

Bpmn By Example Bizagi

Business process automation improves organizations' efficiency to perform work. In existing business process management systems, process instances run independently from each other. However, synchronizing instances carrying similar characteristics, i.e., sharing the same data, can reduce process execution costs. For example, if an online retailer receives two orders from one customer, there is a chance that they can be packed and shipped together to save shipment costs. In this paper, we use concepts from the database domain and introduce data views to business processes to identify instances which can be synchronized. Based on data views, we introduce the concept of batch regions for a context-aware instance synchronization over a set of connected activities. We also evaluate the concepts introduced in this paper with a case study comparing costs for normal and batch processing.

Creating business process models that can be shared effectively across the business - and between business and IT - demands more than a digest of BPMN shapes and symbols. It requires a step-by-step methodology for going from a blank page to a complete process diagram. It also requires consistent application of a modeling style, so that the modeler's meaning is clear from the diagram itself. Author Bruce Silver explains not only the meaning and proper usage of the entire BPMN 2.0 palette, but calls out the working subset that you really need to know. He also reveals the hidden assumptions of core concepts left unexplained in the spec, the key to BPMN's deeper meaning. The book addresses BPMN at three levels, with primary focus on the first two. Level 1, or descriptive BPMN, uses a basic working set of shapes and symbols to meet the needs of business users doing process mapping. Level 2, or analytical BPMN, is aimed at business analysts and architects. It takes advantage of BPMN's expressiveness for detailing event and exception handling, key to analyzing and improving process performance and quality. Level 3, or executable BPMN, is brand new in BPMN 2.0. Here the XML underneath the diagram shapes becomes an executable design can be deployed to a process engine to automate the process. The method and style detailed in the book aligns these three levels, facilitating business-IT collaboration throughout the process lifecycle. Inside the book you'll find discussions, illustrated with over 100 examples, about: The questions BPMN asks, and does not ask The meaning of basic concepts like starting and completing, sending and receiving, waiting and listening Subprocesses and hierarchical modeling style The five basic steps in creating Level 1 models Event and exception-handling patterns Branching and merging patterns Level 2 modeling method Elements of BPMN style: element usage and diagram composition

Practical SharePoint 2010 Information Architecture is a guide and tool set for planning and documenting the scope, navigational taxonomy, document taxonomy, metadata, page layouts and workflows for a successful SharePoint 2010 project. If you have been tasked with delivering an intranet for collaboration, document management or as a corporate portal, your only chance for success is to get all of these elements right, and then to make sure that you and your stakeholders are all on the same page. SharePoint 2010 can be dangerous to your career: Expectations are often set very high, and not enough time is invested in understanding how those expectations can be met. Many SharePoint 2010 projects fail to meet their initial goals. Practical SharePoint 2010

Information Architecture arms you with proven tools that will help you to ensure that there is an agreement on the goals and scope, and how to then efficiently design your taxonomies. With author Ruven Gotz' work (with contributions from Michal Pisarek and Sarah Haase) at your side, You will learn how to educate your users on what metadata is and why it is important so you can build SharePoint 2010 solutions that exceed the expectations of your users. This book: Gives you practical approaches that have been proven in the field Explains how to use visual mind mapping tools and diagramming tools that provide clarity to all stakeholders Gives you techniques on how to teach and motivate your users for adoption and success

This book includes a selection of articles from The 2019 World Conference on Information Systems and Technologies (WorldCIST'19), held from April 16 to 19, at La Toja, Spain. WorldCIST is a global forum for researchers and practitioners to present and discuss recent results and innovations, current trends, professional experiences and challenges in modern information systems and technologies research, together with their technological development and applications. The book covers a number of topics, including A) Information and Knowledge Management; B) Organizational Models and Information Systems; C) Software and Systems Modeling; D) Software Systems, Architectures, Applications and Tools; E) Multimedia Systems and Applications; F) Computer Networks, Mobility and Pervasive Systems; G) Intelligent and Decision Support Systems; H) Big Data Analytics and Applications; I) Human–Computer Interaction; J) Ethics, Computers & Security; K) Health Informatics; L) Information Technologies in Education; M) Information Technologies in Radiocommunications; and N) Technologies for Biomedical Applications.

This book intends to provide the reader with a comprehensive knowledge of the latest developments within the Linked Open Data (LOD) framework and the benefits of supported systems. The book covers the entire spectrum of “Linked Open Data - Applications, Trends and Future Developments” with six chapters. Each of the chapters provides an all-inclusive conceptualization of the LOD concepts, methodological approaches, case studies, and the main applications both in theory and practice. This book is a reference and educational book targeted to data scientists, software developers, semantic web engineers, information system designers, process managers, teachers, and researchers, and general consumers in application of LOD methods within various contexts.

This book constitutes the proceedings of the 7th Enterprise Engineering Working Conference, EEWC 2017, held in Antwerp, Belgium, in May 2017. EEWC aims at addressing the challenges that modern and complex enterprises are facing in a rapidly changing world. The participants of the working conference share a belief that dealing with these challenges requires rigorous and scientific solutions, focusing on the design and engineering of enterprises. The goal of EEWC is to stimulate interaction between the different stakeholders, scientists as well as practitioners, interested in making Enterprise Engineering a reality. The 12 full papers and 4 short papers presented in this volume were carefully reviewed and selected from 40 submissions. They were organized in topical sections named: formalisms; standards and laws; business processes; normalized systems and evolvability; ontologies; and organization design. Enterprise Process Management Systems: Engineering Process-Centric Enterprise Systems using BPMN 2.0 proposes a process-centric paradigm to replace the

traditional data-centric paradigm for Enterprise Systems (ES)--ES should be reengineered from the present data-centric enterprise architecture to process-centric process architecture to be called as Enterprise Process Management Systems (EPMS). The real significance of business processes can be understood in the context of current heightened priority on digital transformation or digitalization of enterprises. Conceiving the roadmap to realize a digitalized enterprise via the business model innovation becomes amenable only from the process-centric view of the enterprise. This pragmatic book: Introduces Enterprise Process Management Systems (EPMS) solutions that enable an agile enterprise. Describes distributed systems and Service Oriented Architecture (SOA) that paved the road to EPMS. Leverages SOA to explain the cloud-based realization of business processes in terms of Web Services. Describes how BPMN 2.0 addresses the requirements for agility by ensuring a seamless methodological path from process requirements modeling to execution and back (to enable process improvements). Presents the spreadsheet-driven Spreadsheets Application Development (SAD) methodology for the design and development of process-centric application systems. Describes process improvement programs ranging right from disruptive programs like BPR to continuous improvement programs like lean, six sigma and TOC. Enterprise Process Management Systems: Engineering Process-Centric Enterprise Systems using BPMN 2.0 describes how BPMN 2.0 can not only capture business requirements but it can also provide the backbone of the actual solution implementation. Thus, the same diagram prepared by the business analyst to describe the business's desired To-Be process can also be used to automate the execution of that process on a modern process engine.

First account of new theory of communication in computing which describes networks, as well as parts of computer systems.

Ten years ago, groupware bundled with email and calendar applications helped track the flow of work from person to person within an organization. Workflow in today's enterprise means more monitoring and orchestrating massive systems. A new technology called Business Process Management, or BPM, helps software architects and developers design, code, run, administer, and monitor complex network-based business processes BPM replaces those sketchy flowchart diagrams that business analysts draw on whiteboards with a precise model that uses standard graphical and XML representations, and an architecture that allows it converse with other services, systems, and users. Sound complicated? It is. But it's downright frustrating when you have to search the Web for every little piece of information vital to the process. Essential Business Process Modeling gathers all the concepts, design, architecture, and standard specifications of BPM into one concise book, and offers hands-on examples that illustrate BPM's approach to process notation, execution, administration and monitoring. Author Mike Havey demonstrates standard ways to code rigorous processes that are centerpieces of a service-oriented architecture (SOA), which defines how networks interact so that one can perform a service for the other. His book also shows how BPM complements enterprise application integration (EAI), a method for moving from older applications to new ones, and Enterprise Service BUS for integrating different web services, messaging, and XML technologies into a

single network. BPM, he says, is to this collection of services what a conductor is to musicians in an orchestra: it coordinates their actions in the performance of a larger composition. Essential Business Process Modeling teaches you how to develop examples of process-oriented applications using free tools that can be run on an average PC or laptop. You'll also learn about BPM design patterns and best practices, as well as some underlying theory. The best way to monitor processes within an enterprise is with BPM, and the best way to navigate BPM is with this valuable book.

In this step by step guide, former Management Consultant and change management expert Theodore Panagacos walks you through the entire discipline of Business Process Management. Learn how to fast track your organization's strategy to govern processes, create a process culture, and measure business performance. Best of all, this crystal-clear, convenient sized book can be put to work in your organization immediately!

Business Process Management (BPM) has become one of the most widely used approaches for the design of modern organizational and information systems. The conscious treatment of business processes as significant corporate assets has facilitated substantial improvements in organizational performance but is also used to ensure the conformance of corporate activities. This Handbook presents in two volumes the contemporary body of knowledge as articulated by the world's leading BPM thought leaders. This first volume focuses on arriving at a sound definition of BPM approaches and examines BPM methods and process-aware information systems. As such, it provides guidance for the integration of BPM into corporate methodologies and information systems. Each chapter has been contributed by leading international experts. Selected case studies complement their views and lead to a summary of BPM expertise that is unique in its coverage of the most critical success factors of BPM. The second edition of this handbook has been significantly revised and extended. Each chapter has been updated to reflect the most current developments. This includes in particular new technologies such as in-memory data and process management, social media and networks. A further focus of this revised and extended edition is on the actual deployment of the proposed theoretical concepts. This volume includes a number of entire new chapters from some of the world's leading experts in the domain of BPM.

This book contains selected papers from the 9th International Conference on Information Science and Applications (ICISA 2018) and provides a snapshot of the latest issues encountered in technical convergence and convergences of security technology. It explores how information science is core to most current research, industrial and commercial activities and consists of contributions covering topics including Ubiquitous Computing, Networks and Information Systems, Multimedia and Visualization, Middleware and Operating Systems, Security and Privacy, Data Mining and Artificial Intelligence, Software Engineering, and Web Technology. The proceedings introduce the most recent

information technology and ideas, applications and problems related to technology convergence, illustrated through case studies, and reviews converging existing security techniques. Through this volume, readers will gain an understanding of the current state-of-the-art information strategies and technologies of convergence security. The intended readership includes researchers in academia, industry and other research institutes focusing on information science and technology.

This book constitutes the proceedings of the second workshop on Business Process Modeling Notation, BPMN 2010, held in Potsdam, Germany, in October 2010. The 6 research papers presented were carefully reviewed and selected from 16 submissions. In addition, 3 short papers and the extended abstracts of 3 invited talks are included. The BPMN workshop series provides a forum for academics and practitioners who share an interest in business process modeling using the Business Process Modeling Notation, which is seen by many as the de facto standard for business process modeling. BPMN promises to bridge business and IT and brings process design and implementation closer together. This book constitutes the refereed proceedings of ten international workshops held in Eindhoven, The Netherlands, in conjunction with the 12th International Conference on Business Process Management, BPM 2014, in September 2014. The ten workshops comprised Process-oriented Information Systems in Healthcare (ProHealth 2014), Security in Business Processes (SBP 2014), Process Model Collections: Management and Reuse (PMC-MR 2014), Business Processes in Collective Adaptive Systems (BPCAS 2014), Data- and Artifact-centric BPM (DAB 2014), Business Process Intelligence (BPI 2014), Business Process Management in the Cloud (BPMC 2014), Theory and Applications of Process Visualization (TaProViz 2014), Business Process Management and Social Software (BPMS2 2014) and Decision Mining and Modeling for Business Processes (DeMiMoP 2014). The 38 revised full and eight short papers presented were carefully reviewed and selected from 84 submissions. In addition, six short papers resulting from the Doctoral Consortium at BPM 2014 are included in this book.

Drawing from 25 years of successful marketing and acclaimed, award-winning work, the authors show that bankable, creative ideas come from zeroing in on the one key business problem that must be solved and then rigorously unearthing insights that will lead to a spectacular solution.

Business Process Modeling Notation (BPMN) is a standard, graphical modeling representation for business processes. It provides an easy to use, flow-charting notation that is independent of the implementation environment. An underlying rigor supports the notation-facilitating the translation of business level models into executable models that BPM Suites and workflow engines can understand. Over recent years, BPMN has been widely adopted by Business Process Management (BPM) related products-both the Business Process Analysis and Modeling tool vendors and the BPM Suites. This book is for business users and process

modeling practitioners alike. Part I provides an easily understood introduction to the key components of BPMN (put forward in a user-friendly fashion). Starting off with simple models, it progresses into more sophisticated patterns. Exercises help cement comprehension and understanding (with answers available online). Part II provides a detailed and authoritative reference on the precise semantics and capabilities of the standard.

This book presents scientific interactions between the three interwoven and challenging areas of research and development of future ICT-enabled applications: software, complex systems and intelligent systems. Software intensive systems heavily interact with other systems, sensors, actuators, and devices, as well as other software systems and users. More and more domains involve software intensive systems, e.g. automotive, telecommunication systems, embedded systems in general, industrial automation systems and business applications. Moreover, web services offer a new platform for enabling software intensive systems. Complex systems research focuses on understanding overall systems rather than their components. Such systems are characterized by the changing environments in which they act, and they evolve and adapt through internal and external dynamic interactions. The development of intelligent systems and agents features the use of ontologies, and their logical foundations provide a fruitful impulse for both software intensive systems and complex systems. Research in the field of intelligent systems, robotics, neuroscience, artificial intelligence, and cognitive sciences is a vital factor in the future development and innovation of software intensive and complex systems.

BPMN 2.0 is the industry standard diagramming language for business process models. The meaning of the business process diagram is the same, regardless of the tool used to create it. But creating models that are correct, complete, and clear demands more than a dictionary of BPMN shapes and symbols. It also requires a methodology for translating process logic consistently into the diagram. And it requires a measure of modeling style as well, conventions that ensure that the process logic is unambiguous from the diagram by itself. In short, "good BPMN" requires a disciplined approach called "method and style." In this book, Bruce Silver explains which BPMN elements process modelers need to understand, in two levels, including exactly where and how to use each element. Level 1 (the Descriptive modeling subclass of BPMN 2.0) is a palette of shapes and symbols largely carried over from traditional flowcharting. Level 2 (the Analytic subclass) expands the palette to be able to describe event-triggered behavior, critical to modeling exception handling. The book explains the real meaning of BPMN's most basic concepts - like activity, process, and end state - essential to using the language correctly, and provides a step-by-step methodology for going from a blank page to a complete end-to-end BPMN model, developed from the top down in a hierarchical structure. From the top-level diagram you can see on a single page exactly how the process starts, its possible end states, what the instance represents, and communications with the Customer, service providers, and other processes. From there you can drill down to see the details of any part of the process. This two volume set LNCS 5981 and LNCS 5982 constitutes the refereed proceedings of the 15th International Conference on Database Systems for Advanced Applications, DASFAA 2010, held in Tsukuba, Japan, in April 2010. The 39 revised full papers and 16 revised short papers presented together with 3 invited keynote papers, 22

demonstration papers, 6 industrial papers, and 2 keynote talks were carefully reviewed and selected from 285 submissions. The papers of the first volume are organized in topical sections on P2P-based technologies, data mining technologies, XML search and matching, graphs, spatialdatabases, XML technologies, time series and streams, advanced data mining, query processing, Web, sensor networks and communications, information management, as well as communities and Web graphs. The second volume contains contributions related to trajectories and moving objects, skyline queries, privacy and security, data streams, similarity search and event processing, storage and advanced topics, industrial, demo papers, and tutorials and panels.

This book describes in detail how ARIS methods model and identify business processes by means of the UML (Unified Modeling Language), leading to an information model that serves as the basis for a systematic and intelligent development of application systems. Multiple real-world examples using SAP R/3 illustrate aspects of business process modeling including methods of knowledge management, implementation of workflow systems and standard software solutions, and the deployment of ARIS methods.

This book constitutes the proceedings of the 4th workshop on Business Process Model and Notation, BPMN 2012, held in Vienna, Austria, in September 2012. The BPMN workshop series provides a forum for academics and practitioners who share an interest in business process modeling using the Business Process Modeling Notation, which is seen by many as the de facto standard for business process modeling. This year, the workshop lasted two days and consisted of both a scientific and a practitioner event. The six full and three short papers presented were carefully reviewed and selected from 22 submissions. The workshop applied a thorough reviewing process, during which each paper was reviewed by three Program Committee members. In addition, an extended abstract of the workshop keynote is also included.

This is the second edition of Wil van der Aalst's seminal book on process mining, which now discusses the field also in the broader context of data science and big data approaches. It includes several additions and updates, e.g. on inductive mining techniques, the notion of alignments, a considerably expanded section on software tools and a completely new chapter of process mining in the large. It is self-contained, while at the same time covering the entire process-mining spectrum from process discovery to predictive analytics. After a general introduction to data science and process mining in Part I, Part II provides the basics of business process modeling and data mining necessary to understand the remainder of the book. Next, Part III focuses on process discovery as the most important process mining task, while Part IV moves beyond discovering the control flow of processes, highlighting conformance checking, and organizational and time perspectives. Part V offers a guide to successfully applying process mining in practice, including an introduction to the widely used open-source tool ProM and several commercial products. Lastly, Part VI takes a step back, reflecting on the material presented and the key open challenges. Overall, this book provides a comprehensive overview of the state of the art in process mining. It is intended for business process analysts, business consultants, process managers, graduate students, and BPM researchers.

This book constitutes revised papers from the eleven International Workshops held at the 15th International Conference on Business Process Management, BPM 2017, in

Barcelona, Spain, in September 2017: BPAI 2017 – 1st International Workshop on Business Process Innovation with Artificial Intelligence; BPI 2017 – 13th International Workshop on Business Process Intelligence; BP-Meet-IoT 2017 – 1st International Workshop on Ubiquitous Business Processes Meeting Internet-of-Things; BPMS2 2017 – 10th Workshop on Social and Human Aspects of Business Process Management; ? CBPM 2017 – 1st International Workshop on Cognitive Business Process Management; CCABPM 2017 – 1st International Workshop on Cross-cutting Aspects of Business Process Modeling; DeHMiMoP 2017 – 5th International Workshop on Declarative/Decision/Hybrid Mining & Modeling for Business Processes; QD-PA 2017 – 1st International Workshop on Quality Data for Process Analytics; REBPM 2017 – 3rd International Workshop on Interrelations between Requirements Engineering and Business Process Management; SPBP 2017 – 1st Workshop on Security and Privacy-enhanced Business Process Management; TAProViz-PQ-IWPE 2017 – Joint International BPM 2017 Workshops on Theory and Application of Visualizations and Human-centric Aspects in Processes (TAProViz'17), Process Querying (PQ'17) and Process Engineering (IWPE17). The 44 full and 11 short papers presented in this volume were carefully reviewed and selected from 99 submissions.

Examines what's new and updated in BPMN 2.0 and look at interchange, best practice, analytics, conformance, optimization, choreography from a technical perspective. Also addresses the business imperative for widespread adoption of the standard by examining best practice guidelines, BPMN business strategy and the human interface including real-life case studies. Other chapters tackle the practical aspects of making BPMN model executable and the basic time-line analysis of a BPMN model.

BPMN Method and Style

BPMN (Business Process Model and Notation) is the established standard for business process modeling. Only a few years after its first publication, it has gained widespread adoption in practice. All important modeling tools support BPMN diagramming. It is possible to create business-oriented diagrams, but also technical models for process execution in business process management systems (BPMS). This book provides a stepwise introduction to BPMN, using many examples close to practice. Starting with the basic elements for modeling sequence flow, all BPMN 2.0 diagrams are presented and discussed in detail. You will gain a profound understanding of the complete notation, and you will be able to make correct use of the different language elements. In the second edition, a collection of useful modeling patterns has been added. These patterns provide best-practice solutions for typical problems arising in the practice of process modeling.

This is the improved 4th edition of the very successful book "Real-Life BPMN" with excellent reviews on Amazon.com (don't forget to check reviews of the former editions). In this book you will learn how to: Model processes with Business Process Model and Notation (BPMN) Successfully apply BPMN to real-world problems Use a practical approach to workflow automation with BPMN 2.0 Align business, development and operations Understand how microservices impact business processes Implement BPMN across your organization The

definitive guide for process designers: provides an overview of business process notation, presents implementation guidance and best practices, and offers useful tips on what works and what doesn't. Truth be told, there are several BPMN books on the market. Some of them are quite good, so why should you care about this one? This book distills the experience the authors have accumulated while running Camunda, a company that delivers the leading open source workflow and decision automation platform. Camunda helped to define the BPMN specification, and during the past 15 years, they have applied BPMN to thousands of customer use cases. These were big businesses, small companies, and public institutions. Now you can benefit from this practical experience. This book also gives an introduction to DMN for decision management, which you might know as business rules management (BRM). This book is also available in German and Spanish. Note: The resolution of all images in the ebook has been increased, starting with the third edition, to improve the digital reading experience.

This book constitutes the proceedings of the 15th International Conference on Business Process Management, BPM 2017, held in Barcelona, Spain, in September 2017. The 19 revised full papers presented were carefully reviewed and selected from 116 initial submissions. The topics selected by the authors demonstrate an increasing interest of the research community in the area of process mining, resonated by an equally fast-growing uptake by different industry sectors. The papers are organized in topical sections on process modeling; process mining; assorted BPM topics; decisions and understanding; and process knowledge.

This volume constitutes the refereed proceedings of the international workshops, Confederated International Workshops: OTM Academy, OTM Industry Case Studies Program, ACM, EI2N, ISDE, META4eS, ORM, SeDeS, SINCOM, SMS and SOMOCO 2013, held as part of OTM 2013 in Graz, Austria, in September 2013. The 75 revised full papers presented together with 12 posters and 5 keynotes were carefully reviewed and selected from a total of 131 submissions. The papers are organized in topical sections on: On The Move Academy; Industry Case Studies Program; Adaptive Case Management and other non-workflow approaches to BPM; Enterprise Integration, Interoperability and Networking; Information Systems in Distributed Environment; Methods, Evaluation, Tools and Applications for the Creation and Consumption of Structured Data for the e-Society; Fact-Oriented Modeling; Semantics and Decision Making; Social Media Semantics; Social and Mobile Computing for collaborative environments; cooperative information systems; Ontologies, Data Bases and Applications of Semantics.

Business processes are among today's hottest topics in the science and practice of information systems. Business processes and workflow management systems attract a lot of attention from R&D professionals in software engineering, information systems, business-oriented computer science, and management

sciences. The carefully reviewed chapters contributed to this state-of-the-art survey by internationally leading scientists consolidate work presented at various workshops on the topic organized by the editors of the book in the past few years. The book spans the whole spectrum of business process management ranging from theoretical aspects, conceptual models, and application scenarios to implementation issues. It will become a valuable source of reference and information for R&D professionals active in the fascinating interdisciplinary area of business process management and for ambitious practitioners.

This book presents advanced software development tools for construction, deployment and governance of Service Oriented Architecture (SOA) applications. Novel technical concepts and paradigms, formulated during the research stage and during development of such tools are presented and illustrated by practical usage examples. Hence this book will be of interest not only to theoreticians but also to engineers who cope with real-life problems. Additionally, each chapter contains an overview of related work, enabling comparison of the proposed concepts with exiting solutions in various areas of the SOA development process. This makes the book interesting also for students and scientists who investigate similar issues.

This textbook covers the entire Business Process Management (BPM) lifecycle, from process identification to process monitoring, covering along the way process modelling, analysis, redesign and automation. Concepts, methods and tools from business management, computer science and industrial engineering are blended into one comprehensive and inter-disciplinary approach. The presentation is illustrated using the BPMN industry standard defined by the Object Management Group and widely endorsed by practitioners and vendors worldwide. In addition to explaining the relevant conceptual background, the book provides dozens of examples, more than 230 exercises – many with solutions – and numerous suggestions for further reading. This second edition includes extended and completely revised chapters on process identification, process discovery, qualitative process analysis, process redesign, process automation and process monitoring. A new chapter on BPM as an enterprise capability has been added, which expands the scope of the book to encompass topics such as the strategic alignment and governance of BPM initiatives. The textbook is the result of many years of combined teaching experience of the authors, both at the undergraduate and graduate levels as well as in the context of professional training. Students and professionals from both business management and computer science will benefit from the step-by-step style of the textbook and its focus on fundamental concepts and proven methods. Lecturers will appreciate the class-tested format and the additional teaching material available on the accompanying website.

This book constitutes the refereed proceedings of the 20th International Conference on Business Information Systems, BIS 2017, held in Poznań, Poland, in June 2017. Big Data Analytics helps to understand and enhance enterprises by linking many fields of information technology and business. This year's conference theme was: Big Data Analytics for Business

and Public Administration. The 24 full papers presented in this volume were carefully reviewed and selected from 72 submissions. They were organized in topical sections named: big and smart data; business and enterprise modeling; ICT project management; process management; smart infrastructure; and applications.

Some organizations significantly outperform others in their industry. They become more agile by adopting smarter work practices and transforming their business processes to be more dynamic, collaborative, and connected. Often, the business processes themselves create competitive advantage. Increased revenue at reduced cost makes more money for a very effective business. Changing market opportunities, customer demands, new technology and calls for cost reduction can make it seem impossible to keep operational chaos at bay. Competitive advantage is gained when companies reduce operational risk by making sure that internal guidelines and external regulatory requirements are fulfilled. Companies thus offer customers a faster, more accurate and consistent service. To position your organization for success, you need the ability to continually optimize, streamline and align business processes to meet changing business needs for greater performance, competitive advantage and to drive growth. The companies whose award-winning case studies are featured in this book have proven excellence in their creative and successful deployment of advanced and business process management concepts. The positive impact to their corporations includes increased revenues, more productive and satisfied employees, product enhancements, better customer service and quality improvements.

The rapid proliferation of Multimedia and Network Information Systems is one of the key features of our times. What is also important is that the pace of change is ever increasing. University projects of today will form the core of consumer products of tomorrow. Therefore, it is very important to have a broad view of the recent scientific investigation in that area. This was the primary reason for gathering this collection of carefully selected and hopefully representative research projects, found solutions, and finally applications. They are the achievements of scientific teams from several countries. The contents of the monograph has been divided into four parts: 1) Multimedia Information Technology, 2) Information Systems Specification, 3) Information Systems Applications, 4) Web Systems and Network Technologies. The book presents up to date research from the diverse fields of multimedia and Internet data processing.

Business Process Modeling, Simulation and Design, Third Edition provides students with a comprehensive coverage of a range of analytical tools used to model, analyze, understand, and ultimately design business processes. The new edition of this very successful textbook includes a wide range of approaches such as graphical flowcharting tools, cycle time and capacity analyses, queuing models, discrete-event simulation, simulation-optimization, and data mining for process analytics. While most textbooks on business process management either focus on the intricacies of computer simulation or managerial aspects of business processes, this textbook does both. It presents the tools to design business processes and management techniques on operating them efficiently. The book focuses on the use of discrete event simulation as the main tool for analyzing, modeling, and designing effective business processes. The integration of graphic user-friendly simulation software enables a systematic approach to create optimal designs.

A comprehensive guide to well-known workflow patterns: recurrent, generic business process constructs, described from the control-flow, data, and resource perspectives. The study of business processes has emerged as a highly effective approach to coordinating an organization's complex service- and knowledge-based activities. The growing field of business process management (BPM) focuses on methods and tools for designing, enacting, and analyzing business processes. This volume offers a definitive guide to the use of patterns, which synthesize the wide range of approaches to modeling business processes. It provides a

unique and comprehensive introduction to the well-known workflow patterns collection—recurrent, generic constructs describing common business process modeling and execution scenarios, presented in the form of problem-solution dialectics. The underlying principles of the patterns approach ensure that they are independent of any specific enabling technology, representational formalism, or modeling approach, and thus broadly applicable across the business process modeling and business process technology domains. The authors, drawing on extensive research done by the Workflow Patterns Initiative, offer a detailed introduction to the fundamentals of business process modeling and management; describe three major pattern catalogs, presented from control-flow, data, and resource perspectives; and survey related BPM patterns. The book, a companion to the authoritative Workflow Patterns website, will be an essential resource for both academics and practitioners working in business process modeling and business process management.

This book provides state-of-the-art e-learning networked environments and architectures carried out over the last few years from a knowledge management perspective. It contains a comprehensive discussion of e-learning concepts, models, experiments and best practices. Presenting a wide-ranging survey of methods and applications from contributors from around the world, this book will be a valuable resource for researchers, practitioners and graduates. Business process management is usually treated from two different perspectives: business administration and computer science. While business administration professionals tend to consider information technology as a subordinate aspect in business process management for experts to handle, by contrast computer science professionals often consider business goals and organizational regulations as terms that do not deserve much thought but require the appropriate level of abstraction. Matthias Weske argues that all communities involved need to have a common understanding of the different aspects of business process management. To this end, he details the complete business process lifecycle from the modeling phase to process enactment and improvement, taking into account all different stakeholders involved. After starting with a presentation of general foundations and abstraction models, he explains concepts like process orchestrations and choreographies, as well as process properties and data dependencies. Finally, he presents both traditional and advanced business process management architectures, covering, for example, workflow management systems, service-oriented architectures, and data-driven approaches. In addition, he shows how standards like WfMC, SOAP, WSDL, and BPEL fit into the picture. This textbook is ideally suited for classes on business process management, information systems architecture, and workflow management. This 3rd edition contains a new chapter on business decision modelling, covering the Decision Model and Notation (DMN) standard; the chapter on process choreographies has been streamlined, and numerous clarifications have been fetched throughout the book. The accompanying website www.bpm-book.com contains further information and additional teaching material.

This book constitutes revised papers from the seven workshops and one accompanying event which took place at the 21st International Conference on Business Information Systems, BIS 2018, held in Berlin, Germany, in July 2018. Overall across all workshops, 58 out of 122 papers were accepted. The workshops included in this volume are: AKTB 2018 - 10th Workshop on Applications of Knowledge-Based Technologies in Business BITA 2018 - 9th Workshop on Business and IT Alignment BSCT 2018 - 1st Workshop on Blockchain and Smart Contract Technologies IDEA 2018 - 4th International Workshop on Digital Enterprise Engineering and Architecture IDEATE 2018 - 3rd Workshop on Big Data and Business Analytics Ecosystems SciBOWater 2018 - Scientific Challenges & Business Opportunities in Water Management QOD 2018 - 1st Workshop on Quality of Open Data In addition, one keynote speech in full-paper length and contributions from the Doctoral Consortium are included

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