Techniques" and includes 9 chapters. The focus is on the exploration and coverage of the innovations of recently presented modeling techniques and their applicability on the Information Systems' modeling. The series "Studies in Computational Intelligence" (SCI) publishes new developments and advances in the various areas of computational intelligence – quickly and with a high quality. The intent is to cover the theory, applications, and design methods of computational intelligence, as embedded in the fields of engineering, computer science, physics and life science, as well as the methodologies behind them. The series contains monographs, lecture notes and edited volumes in computational intelligence spanning the areas of neural networks, connectionist systems, genetic algorithms, evolutionary computation, artificial intelligence, cellular automata, self-organizing systems, soft computing, fuzzy systems, and hybrid intelligent systems. Critical to both contributors and readers are the short publication time and world-wide distribution - this permits a rapid and broad dissemination of research results. The purpose of the 1st ACIS International Conference on Computers, Networks, Systems, and Industrial Engineering (CNSI 2011) was held on May23-25, 2011 in Jeju, Jeju Island, South Korea is to bring together scientist, engineers, computer users, students to share their experiences and exchange new ideas, and research results about all aspects (theory, applications and tools) of computer and information science, and to discuss the practical challenges encountered along the way and the solutions adopted to solve them. The conference organizers selected the best 22 papers from those papers accepted for presentation at the conference in order to publish them in this volume. The papers were chosen based on review scores submitted by members of the program committee, and underwent further rigorous rounds of review.

Techniques and Case Studies

Evaluation of Novel Approaches to Software Engineering

Product Lifecycle Management for Society

Digital Libraries

The SIM Guide to Enterprise Architecture

Confederated International Conferences: CoopIS, C&TC, and ODBASE 2018, Valletta, Malta, October 22-26, 2018, Proceedings, Part I

Issues, Applications and Case Studies

The 18th CIRP International Conference on Life Cycle Engineering (LCE) 2011 continues a long tradition of scientific meetings focusing on the exchange of industrial and academic knowledge and experiences in life cycle assessment, product development, sustainable manufacturing and end-of-life-management. The theme "Glocalized Solutions for Sustainability in Manufacturing" addresses the need for engineers to develop solutions

which have the potential to address global challenges by providing products, services and processes taking into account local capabilities and constraints to achieve an economically, socially and environmentally sustainable society in a global perspective. Glocalized Solutions for Sustainability in Manufacturing do not only involve products or services that are changed for a local market by simple substitution or the omitting of functions. Products and services need to be addressed that ensure a high standard of living everywhere. Resources required for manufacturing and use of such products are limited and not evenly distributed in the world. Locally available resources, local capabilities as well as local constraints have to be drivers for product- and process innovations with respect to the entire life cycle. The 18th CIRP International Conference on Life Cycle Engineering (LCE) 2011 serves as a platform for the discussion of the resulting challenges and the collaborative development of new scientific ideas.

This book constitutes the refereed proceedings of the 14th International Workshop on Enterprise and Organizational Modeling and Simulation, EOMAS 2018, held in Tallinn, Estonia, in June 2018. The main focus of EOMAS is on the role, importance, and application of modeling and simulation within the extended organizational and enterprise context. The 11 full papers presented in this volume were carefully reviewed and selected from 22 submissions. They were organized in topical sections on conceptual modeling, enterprise engineering, and formal methods.

Increasingly, organizations allocate a substantial financial budget to the acquisition, implementation, and management of IT solutions. IT solutions are employed strategic partners in supporting business strategic outcome, and the solutions are tools used to support operational activities within an environment. Given the vast amounts being invested in IT solutions and development, there is a need for a better return and outcome for organizations. Empowering Businesses With Collaborative Enterprise Architecture Frameworks is an essential reference source that provides readers with pragmatic, implementable strategies and direction to create IT with collaborative capabilities that can reduce the cost of running IT within an organization. Moreover, the book offers pragmatic roadmaps to adopting disruptive IT solutions effectively and efficiently and towards gaining a better understanding of enterprise architecture as a means to business decision making. Featuring research on topics such as business engineering, cloud computing, and open systems, this book is ideally designed for managers, directors, and other business decision makers; government and industry policymakers; business and enterprise architects; industry professionals; academicians; researchers; and students.

This book includes a set of rigorously reviewed world-class manuscripts addressing and detailing state-of-the-art research projects in the areas of Computing Sciences, Software Engineering and Systems. The book presents selected papers from the conference proceedings of the International Conference on Systems, Computing Sciences and Software Engineering (SCSS 2006). All aspects of the conference were managed on-line.

Digital Economy. Emerging Technologies and Business Innovation

5th International Conference on Digital Enterprise Technology

22nd International Conference, ICEIS 2020, Virtual Event, May 5-7, 2020, Revised Selected Papers

Research and Practical Issues of Enterprise Information Systems II Volume 2

Enterprise Architecture at Work

Computers, Networks, Systems, and Industrial Engineering 2011

Advanced Techniques 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. Advanced Techniques in Computing Sciences and Software Engineering includes selected papers from the conference proceedings of the International Conference on Systems, Computing Sciences and Software Engineering (SCSS 2008) which was part of the International Joint Conferences on Computer Information and Systems Sciences and Engineering (CISSE 2008).

Digital library is commonly seen as a type of information retrieval system which stores and accesses digital content over computer networks. However, the vision of digital libraries is not limited to technology or management, but user experience. This book is an attempt to share the practical experiences of solutions to the operation of digital libraries. To indicate successful routes towards successful applications, the chapters in this book explore the implication of digital libraries from the perspective of design, operation, and promotion. Without common agreement on a broadly accepted model of digital libraries, authors from diverse fields seek to develop theories and empirical investigations that to advance our understanding of digital libraries. This book introduces the concept of Enterprise Architecture, using the Framework developed by John Zachman, to business and industry students and professionals.

This expanded second edition shows how effective and accurate modelling can deliver a more complete understanding of business. By applying the visual modelling techniques described here, it is possible to map an entire business, using the Unified Modelling Language (UML). Jon Holt covers all aspects of the BPM process, including analysis, specification, measurement, and documentation. New chapters deal with the presentation of process information, enterprise architecture and business process management.

Empowering Businesses With Collaborative Enterprise Architecture Frameworks

Proceedings of the 4th International Conference on Complex Systems Design & Management Asia and of the 12th International Conference on Complex Systems Design & Management CSD&M 2021

Multidisciplinary Systems Engineering

IFIP 18th World Computer Congress TC5/WG5.5 — 5th Working Conference on Virtual Enterprises 22–27 August 2020, Toulouse, France

Advances in Digital Forensics VII

Case Studies in System of Systems, Enterprise Systems, and Complex Systems Engineering

Advanced Techniques in Computing Sciences and Software Engineering

Suitable as a reference for industry practitioners and as a textbook for classroom use, Case Studies in System of Systems, Enterprise Systems, and Complex Systems Engineering provides a clear understanding of the principles and practice of system of systems engineering (SoSE), enterprise systems engineering (ESE), and complex systems engineering (CSE). Multiple domain practitioners present and analyze case studies from a range of applications that demonstrate underlying principles and best practices of transdisciplinary systems engineering. A number of the case studies focus on addressing real human needs. Diverse approaches such as use of soft systems skills are illustrated, and other helpful techniques are also provided. The case studies describe, examine, analyze, and assess applications across a range of domains, including: Engineering management and systems engineering education Information technology business transformation and infrastructure engineering Cooperative framework for and cost management in the construction industry Supply chain modeling and decision analysis in distribution centers and logistics International development assistance in a foreign culture of education Value analysis in generating electrical energy through wind power Systemic risk and reliability assessment in banking Assessing emergencies and reducing errors in hospitals and health care systems Information fusion and operational resilience in disaster response systems Strategy and investment for capability developments in defense acquisition Layered, flexible, and decentralized enterprise architectures in military systems Enterprise transformation of the air traffic management and transport network Supplying you with a better understanding of SoSE, ESE, and CSE concepts and principles, the book highlights best practices and lessons learned as benchmarks that are applicable to other cases. If adopted correctly, the approaches outlined can facilitate significant progress in human affairs. The study of complex systems is still in its infancy, and it is likely to evolve for decades to come. While this book does not provide all the answers, it does establish a platform, through which analysis and knowledge application can take place and conclusions can be made in order to educate the next generation of systems engineers.

Architectures for Enterprise Integration describes the latest methods to guide enterprises and consultants, managers and technical personnel through a complete life-cycle of enterprise development. This book is based on the findings of the IFIP/IFAC Task Force and presents the state-of-the-art in enterprise architecture. This book is essential reading for all practising engineers and researchers in manufacturing and engineering management with special interest for those involved in CIM and Enterprise Modelling and Integration.

The frequent failure of IT projects in the public sector suggests that significant underlying problems remain unsolved. IT projects typically involve a substantial commitment of resources and funds; consequently, project failure can result in the loss of not just the funds invested, but also of the benefits that would have been realized by successful implementation. The delivery of IT projects on time and on budget is inadequate to measure value realization. This research analyzes five Strategic Alignment (SA) perspectives that affect organizational performance in an Australian public agency when implementing IT projects: Organization Strategy (S), Knowledge (K), Decision-making (DM), Enterprise Architecture (EA) and Public Value Plan (PVP). This book shows how public IT decision-makers can realize the benefits of IT investment by effectively employing SA perspectives in IT management.

Software engineering is of major importance to all enterprises; however, the key areas of software quality and software process improvement standards and models are currently geared toward large organizations, where most software organizations are small and medium enterprises. Software Process Improvement for Small and Medium Enterprises: Techniques and Case Studies offers practical and useful guidelines, models, and techniques for improving software processes and products for small and medium enterprises, utilizing the authoritative, demonstrative tools of case studies and lessons learned to provide academics, scholars, and practitioners with an invaluable research source.

Essential Software Architecture

Innovative Information Systems Modelling Techniques

Virtual Enterprises and Collaborative Networks

A Pragmatic Guide to Business Process Modelling

Knowledge Sharing in the Integrated Enterprise

Handbook of Industrial and Systems Engineering, Second Edition

Architectures for Enterprise Integration

Cloud computing has experienced explosive growth and is expected to continue to rise in popularity as new services and applications become available. As with any new technology, security issues continue to be a concern, and developing effective methods to protect sensitive information and data on the cloud is imperative. Cloud Security: Concepts, Methodologies, Tools, and Applications explores the difficulties and challenges of securing user data and information on cloud platforms. It also examines the current approaches to cloud-based technologies and assesses the possibilities for future advancements in this field. Highlighting a range of topics such as cloud forensics, information privacy, and standardization and security in the cloud, this multi-volume book is ideally designed for IT specialists, web designers, computer engineers, software developers, academicians, researchers, and graduate-level students interested in cloud computing concepts and security.

This book presents some twenty case studies, showing how companies in different industry sectors and of different sizes make advances in Product Lifecycle Management (PLM). Like the author's previous volumes, this book provides a valuable resource for those wishing to learn about PLM and how to implement and apply it in their companies. Helping readers to · learn about implementing and benefiting from PLM; · learn about good PLM solutions and best practice; · improve their planning and decision-making abilities; · benefit from the lessons learned by the companies featured in the case studies; · proceed faster and further with PLM the book presents effective PLM solutions and best practices. At the same time, the case studies included demonstrate how different companies implement and benefit from PLM. Each case study is addressed in a separate chapter and details a different situation, enabling readers to put themselves in the situation and think through different actions and decisions. A valuable resource for PLM team managers and employees in engineering and manufacturing companies, the book is also of interest to researchers and students in industrial engineering fields.

This book contains all refereed papers accepted during the fourth asia-pacific edition & twelve edition - which were merged this year - of the CSD&M conference that took place in Beijing, People's Republic of China by 2021. Mastering complex systems requires an integrated understanding of industrial practices as well as sophisticated theoretical techniques and tools. This explains the creation of an annual go-between European and Asian forum dedicated to academic researchers & industrial actors working on complex industrial systems architecting, modeling & engineering. These proceedings cover the most recent trends in the emerging field of complex systems, both from an academic and professional perspective. A special focus was put this year on "Digital Transformation in Complex Systems Engineering". CESAM Community The CSD&M series of conferences are organized under the guidance of CESAM Community, managed by CESAMES. CESAM Community aims in organizing the sharing of good practices in systems architecting and model-based systems engineering (MBSE) and certifying the level of knowledge and proficiency in this field through the CESAM certification. The CESAM systems architecting & model-based systems engineering (MBSE) certification is especially currently the most disseminated professional certification in the world in this domain through more than 1,000 real complex system development projects on which it was operationally deployed and around 10,000 engineers who were trained on the CESAM framework at international level.

Enterprise Architects, in their endeavor to achieve Enterprise Integration, have limited guidance on how best to use Enterprise Models and Modeling Tools to support their practice. It is widely recognized that the practice of engineering enterprises needs a number of models, but how to maintain the relation between these models with ease is still a problem. Model interoperability is an issue on multiple counts: - How to interchange models between enterprise modeling tools? - How to maintain the interdependencies between models - whether they describe the enterprise on the same level (but from different points of view), or from the same point of view (but on different levels of abstraction and granularity)? - How to maintain a coherent and evolving set of enterprise models in support onf continuous change processes? - How to use and reuse enterprise models as a knowledge resource? The answers to these questions are of great importance to anyone who is implementing ISO9001:2000 requirements, whether through using enterprise architecture practice or not - although it can be argued that a well executed architecture practice should satisfy ISO9001 without additional effort. This volume attacks the problem on three fronts: 1. Authors working in international standardisation and tool development as well as in enterprise modeling research present the latest developments in semantic integration; 2. Authors who are practitioners of, or conducting active research in, enterprise architecting methodologies give an account on the latest developments and strategic directions in architecture frameworks and methodologies; 3. Authors who use or develop information integration infrastructures present best practice and future trends of this aspect of enterprise integration. Chapters of this book include contributions to the International Conference on Enterprise Integration and Modelling Technology (ICEIMT'04), and those presented at the Design of Information Infrastructure Systems for Manufacturing (DIISM'04) Workshop. While DIISM is traditionally oriented at supporting manufacturing practice, the results have a far greater domain of applicability.

Software Process Improvement for Small and Medium Enterprises: Techniques and Case Studies