

Free reading Data flow diagrams simply put process modeling techniques for requirements elicitation and workflow analysis [PDF]

process modelling and model analysis describes the use of models in process engineering process engineering is all about manufacturing of just about anything to manage processing and manufacturing systematically the engineer has to bring together many different techniques and analyses of the interaction between various aspects of the process for example process engineers would apply models to perform feasibility analyses of novel process designs assess environmental impact and detect potential hazards or accidents to manage complex systems and enable process design the behavior of systems is reduced to simple mathematical forms this book provides a systematic approach to the mathematical development of process models and explains how to analyze those models additionally there is a comprehensive bibliography for further reading a question and answer section and an accompanying site developed by the authors with additional data and exercises introduces a structured modeling methodology emphasizing the importance of the modeling goal and including key steps such as model verification calibration and validation focuses on novel and advanced modeling techniques such as discrete hybrid hierarchical and empirical modeling illustrates the notions tools and techniques of process modeling with examples and advances applications 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 regardless of whether a business delivers a product or service that organization can improve their efficiency achieve lower costs and higher quality by attending to the creation and improvement of the processes it uses to product their product there are a variety of quantitative methods and tools available to help managers create or improve business and information processes within their organization one of which is process modeling this book discusses the various process modeling techniques and methods available to managers and introduces some modifications in them to help accommodate the fact that information processes associated with manufacturing and services applications require attention as well throughout the book practical examples are given and worked out to aid in understanding the material presented in the body of the text readers are assumed to have some basic familiarity with process performance terminology and block diagrams of process step sequences various appendices summarizing key concepts and tools are provided for those readers wishing to refresh their knowledge of these areas revised and expanded with five new chapters this edition shows how effective and accurate modelling can deliver a more complete understanding of a business and its future requirements this book constitutes the proceedings of two events held at the caise conference and relating to the areas of enterprise business process and information systems modeling the 19th international conference on business process modeling development and support bpmds 2018 and the 23rd international conference on evaluation and modeling methods for systems analysis and development emmsad 2018 the conferences took place in tallinn estonia in june 2018 the 13 papers accepted for bpmds were carefully reviewed and selected from 29 submissions for emmsad 6

papers out of 13 submissions were accepted for publication for bpmds 2018 the papers were organized in topical sections as follows context awareness in business processes automatic analysis of business processes advanced approaches for business process modeling evaluation of business process modeling techniques an experience report on modeling collaborative processes for emmsad 2018 the six related papers are listed without further sections process models are fundamental elements in the management of the business process in which process modeling plays a key role for the analysis and redesigning of processes deployment of automation processes and monitoring of the process performance to provide a process model for supply chain this book proposed a service oriented methodology for the supply chain process modeling this book begins by evaluating the existing service oriented reference models in order to determine the proper method for supply chain process modeling as detailed business process modeling has primacy in scm and as no modeling language and technique has the capability of presenting a holistic view of a business process model the second section aims to evaluate the applicability of existing modeling languages and techniques for the appropriate selection of modeling techniques the third section proposes the service oriented methodology for the modeling of supply chain processes as a new artifact and to prove its applicability in two different case studies abstract the sei has been involved with the development and analysis of software process models for several years as part of the ongoing process of technology evolution a study has been undertaken to experimentally implement a set of proposed improvements to the process modeling techniques used by the sei and to evaluate the results of that experimentation as a result of that study a number of modifications to our techniques have been identified these modifications enhance the support of software engineering concepts in the development and use of process models this report describes the study and elaborates upon the advantages and disadvantages of the proposed technique improvements nowadays the automation of business processes is helping organizations achieve their goals easily and efficiently workflow management system wfms is one of the most important it applications used for managing and automating business processes wfms help organizations to automate a range of business tasks and electronically route the right information to the right people at the right time one of the most important parts of any wfms is the process modeling or process definition techniques which are used to analyze model and describe business processes there are many workflow modeling techniques wfmts such as petri nets pns event driven process chains epcs unified modeling language activity diagrams uml ads and business process modeling notations bpmns etc the aim of this book is to develop a framework for evaluating and selecting the suitable wfmt depending on the situation at hand the evaluation framework for wfmts is based on set of criteria which comes either from literature or case study requirements the suggested wfmts selection template provide a good methodology for ranking and selecting the most suitable wfmt for business process or case at hand process modelling for control concentrates on the modelling steps underlying a successful control design answering questions like how should i carry out the identification of my process to obtain a good model how can i assess the quality of a model before to using it in control design how can i ensure that a controller will stabilise a real process well enough before implementation what is the most efficient method of order reduction to simplify the implementation of high order controllers system identification model controller validation and order reduction are studied in a common framework detailed worked examples representative of various industrial applications are given this monograph uses mathematics convenient to researchers interested in real applications and to practising engineers interested in control theory it enables control engineers to improve their methods and provides academics and graduate students with an all round view of recent results in modelling for control from the foreword this book provides a comprehensive overview of the fundamental concepts in healthcare process management as well as some advanced topics in the cutting edge research of the closely related areas this book is ideal for graduate students and practitioners who want to build the foundations and develop novel contributions in healthcare process modeling and management christopher yang drexel university process modeling and process management are

traversal disciplines which have earned more and more relevance over the last two decades several research areas are involved within these disciplines including database systems database management information systems erp operations research formal languages and logic process modeling and management for healthcare provides the reader with an in depth analysis of what process modeling and process management techniques can do in healthcare the major challenges faced and those challenges remaining to be faced the book features contributions from leading authors in the field the book is structured into two parts part one covers fundamentals and basic concepts in healthcare it explores the architecture of a process management environment the flexibility of a process model and the compliance of a process model it also features a real application domain of patients suffering from age related macular degeneration part two of the book includes advanced topics from the leading frontiers of scientific research on process management and healthcare this section of the book covers software metrics to measure features of the process model as a software artifact it includes process analysis to discover the formal properties of the process model prior to deploying it in real application domains abnormal situations and exceptions as well as temporal clinical guidelines are also presented in depth pro this book provides a rigorous treatment of the fundamental concepts and techniques involved in process modeling and simulation the book allows the reader to i get a solid grasp of under the hood mathematical results ii develop models of sophisticated processes iii transform models to different geometries and domains as appropriate iv utilize various model simplification techniques v learn simple and effective computational methods for model simulation vi intensify the effectiveness of their research modeling and simulation for chemical engineers theory and practice begins with an introduction to the terminology of process modeling and simulation chapters 2 and 3 cover fundamental and constitutive relations while chapter 4 on model formulation builds on these relations chapters 5 and 6 introduce the advanced techniques of model transformation and simplification chapter 7 deals with model simulation and the final chapter reviews important mathematical concepts presented in a methodical systematic way this book is suitable as a self study guide or as a graduate reference and includes examples schematics and diagrams to enrich understanding end of chapter problems with solutions and computer software available online at wiley com go upreti pms for chemical engineers are designed to further stimulate readers to apply the newly learned concepts fundamental techniques of mathematical modeling of processes essential to the food industry are explained in this text instead of concentrating on detailed theoretical analysis and mathematical derivations important mathematical prerequisites are presented in summary tables readers attention is focused on understanding modeling techniques rather than the finer mathematical points topics covered include modeling of transport phenomena kinetic processes and food engineering operations statistical process analysis and quality control as applied to the food industry are also discussed the book s main feature is the large number of worked examples presented throughout included are examples from almost every conceivable food process most of which are based on real data given in the many references each example is followed by a clear step by step worked solution this text is concerned with the evaluation of developments in terms of modelling techniques and their use in the domain of benchmarking business process and re engineering there is an ever increasing need for modelling complex processes reliably computational modelling techniques such as cfd and md may be used as tools to study specific systems but their emergence has not decreased the need for generic analytical process models multiphase and multicomponent systems and high intensity processes displaying a highly complex behaviour are becoming omnipresent in the processing industry this book discusses an elegant but little known technique for formulating process models in process technology stochastic process modelling the technique is based on computing the probability distribution for a single particle s position in the process vessel and or the particle s properties as a function of time rather than as is traditionally done basing the model on the formulation and solution of differential conservation equations using this technique can greatly simplify the formulation of a model and even make modelling possible for processes so complex that the traditional method is impracticable stochastic

modelling has sporadically been used in various branches of process technology under various names and guises this book gives as the first an overview of this work and shows how these techniques are similar in nature and make use of the same basic mathematical tools and techniques the book also demonstrates how stochastic modelling may be implemented by describing example cases and shows how a stochastic model may be formulated for a case which cannot be described by formulating and solving differential balance equations introduction to stochastic process modelling as an alternative modelling technique shows how stochastic modelling may be successful where the traditional technique fails overview of stochastic modelling in process technology in the research literature illustration of the principle by a wide range of practical examples in depth and self contained discussions points the way to both mathematical and technological research in a new rewarding field computer weekly professional series data modeling and process modeling using the most popular methods focuses on the processes methodologies and approaches employed in data modeling and process modeling the book first offers information on data modeling how to do data modeling and process modeling discussions focus on diagrammatic representation main concepts of process modeling merging the models refining the data model diagrammatic techniques fundamental rules of data modeling and other deliverables of data modeling the text then examines how to do process modeling and improving a system using analysis deliverables topics include problems causes and effects events obligations and objectives verification methods and refining the results the manuscript reviews elementary activities including structured text and access paths updating the data model from the access paths and structured english and other useful detailed deliverables of an elementary activity the publication is a valuable source of data for researchers interested in data modeling and process modeling process management is a compendium for modern design of process oriented companies a hands on approach introducing realizing and continually administering process management is presented with a thoroughly critical reflection of the necessary activities regarding the state of the art of organization theory and information management this is done by following individual stages of a process model which has already successfully proved in practice the progress of the project is described by a continuous case study which is the process management project of a modern service company the included recommendations are summarized in a series of checklists for each stage of the project this book aids managers in the transformation of organizations into world class competitors through business process applications provided by publisher natural language is one of the most important means of human communication it enables us to express our will to exchange thoughts and to document our knowledge in written sources owing to its substantial role in many facets of human life technology for automatically analyzing and processing natural language has recently become increasingly important in fact natural language processing tools have paved the way for entirely new business opportunities the goal of this book is to facilitate the automatic analysis of natural language in process models and to employ this analysis for assisting process model stakeholders therefore a technique is defined that automatically recognizes and annotates process model element labels in addition this technique is leveraged to support organizations in effectively utilizing their process models in various ways the book is organized into seven chapters it starts with an overview of business process management and linguistics and continues with conceptual contributions on parsing and annotating process model elements with the detection and correction of process model guideline violations with the generation of natural language from process models and finally ends with the derivation of service candidates from process models business process management experiences a large uptake by the industry and process models play an important role in the analysis and improvement of processes while an increasing number of staff becomes involved in actual modeling practice it is crucial to assure model quality and homogeneity along with providing suitable aids for creating models in this paper we consider the problem of offering recommendations to the user during the act of modeling our key contribution is a concept for defining and identifying so called action patterns chunks of actions often appearing together in business processes in particular we specify action patterns and demonstrate how

they can be identified from existing process model repositories using association rule mining techniques action patterns can then be used to suggest additional actions for a process model our approach is challenged by applying it to the collection of process models from the sap reference model this book starts with an introduction to process modeling and process paradigms then explains how to query and analyze process models and how to analyze the process execution data in this way readers receive a comprehensive overview of what is needed to identify understand and improve business processes the book chiefly focuses on concepts techniques and methods it covers a large body of knowledge on process analytics including process data querying analysis matching and correlating process data and models to help practitioners and researchers understand the underlying concepts problems methods tools and techniques involved in modern process analytics following an introduction to basic business process and process analytics concepts it describes the state of the art in this area before examining different analytics techniques in detail in this regard the book covers analytics over different levels of process abstractions from process execution data and methods for linking and correlating process execution data to inferring process models querying process execution data and process models and scalable process data analytics methods in addition it provides a review of commercial process analytics tools and their practical applications the book is intended for a broad readership interested in business process management and process analytics it provides researchers with an introduction to these fields by comprehensively classifying the current state of research by describing in depth techniques and methods and by highlighting future research directions lecturers will find a wealth of material to choose from for a variety of courses ranging from undergraduate courses in business process management to graduate courses in business process analytics lastly it offers professionals a reference guide to the state of the art in commercial tools and techniques complemented by many real world use case scenarios modeling and machining are two terms closely related the benefits of the application of modeling on machining are well known the advances in technology call for the use of more sophisticated machining methods for the production of high end components in turn more complex more suitable and reliable modeling methods are required this book pertains to machining and modeling but focuses on the special aspects of both many researchers in academia and industry who are looking for ways to refine their work make it more detailed increase their accuracy and reliability or implement new features will gain access to knowledge in this book that is very scarce to find elsewhere presenting mathematical prerequisites in summary tables this book explains fundamental techniques of mathematical modeling processes essential to the food industry the author focuses on providing an in depth understanding of modeling techniques rather than the finer mathematical points topics covered include modeling of transport phenomena kinetic processes and food engineering operations the book also discusses statistical process analysis and quality control it includes examples from almost every conceivable food process most of which are based on real data given in the many references each example is followed by a clear step by step worked solution this book constitutes the proceedings of two events held in conjunction with the caise conferences and related to the areas of enterprise business process and information systems modeling the 18th international conference on business process modeling development and support bpmids 2017 and the 22nd international conference on evaluation and modeling methods for systems analysis and development emmsad 2017 they took place in essen germany in june 2017 the focus theme for bpmids 2017 papers was enabling business transformation by business process modeling development and support from 24 submitted papers 11 were finally accepted and organized by non functional considerations in business processes new challenges in business process modeling and support testing business processes business process model comprehension an experience report on teaching business process modeling the emmsad conference focuses on evaluating exploring and enhancing modeling methods and techniques for the development of information and software systems enterprises and business processes it received 25 submissions from which 9 full and 2 short papers were selected and organized evaluation and comparison of modeling languages and methods modeling approaches to

support decision making behavioral specification and business process modeling and modeling languages and methods in evolving context this book provides a rigorous treatment of the fundamental concepts and techniques involved in process modeling and simulation the book allows the reader to i get a solid grasp of under the hood mathematical results ii develop models of sophisticated processes iii transform models to different geometries and domains as appropriate iv utilize various model simplification techniques v learn simple and effective computational methods for model simulation vi intensify the effectiveness of their research modeling and simulation for chemical engineers theory and practice begins with an introduction to the terminology of process modeling and simulation chapters 2 and 3 cover fundamental and constitutive relations while chapter 4 on model formulation builds on these relations chapters 5 and 6 introduce the advanced techniques of model transformation and simplification chapter 7 deals with model simulation and the final chapter reviews important mathematical concepts presented in a methodical systematic way this book is suitable as a self study guide or as a graduate reference and includes examples schematics and diagrams to enrich understanding end of chapter problems with solutions and computer software available online are designed to further stimulate readers to apply the newly learned concepts end of chapter problems with solutions and computer software available online are designed to further stimulate readers to apply the newly learned concepts food process modelling provides an authoritative review of one of the most exciting and influential developments in the food industry the modelling of food processes allows analysts not only to understand such processes more clearly but also to control them more closely and make predictions about them modelling thus aids the search for greater and more consistent food quality written by a distinguished international team of experts food process modelling covers both the range of modelling techniques and their practical applications across the food chain offering a different approach to other textbooks in the area this book is a comprehensive introduction to the subject divided in three broad parts the first part deals with building physical models the second part with developing empirical models and the final part discusses developing process control solutions theory is discussed where needed to ensure students have a full understanding of key techniques that are used to solve a modeling problem hallmark features includes worked out examples of processes where the theory learned early on in the text can be applied uses matlab simulation examples of all processes and modeling techniques further information on matlab can be obtained from mathworks com includes supplementary website to include further references worked examples and figures from the book this book is structured and aimed at upper level undergraduate students within chemical engineering and other engineering disciplines looking for a comprehensive introduction to the subject it is also of use to practitioners of process control where the integrated approach of physical and empirical modeling is particularly valuable the newly updated guide to design process modeling techniques designing with models third edition is the revised step by step guide to basic and advanced design process modeling this comprehensive text explains the process from start to finish and has been expanded to include up to date information on digital modeling programs and rapid prototyping processes the impact of this new wave of 3d modeling technology is examined through interviews and numerous examples from renowned architects along with many new student projects this new third edition features information on cutting edge digital imaging equipment and design software as well as many new process models from celebrated professional projects architect criss mills acquaints architecture and design professionals with essential modeling terms design processes equipment materials and construction methods fully updated with nearly 200 new photos and twenty six new projects from students and firms designing with models third edition walks readers through the basics of material and tool selection construction techniques determining scale generating ideas exploring design processes and alternatives modifying design work directly on the model developing design work through modeling scale offering increased emphasis on transitioning from hand craft to digital craft this thorough third edition also provides easy to follow guidelines for modeling with advanced tools and materials demonstrating how to master the modeling of curvilinear components with

planar material and casting techniques explore ideas with mixed media such as wood found objects metal rods and screens clay and plexiglas work backwards from model information to produce 2d plan section and elevation drawings record and communicate 3d design work begin exploring the safe and effective use of power tools such as belt sanders table saws drills band saws and welding equipment this book presents a framework for developing as well as a comprehensive collection of state of the art process querying methods process querying combines concepts from big data and process modeling and analysis with business process intelligence and process analytics to study techniques for retrieving and manipulating models of real world and envisioned processes to organize and extract process related information for subsequent systematic use the book comprises sixteen contributed chapters distributed over four parts and two auxiliary chapters the auxiliary chapters by the editor provide an introduction to the area of process querying and a summary of the presented methods techniques and applications for process querying the introductory chapter also examines a process querying framework the contributed chapters present various process querying methods including discussions on how they instantiate the framework components thus supporting the comparison of the methods the four parts are due to the distinctive features of the methods they include the first three are devoted to querying event logs generated by it systems that support business processes at organizations querying process designs captured in process models and methods that address querying both event logs and process models the methods in these three parts usually define a language for specifying process queries the fourth part discusses methods that operate over inputs other than event logs and process models e g streams of process events or do not develop dedicated languages for specifying queries e g methods for assessing process model similarity this book is mainly intended for researchers all the chapters in this book are contributed by active researchers in the research disciplines of business process management process mining and process querying they describe state of the art methods for process querying discuss use cases of process querying and suggest directions for future work for advancing the field yet also other groups like business or data scientists and other professionals lecturers graduate students and tool vendors will find relevant information for their distinctive needs chapter celonis pql a query language for process mining is available open access under a creative commons attribution 4 0 international license via link springer.com this book combines multiple research methods experiment survey and design science as well as traditional measurements and neurophysiological techniques that can capture a variety of cognitive behaviors in human information processing providing more solid and comprehended research findings while the focus of the book is the modelling of process models and rules the methods and techniques used in this book can also be adopted and applied to broader conceptual modelling research incorporating a variety of notations e g uml er diagrams or ontologies it is a revised version of the phd dissertation written by the author at the school of information technology and electrical engineering of the university of queensland australia in 2018 the phd dissertation won the caise phd award granted to outstanding phd theses in the field of information systems engineering the objective of the workshops held in conjunction with er 2002 the 21st international conference on conceptual modeling was to give participants the opportunity to present and discuss emerging hot topics thus adding new perspectives to conceptual modeling to meet this objective we selected the following four workshops 2nd international workshop on evolution and change in data management ecdm 2002 er ifip8 1 workshop on conceptual modelling approaches to mobile formation systems development mobimod 2002 international workshop on conceptual modeling quality iwcmq 2002 3rd international joint workshop on conceptual modeling approaches for e business a service perspective ecomo 2002 er 2002 was organized so that there would be no overlap between the conference sessions and the workshops this proceedings contains workshop papers that were revised by the authors following discussions during the conference we are deeply indebted to the members of the organizing committees and program committees of these workshops for their hard work july 2003 antoni oliv e masatoshi yoshikawa and eric s k yu workshop co chairs er 2002 ecdm 2002 change is a fundamental but sometimes neglected aspect of information and

database systems the management of evolution and change and the ability of database information and knowledge based systems to deal with change is an essential component in developing and maintaining truly useful systems many approaches to handling evolution and change have been proposed in various areas of data management and this forum seeks to bring together researchers and practitioners from both more established areas and from emerging areas to look at this issue a unifying foundation to design and implement process aware information systems this publication takes on the formidable task of establishing a unifying foundation and set of common underlying principles to effectively model design and implement process aware information systems authored by leading authorities and pioneers in the field process aware information systems helps readers gain a thorough understanding of major concepts languages and techniques for building process aware applications including uml and epc two of the most widely used notations for business process modeling concrete techniques for process design and analysis process execution standards wfmc and bpel representative commercial tools aris tibco staffware and flower each chapter begins with a description of the problem domain and then progressively unveils relevant concepts and techniques examples and illustrations are used extensively to clarify and simplify complex material each chapter ends with a set of exercises ranging from simple questions to thought provoking assignments sample solutions for many of the exercises are available on the companion site armed with a new and deeper understanding readers are better positioned to make their own contributions to the field and evaluate various approaches to a particular task or problem this publication is recommended as a textbook for graduate and advanced undergraduate students in computer science and information systems as well as for professionals involved in workflow and business process management groupware and teamwork enterprise application integration and business to business integration a solution s manual is available online an instructor support ftp site is also available process management affects the functioning of every organization and consequently affects each of us this book focuses on the multi disciplinary nature of process management by explaining its theoretical foundations in relation to other areas such as process analysis knowledge management and simulation a crucial linkage between theory and concrete methodology of tabular application development tad is presented as a practical approach consisting of five phases that deal with process identification and modeling process improvement development of a process management system and finally monitoring and maintenance this book is important for researchers and students of business and management information systems especially those dealing with courses on process management or related fields managers and professionals in process management will also find this book to be useful for their everyday business a textbook for a senior or graduate course in polymerization modeling with enough material for a dense quarter or a leisurely semester assumes a basic polymer course and a familiarity with chemical kinetics and the basic notions of mass and energy balances explains modeling techniques that can help design a process capable of imparting a polymer with certain specified end user properties also usable as a self study tutorial for engineers switching to polymer reactions from a neighboring discipline annotation copyright by book news inc portland or this book constitutes the thoroughly refereed post proceedings of the second international conference on subject oriented business process management s bpm one 2010 held in karlsruhe germany in october 2010 the 10 revised full papers presented together with one invited keynote paper and three panel statements were carefully reviewed and selected from initially 17 submissions the papers present innovative cross disciplinary ideas concepts methods tools and results in foundational and applied research as well as studies on the realization of such innovations in the real world all based on the promising new paradigm of subject oriented business process management bpmn is an established and extensive business process notation providing many ways to diagrammatically define solutions after receiving many requests to demonstrate the use of bpmn i decided to modify some of my past business process models and collate them into bpmn process examples the book comprises of six complete examples of end to end business process models and shows alternative modelling techniques each example has an overview the choreography between the

collaborating partners and the bpd of the inline sub processes the sub processes are shown in separate bpd s depicting the tasks needed to complete the inline process the book pages are designed so that the description is on the left side of the page and the bdp on the right allowing the reader to view the description and the bdp at the same time this book prepares readers to master an it and managerial discipline quickly gaining momentum in organizations of all sizes business process management bpm it describes how bpm treats processes as a portfolio of strategic assets that create and deliver customer and shareholder value and adapt when necessary enabling competitive advantage through consistent performance strategy and business process management techniques for improving execution adaptability and consistency defines the planning framework and managerial mindset necessary to craft and drive highly effective business process improvement projects and continuous improvement programs readers will learn specific techniques used by industry leaders to formulate and execute business strategy that adapts organizational behavior business processes and information technology as a dynamic system designed to assure consistent performance and achievement even when challenged with unexpected changes or opportunities this book introduces readers to the field of conformance checking as a whole and outlines the fundamental relation between modelled and recorded behaviour conformance checking interrelates the modelled and recorded behaviour of a given process and provides techniques and methods for comparing and analysing observed instances of a process in the presence of a model independent of the model s origin its goal is to provide an overview of the essential techniques and methods in this field at an intuitive level together with precise formalisations of its underlying principles the book is divided into three parts that are meant to cover different perspectives of the field of conformance checking part i presents a comprehensive yet accessible overview of the essential concepts used to interrelate modelled and recorded behaviour it also serves as a reference for assessing how conformance checking efforts could be applied in specific domains next part ii provides readers with detailed insights into algorithms for conformance checking including the most commonly used formal notions and their instantiation for specific analysis questions lastly part iii highlights applications that help to make sense of conformance checking results thereby providing a necessary next step to increase the value of a given process model they help to interpret the outcomes of conformance checking and incorporate them by means of enhancement and repair techniques providing the core building blocks of conformance checking and describing its main applications this book mainly addresses students specializing in business process management researchers entering process mining and conformance checking for the first time and advanced professionals whose work involves process evaluation modelling and optimization over the years a variety of software process models have been designed to structure describe and prescribe the software systems construction process more recently software process modelling is increasingly dealing with new challenges raised by the tests that the software industry has to face this book addresses these new trends in software process modeling related to processes for open source software systems dynamics to model and simulate the software process peopleware the importance of people in the software development and by extension in the software process one new software development trend is the development of open source projects as such projects are a recent creation the process model governing this type of developments is unfamiliar this book deals with process modeling for open source software it also deals with software process simulation applied to the management of software projects and improves the software development process capability according to cmm capability maturity model software development is a conjunction of the organizational environment the social environment and the technological environment the inclusion of these environments will make it possible to output software process models that meet the specified organizational cultural and technological requirements providing an exhaustive analysis of the people in the software process as well as supporting people oriented software development this book deals with the development of software by means of people oriented process models that have proven to be very beneficial inspired by the leading authority in the field the centre for process systems engineering at

imperial college london this book includes theoretical developments algorithms methodologies and tools in process systems engineering and applications from the chemical energy molecular biomedical and other areas it spans a whole range of length scales seen in manufacturing industries from molecular and nanoscale phenomena to enterprise wide optimization and control as such this will appeal to a broad readership since the topic applies not only to all technical processes but also due to the interdisciplinary expertise required to solve the challenge the ultimate reference work for years to come

Process Modelling and Model Analysis

2001-05-23

process modelling and model analysis describes the use of models in process engineering process engineering is all about manufacturing of just about anything to manage processing and manufacturing systematically the engineer has to bring together many different techniques and analyses of the interaction between various aspects of the process for example process engineers would apply models to perform feasibility analyses of novel process designs assess environmental impact and detect potential hazards or accidents to manage complex systems and enable process design the behavior of systems is reduced to simple mathematical forms this book provides a systematic approach to the mathematical development of process models and explains how to analyze those models additionally there is a comprehensive bibliography for further reading a question and answer section and an accompanying site developed by the authors with additional data and exercises introduces a structured modeling methodology emphasizing the importance of the modeling goal and including key steps such as model verification calibration and validation focuses on novel and advanced modeling techniques such as discrete hybrid hierarchical and empirical modeling illustrates the notions tools and techniques of process modeling with examples and advances applications

Business Process Management

2003-07-31

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

Business Analysis and Process Modeling Guidebook

2022-04-24

regardless of whether a business delivers a product or service that organization can improve their efficiency achieve lower costs and higher quality by attending to the creation and improvement of the processes it uses to product their product there are a variety of quantitative methods and tools available to help managers create or improve business and information processes within their organization one of which is process modeling this book discusses the various process modeling techniques and methods available to managers and introduces some modifications in them to help accommodate the fact that information processes associated with manufacturing and services applications require attention as well throughout the book practical examples are given and worked out to aid in understanding the material presented in the body of the text readers are assumed to have some basic familiarity with process performance terminology and block diagrams of process step sequences various appendices

summarizing key concepts and tools are provided for those readers wishing to refresh their knowledge of these areas

Process Modeling and Improvement for Business

2014-02-15

revised and expanded with five new chapters this edition shows how effective and accurate modelling can deliver a more complete understanding of a business and its future requirements

A Pragmatic Guide to Business Process Modelling

2009

this book constitutes the proceedings of two events held at the caise conference and relating to the areas of enterprise business process and information systems modeling the 19th international conference on business process modeling development and support bpmids 2018 and the 23rd international conference on evaluation and modeling methods for systems analysis and development emmsad 2018 the conferences took place in tallinn estonia in june 2018 the 13 papers accepted for bpmids were carefully reviewed and selected from 29 submissions for emmsad 6 papers out of 13 submissions were accepted for publication for bpmids 2018 the papers were organized in topical sections as follows context awareness in business processes automatic analysis of business processes advanced approaches for business process modeling evaluation of business process modeling techniques an experience report on modeling collaborative processes for emmsad 2018 the six related papers are listed without further sections

Enterprise, Business-Process and Information Systems Modeling

2018-06-04

process models are fundamental elements in the management of the business process in which process modeling plays a key role for the analysis and redesigning of processes deployment of automation processes and monitoring of the process performance to provide a process model for supply chain this book proposed a service oriented methodology for the supply chain process modeling this book begins by evaluating the existing service oriented reference models in order to determine the proper method for supply chain process modeling as detailed business process modeling has primacy in scm and as no modeling language and technique has the capability of presenting a holistic view of a business process model the second section aims to evaluate the applicability of existing modeling languages and techniques for the appropriate selection of modeling techniques the third section proposes the service oriented methodology for the modeling of supply chain processes as a new artifact and to prove its applicability in two different case studies

Service-oriented Methodology for Supply Chain Process

Modeling

2015-07-23

abstract the sei has been involved with the development and analysis of software process models for several years as part of the ongoing process of technology evolution a study has been undertaken to experimentally implement a set of proposed improvements to the process modeling techniques used by the sei and to evaluate the results of that experimentation as a result of that study a number of modifications to our techniques have been identified these modifications enhance the support of software engineering concepts in the development and use of process models this report describes the study and elaborates upon the advantages and disadvantages of the proposed technique improvements

Evaluation of Process Modeling Improvements

1991

nowadays the automation of business processes is helping organizations achieve their goals easily and efficiently workflow management system wfms is one of the most important it applications used for managing and automating business processes wfms help organizations to automate a range of business tasks and electronically route the right information to the right people at the right time one of the most important parts of any wfms is the process modeling or process definition techniques which are used to analyze model and describe business processes there are many workflow modeling techniques wfms such as petri nets pns event driven process chains eps unified modeling language activity diagrams uml ads and business process modeling notations bpmns etc the aim of this book is to develop a framework for evaluating and selecting the suitable wfms depending on the situation at hand the evaluation framework for wfms is based on set of criteria which comes either from literature or case study requirements the suggested wfms selection template provide a good methodology for ranking and selecting the most suitable wfms for business process or case at hand

An Evaluation Framework for Workflow Modeling Techniques

2014-05-28

process modelling for control concentrates on the modelling steps underlying a successful control design answering questions like how should i carry out the identification of my process to obtain a good model how can i assess the quality of a model before to using it in control design how can i ensure that a controller will stabilise a real process well enough before implementation what is the most efficient method of order reduction to simplify the implementation of high order controllers system identification model controller validation and order reduction are studied in a common framework detailed worked examples representative of various industrial applications are given this monograph uses mathematics convenient to researchers interested in real applications and to practising engineers interested in control theory it enables control engineers to improve their methods and provides academics and graduate students with an all round view of recent results in modelling for control

Process Modelling for Control

2005-12-28

from the foreword this book provides a comprehensive overview of the fundamental concepts in healthcare process management as well as some advanced topics in the cutting edge research of the closely related areas this book is ideal for graduate students and practitioners who want to build the foundations and develop novel contributions in healthcare process modeling and management christopher yang drexel university process modeling and process management are traversal disciplines which have earned more and more relevance over the last two decades several research areas are involved within these disciplines including database systems database management information systems erp operations research formal languages and logic process modeling and management for healthcare provides the reader with an in depth analysis of what process modeling and process management techniques can do in healthcare the major challenges faced and those challenges remaining to be faced the book features contributions from leading authors in the field the book is structured into two parts part one covers fundamentals and basic concepts in healthcare it explores the architecture of a process management environment the flexibility of a process model and the compliance of a process model it also features a real application domain of patients suffering from age related macular degeneration part two of the book includes advanced topics from the leading frontiers of scientific research on process management and healthcare this section of the book covers software metrics to measure features of the process model as a software artifact it includes process analysis to discover the formal properties of the process model prior to deploying it in real application domains abnormal situations and exceptions as well as temporal clinical guidelines are also presented in depth pro

Process Modeling and Management for Healthcare

2017-11-09

this book provides a rigorous treatment of the fundamental concepts and techniques involved in process modeling and simulation the book allows the reader to i get a solid grasp of under the hood mathematical results ii develop models of sophisticated processes iii transform models to different geometries and domains as appropriate iv utilize various model simplification techniques v learn simple and effective computational methods for model simulation vi intensify the effectiveness of their research modeling and simulation for chemical engineers theory and practice begins with an introduction to the terminology of process modeling and simulation chapters 2 and 3 cover fundamental and constitutive relations while chapter 4 on model formulation builds on these relations chapters 5 and 6 introduce the advanced techniques of model transformation and simplification chapter 7 deals with model simulation and the final chapter reviews important mathematical concepts presented in a methodical systematic way this book is suitable as a self study guide or as a graduate reference and includes examples schematics and diagrams to enrich understanding end of chapter problems with solutions and computer software available online at wiley com go upreti pms for chemical engineers are designed to further stimulate readers to apply the newly learned concepts

Process Modeling and Simulation for Chemical Engineers

2017-05-01

fundamental techniques of mathematical modeling of processes essential to the food industry are explained in this text instead of concentrating on detailed theoretical analysis and mathematical derivations important mathematical prerequisites are presented in summary tables readers attention is focused on understanding modeling techniques rather than the finer mathematical points topics covered

include modeling of transport phenomena kinetic processes and food engineering operations statistical process analysis and quality control as applied to the food industry are also discussed the book s main feature is the large number of worked examples presented throughout included are examples from almost every conceivable food process most of which are based on real data given in the many references each example is followed by a clear step by step worked solution

Handbook of Food Process Modeling and Statistical Quality Control

1998-09-16

this text is concerned with the evaluation of developments in terms of modelling techniques and their use in the domain of benchmarking business process and re engineering

Modelling Techniques for Business Process Re-engineering and Benchmarking

1997-02-28

there is an ever increasing need for modelling complex processes reliably computational modelling techniques such as cfd and md may be used as tools to study specific systems but their emergence has not decreased the need for generic analytical process models multiphase and multicomponent systems and high intensity processes displaying a highly complex behaviour are becoming omnipresent in the processing industry this book discusses an elegant but little known technique for formulating process models in process technology stochastic process modelling the technique is based on computing the probability distribution for a single particle s position in the process vessel and or the particle s properties as a function of time rather than as is traditionally done basing the model on the formulation and solution of differential conservation equations using this technique can greatly simplify the formulation of a model and even make modelling possible for processes so complex that the traditional method is impracticable stochastic modelling has sporadically been used in various branches of process technology under various names and guises this book gives as the first an overview of this work and shows how these techniques are similar in nature and make use of the same basic mathematical tools and techniques the book also demonstrates how stochastic modelling may be implemented by describing example cases and shows how a stochastic model may be formulated for a case which cannot be described by formulating and solving differential balance equations introduction to stochastic process modelling as an alternative modelling technique shows how stochastic modelling may be succesful where the traditional technique fails overview of stochastic modelling in process technology in the research literature illustration of the principle by a wide range of practical examples in depth and self contained discussions points the way to both mathematical and technological research in a new rewarding field

Stochastic Modelling in Process Technology

2007-07-03

computer weekly professional series data modeling and process modeling using the most popular methods focuses on the processes methodologies and approaches employed in data modeling and

process modeling the book first offers information on data modeling how to do data modeling and process modeling discussions focus on diagrammatic representation main concepts of process modeling merging the models refining the data model diagrammatic techniques fundamental rules of data modeling and other deliverables of data modeling the text then examines how to do process modeling and improving a system using analysis deliverables topics include problems causes and effects events obligations and objectives verification methods and refining the results the manuscript reviews elementary activities including structured text and access paths updating the data model from the access paths and structured english and other useful detailed deliverables of an elementary activity the publication is a valuable source of data for researchers interested in data modeling and process modeling

Data Modelling and Process Modelling using the most popular Methods

2014-05-12

process management is a compendium for modern design of process oriented companies a hands on approach introducing realizing and continually administering process management is presented with a thoroughly critical reflection of the necessary activities regarding the state of the art of organization theory and information management this is done by following individual stages of a process model which has already successfully proved in practice the progress of the project is described by a continuous case study which is the process management project of a modern service company the included recommendations are summarized in a series of checklists for each stage of the project

Process Management

2013-06-05

this book aids managers in the transformation of organizations into world class competitors through business process applications provided by publisher

Handbook of Research on Business Process Modeling

2009-04-30

natural language is one of the most important means of human communication it enables us to express our will to exchange thoughts and to document our knowledge in written sources owing to its substantial role in many facets of human life technology for automatically analyzing and processing natural language has recently become increasingly important in fact natural language processing tools have paved the way for entirely new business opportunities the goal of this book is to facilitate the automatic analysis of natural language in process models and to employ this analysis for assisting process model stakeholders therefore a technique is defined that automatically recognizes and annotates process model element labels in addition this technique is leveraged to support organizations in effectively utilizing their process models in various ways the book is organized into seven chapters it starts with an overview of business process management and linguistics and continues with conceptual contributions on parsing and annotating process model elements with the detection and correction of process model guideline violations with the generation of natural language from process models and finally ends with the derivation of service candidates from process models

Natural Language in Business Process Models

2013-12-12

business process management experiences a large uptake by the industry and process models play an important role in the analysis and improvement of processes while an increasing number of staff becomes involved in actual modeling practice it is crucial to assure model quality and homogeneity along with providing suitable aids for creating models in this paper we consider the problem of offering recommendations to the user during the act of modeling our key contribution is a concept for defining and identifying so called action patterns chunks of actions often appearing together in business processes in particular we specify action patterns and demonstrate how they can be identified from existing process model repositories using association rule mining techniques action patterns can then be used to suggest additional actions for a process model our approach is challenged by applying it to the collection of process models from the sap reference model

Action Patterns in Business Process Models

2009

this book starts with an introduction to process modeling and process paradigms then explains how to query and analyze process models and how to analyze the process execution data in this way readers receive a comprehensive overview of what is needed to identify understand and improve business processes the book chiefly focuses on concepts techniques and methods it covers a large body of knowledge on process analytics including process data querying analysis matching and correlating process data and models to help practitioners and researchers understand the underlying concepts problems methods tools and techniques involved in modern process analytics following an introduction to basic business process and process analytics concepts it describes the state of the art in this area before examining different analytics techniques in detail in this regard the book covers analytics over different levels of process abstractions from process execution data and methods for linking and correlating process execution data to inferring process models querying process execution data and process models and scalable process data analytics methods in addition it provides a review of commercial process analytics tools and their practical applications the book is intended for a broad readership interested in business process management and process analytics it provides researchers with an introduction to these fields by comprehensively classifying the current state of research by describing in depth techniques and methods and by highlighting future research directions lecturers will find a wealth of material to choose from for a variety of courses ranging from undergraduate courses in business process management to graduate courses in business process analytics lastly it offers professionals a reference guide to the state of the art in commercial tools and techniques complemented by many real world use case scenarios

Process Analytics

2016-03-28

modeling and machining are two terms closely related the benefits of the application of modeling on machining are well known the advances in technology call for the use of more sophisticated machining methods for the production of high end components in turn more complex more suitable and reliable

modeling methods are required this book pertains to machining and modeling but focuses on the special aspects of both many researchers in academia and industry who are looking for ways to refine their work make it more detailed increase their accuracy and reliability or implement new features will gain access to knowledge in this book that is very scare to find elsewhere

Advanced Machining Processes

2017-11-23

presenting mathematical prerequisites in summary tables this book explains fundamental techniques of mathematical modeling processes essential to the food industry the author focuses on providing an in depth understanding of modeling techniques rather than the finer mathematical points topics covered include modeling of transport phenomena kinetic processes and food engineering operations the book also discusses statistical process analysis and quality control it includes examples from almost every conceivable food process most of which are based on real data given in the many references each example is followed by a clear step by step worked solution

Handbook of Food Process Modeling and Statistical Quality Control, Second Edition

2011-03-01

this book constitutes the proceedings of two events held in conjunction with the caise conferences and related to the areas of enterprise business process and information systems modeling the 18th international conference on business process modeling development and support bpmds 2017 and the 22nd international conference on evaluation and modeling methods for systems analysis and development emmsad 2017 they took place in essen germany in june 2017 the focus theme for bpmds 2017 papers was enabling business transformation by business process modeling development and support from 24 submitted papers 11 were finally accepted and organized by non functional considerations in business processes new challenges in business process modeling and support testing business processes business process model comprehension an experience report on teaching business process modeling the emmsad conference focuses on evaluating exploring and enhancing modeling methods and techniques for the development of information and software systems enterprises and business processes it received 25 submissions from which 9 full and 2 short papers were selected and organized evaluation and comparison of modeling languages and methods modeling approaches to support decision making behavioral specification and business process modeling and modeling languages and methods in evolving context

Enterprise, Business-Process and Information Systems Modeling

2017-06-01

this book provides a rigorous treatment of the fundamental concepts and techniques involved in process modeling and simulation the book allows the reader to i get a solid grasp of under the hood mathematical results ii develop models of sophisticated processes iii transform models to different geometries and

domains as appropriate iv utilize various model simplification techniques v learn simple and effective computational methods for model simulation vi intensify the effectiveness of their research modeling and simulation for chemical engineers theory and practice begins with an introduction to the terminology of process modeling and simulation chapters 2 and 3 cover fundamental and constitutive relations while chapter 4 on model formulation builds on these relations chapters 5 and 6 introduce the advanced techniques of model transformation and simplification chapter 7 deals with model simulation and the final chapter reviews important mathematical concepts presented in a methodical systematic way this book is suitable as a self study guide or as a graduate reference and includes examples schematics and diagrams to enrich understanding end of chapter problems with solutions and computer software available online are designed to further stimulate readers to apply the newly learned concepts end of chapter problems with solutions and computer software available online are designed to further stimulate readers to apply the newly learned concepts

Process Modeling and Simulation for Chemical Engineers

2017

food process modelling provides an authoritative review of one of the most exciting and influential developments in the food industry the modelling of food processes allows analysts not only to understand such processes more clearly but also to control them more closely and make predictions about them modelling thus aids the search for greater and more consistent food quality written by a distinguished international team of experts food process modelling covers both the range of modelling techniques and their practical applications across the food chain

Food Process Modelling

2001-06-14

offering a different approach to other textbooks in the area this book is a comprehensive introduction to the subject divided in three broad parts the first part deals with building physical models the second part with developing empirical models and the final part discusses developing process control solutions theory is discussed where needed to ensure students have a full understanding of key techniques that are used to solve a modeling problem hallmark features includes worked out examples of processes where the theory learned early on in the text can be applied uses matlab simulation examples of all processes and modeling techniques further information on matlab can be obtained from mathworks com includes supplementary website to include further references worked examples and figures from the book this book is structured and aimed at upper level undergraduate students within chemical engineering and other engineering disciplines looking for a comprehensive introduction to the subject it is also of use to practitioners of process control where the integrated approach of physical and empirical modeling is particularly valuable

Process Dynamics and Control

2007-01-11

the newly updated guide to design process modeling techniques designing with models third edition is the revised step by step guide to basic and advanced design process modeling this comprehensive text

explains the process from start to finish and has been expanded to include up to date information on digital modeling programs and rapid prototyping processes the impact of this new wave of 3d modeling technology is examined through interviews and numerous examples from renowned architects along with many new student projects this new third edition features information on cutting edge digital imaging equipment and design software as well as many new process models from celebrated professional projects architect criss mills acquaints architecture and design professionals with essential modeling terms design processes equipment materials and construction methods fully updated with nearly 200 new photos and twenty six new projects from students and firms designing with models third edition walks readers through the basics of material and tool selection construction techniques determining scale generating ideas exploring design processes and alternatives modifying design work directly on the model developing design work through modeling scale offering increased emphasis on transitioning from hand craft to digital craft this thorough third edition also provides easy to follow guidelines for modeling with advanced tools and materials demonstrating how to master the modeling of curvilinear components with planar material and casting techniques explore ideas with mixed media such as wood found objects metal rods and screens clay and plexiglas work backwards from model information to produce 2d plan section and elevation drawings record and communicate 3d design work begin exploring the safe and effective use of power tools such as belt sanders table saws drills band saws and welding equipment

Designing with Models

2011-01-31

this book presents a framework for developing as well as a comprehensive collection of state of the art process querying methods process querying combines concepts from big data and process modeling and analysis with business process intelligence and process analytics to study techniques for retrieving and manipulating models of real world and envisioned processes to organize and extract process related information for subsequent systematic use the book comprises sixteen contributed chapters distributed over four parts and two auxiliary chapters the auxiliary chapters by the editor provide an introduction to the area of process querying and a summary of the presented methods techniques and applications for process querying the introductory chapter also examines a process querying framework the contributed chapters present various process querying methods including discussions on how they instantiate the framework components thus supporting the comparison of the methods the four parts are due to the distinctive features of the methods they include the first three are devoted to querying event logs generated by it systems that support business processes at organizations querying process designs captured in process models and methods that address querying both event logs and process models the methods in these three parts usually define a language for specifying process queries the fourth part discusses methods that operate over inputs other than event logs and process models e g streams of process events or do not develop dedicated languages for specifying queries e g methods for assessing process model similarity this book is mainly intended for researchers all the chapters in this book are contributed by active researchers in the research disciplines of business process management process mining and process querying they describe state of the art methods for process querying discuss use cases of process querying and suggest directions for future work for advancing the field yet also other groups like business or data scientists and other professionals lecturers graduate students and tool vendors will find relevant information for their distinctive needs chapter celonis pql a query language for process mining is available open access under a creative commons attribution 4 0 international license via link.springer.com

Process Querying Methods

2023-04-27

this book combines multiple research methods experiment survey and design science as well as traditional measurements and neurophysiological techniques that can capture a variety of cognitive behaviors in human information processing providing more solid and comprehended research findings while the focus of the book is the modelling of process models and rules the methods and techniques used in this book can also be adopted and applied to broader conceptual modelling research incorporating a variety of notations e g uml er diagrams or ontologies it is a revised version of the phd dissertation written by the author at the school of information technology and electrical engineering of the university of queensland australia in 2018 the phd dissertation won the caise phd award granted to outstanding phd theses in the field of information systems engineering

Integrating Business Process Models and Rules

2019-01-28

the objective of the workshops held in conjunction with er 2002 the 21st international conference on conceptual modeling was to give participants the opportunity to present and discuss emerging hot topics thus adding new perspectives to conceptual modeling to meet this objective we selected the following four workshops 2nd international workshop on evolution and change in data management ecdm 2002 er ifip8 1 workshop on conceptual modelling approaches to mobile formation systems development mobimod 2002 international workshop on conceptual modeling quality iwcmq 2002 3rd international joint workshop on conceptual modeling approaches for e business a service perspective ecomo 2002 er 2002 was organized so that there would be no overlap between the conference sessions and the workshops this proceedings contains workshop papers that were revised by the authors following discussions during the conference we are deeply indebted to the members of the organizing committees and program committees of these workshops for their hard work july 2003 antoni olive masatoshi yoshikawa and eric s k yu workshop co chairs er 2002 ecdm 2002 change is a fundamental but sometimes neglected aspect of information and database systems the management of evolution and change and the ability of database information and knowledge based systems to deal with change is an essential component in developing and maintaining truly useful systems many approaches to handling evolution and change have been proposed in various areas of data management and this forum seeks to bring together researchers and practitioners from both more established areas and from emerging areas to look at this issue

Advanced Conceptual Modeling Techniques

2003-10-25

a unifying foundation to design and implement process aware information systems this publication takes on the formidable task of establishing a unifying foundation and set of common underlying principles to effectively model design and implement process aware information systems authored by leading authorities and pioneers in the field process aware information systems helps readers gain a thorough understanding of major concepts languages and techniques for building process aware applications including uml and epcs two of the most widely used notations for business process modeling concrete

techniques for process design and analysis process execution standards wfmc and bpel representative commercial tools aris tibco staffware and flower each chapter begins with a description of the problem domain and then progressively unveils relevant concepts and techniques examples and illustrations are used extensively to clarify and simplify complex material each chapter ends with a set of exercises ranging from simple questions to thought provoking assignments sample solutions for many of the exercises are available on the companion site armed with a new and deeper understanding readers are better positioned to make their own contributions to the field and evaluate various approaches to a particular task or problem this publication is recommended as a textbook for graduate and advanced undergraduate students in computer science and information systems as well as for professionals involved in workflow and business process management groupware and teamwork enterprise application integration and business to business integration a solution s manual is available online an instructor support ftp site is also available

Process-Aware Information Systems

2005-09-28

process management affects the functioning of every organization and consequently affects each of us this book focuses on the multi disciplinary nature of process management by explaining its theoretical foundations in relation to other areas such as process analysis knowledge management and simulation a crucial linkage between theory and concrete methodology of tabular application development tad is presented as a practical approach consisting of five phases that deal with process identification and modeling process improvement development of a process management system and finally monitoring and maintenance this book is important for researchers and students of business and management information systems especially those dealing with courses on process management or related fields managers and professionals in process management will also find this book to be useful for their everyday business

Process Management

2013-10-19

a textbook for a senior or graduate course in polymerization modeling with enough material for a dense quarter or a leisurely semester assumes a basic polymer course and a familiarity with chemical kinetics and the basic notions of mass and energy balances explains modeling techniques that can help design a process capable of imparting a polymer with certain specified end user properties also usable as a self study tutorial for engineers switching to polymer reactions from a neighboring discipline annotation copyright by book news inc portland or

Polymerization Process Modeling

1996-01

this book constitutes the thoroughly refereed post proceedings of the second international conference on subject oriented business process management s bpm one 2010 held in karlsruhe germany in october 2010 the 10 revised full papers presented together with one invited keynote paper and three panel statements were carefully reviewed and selected from initially 17 submissions the papers present

innovative cross disciplinary ideas concepts methods tools and results in foundational and applied research as well as studies on the realization of such innovations in the real world all based on the promising new paradigm of subject oriented business process management

Subject-Oriented Business Process Management

2011-08-12

bpmn is an established and extensive business process notation providing many ways to diagrammatically define solutions after receiving many requests to demonstrate the use of bpmn i decided to modify some of my past business process models and collate them into bpmn process examples the book comprises of six complete examples of end to end business process models and shows alternative modelling techniques each example has an overview the choreography between the collaborating partners and the bpd of the inline sub processes the sub processes are shown in separate bpd s depicting the tasks needed to complete the inline process the book pages are designed so that the description is on the left side of the page and the bdp on the right allowing the reader to view the description and the bdp at the same time

Bpmn Process Examples

2015-08-24

this book prepares readers to master an it and managerial discipline quickly gaining momentum in organizations of all sizes business process management bpm it describes how bpm treats processes as a portfolio of strategic assets that create and deliver customer and shareholder value and adapt when necessary enabling competitive advantage through consistent performance strategy and business process management techniques for improving execution adaptability and consistency defines the planning framework and managerial mindset necessary to craft and drive highly effective business process improvement projects and continuous improvement programs readers will learn specific techniques used by industry leaders to formulate and execute business strategy that adapts organizational behavior business processes and information technology as a dynamic system designed to assure consistent performance and achievement even when challenged with unexpected changes or opportunities

Strategy and Business Process Management

2012-04-05

this book introduces readers to the field of conformance checking as a whole and outlines the fundamental relation between modelled and recorded behaviour conformance checking interrelates the modelled and recorded behaviour of a given process and provides techniques and methods for comparing and analysing observed instances of a process in the presence of a model independent of the model s origin its goal is to provide an overview of the essential techniques and methods in this field at an intuitive level together with precise formalisations of its underlying principles the book is divided into three parts that are meant to cover different perspectives of the field of conformance checking part i presents a comprehensive yet accessible overview of the essential concepts used to interrelate modelled and recorded behaviour it also serves as a reference for assessing how conformance checking efforts

could be applied in specific domains next part ii provides readers with detailed insights into algorithms for conformance checking including the most commonly used formal notions and their instantiation for specific analysis questions lastly part iii highlights applications that help to make sense of conformance checking results thereby providing a necessary next step to increase the value of a given process model they help to interpret the outcomes of conformance checking and incorporate them by means of enhancement and repair techniques providing the core building blocks of conformance checking and describing its main applications this book mainly addresses students specializing in business process management researchers entering process mining and conformance checking for the first time and advanced professionals whose work involves process evaluation modelling and optimization

Conformance Checking

2018-11-11

over the years a variety of software process models have been designed to structure describe and prescribe the software systems construction process more recently software process modelling is increasingly dealing with new challenges raised by the tests that the software industry has to face this book addresses these new trends in software process modeling related to processes for open source software systems dynamics to model and simulate the software process peopleware the importance of people in the software development and by extension in the software process one new software development trend is the development of open source projects as such projects are a recent creation the process model governing this type of developments is unfamiliar this book deals with process modeling for open source software it also deals with software process simulation applied to the management of software projects and improves the software development process capability according to cmm capability maturity model software development is a conjunction of the organizational environment the social environment and the technological environment the inclusion of these environments will make it possible to output software process models that meet the specified organizational cultural and technological requirements providing an exhaustive analysis of the people in the software process as well as supporting people oriented software development this book deals with the development of software by means of people oriented process models that have proven to be very beneficial

New Trends in Software Process Modeling

2006

inspired by the leading authority in the field the centre for process systems engineering at imperial college london this book includes theoretical developments algorithms methodologies and tools in process systems engineering and applications from the chemical energy molecular biomedical and other areas it spans a whole range of length scales seen in manufacturing industries from molecular and nanoscale phenomena to enterprise wide optimization and control as such this will appeal to a broad readership since the topic applies not only to all technical processes but also due to the interdisciplinary expertise required to solve the challenge the ultimate reference work for years to come

Dynamic Process Modeling

2010-12-06

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