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The book is divided into three parts: Part I provides an introduction to data science and process mining, Part II covers business process modeling and data mining, and Part III discusses applications of intelligent systems, methods and tools in production engineering, maintenance, logistics, quality management, information systems and product development.


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support for loosely specified processes, which only partially specify the process model at build time, while decisions regarding the exact specification of certain model parts are deferred to the run-time. - data-driven processes, where data is read from a file, database, and hence, data is not known at a time when the process model is defined. - model-driven processes, where model is used as an intermediate representation of processes and is managed by model management systems.

Part V introduces existing technologies and systems for the realization of a flexible PAIS. Finally, Part VI summarizes the main ideas of this book and gives an outlook on advanced flexibility issues. The book's target groups include researchers, PhD students and Master students in the field of information systems. After reading the book, they will better understand PAIS flexibility aspects and have a solid background to start extending existing approaches and making contributions to the field. The book is also addressed to decision makers and managers of enterprise architectures and to vendors of software products, as it is intended to show how flexibility can be increased and how existing products can be adapted to meet new requirements. The book is also intended for practitioners who are interested in learning about the concepts and technologies of flexibility management and how to apply them in their organizations. It is also intended to be an ideal reference source for those who are looking for a comprehensive coverage of the key issues related to flexibility management.
Branching and merging patterns Level 2 modeling method Elements of BPMN style: element usage and diagram composition Modeling Enterprise Architecture with TOGAF explains everything you need to know to effectively model enterprise architecture with The Open Group Architecture Framework (TOGAF), the leading EA standard. This solution-focused reference presents key techniques and illustrative examples to help you model enterprise architecture. This book describes the TOGAF standard and its structure, from the architecture transformation method to governance, and presents enterprise architecture modeling practices with plenty of examples of TOGAF deliverables in the context of a case study. Although widespread and growing quickly, enterprise architecture is delicate to manage across all its dimensions. Focusing on the architecture transformation method, TOGAF provides a wide framework, which covers the repository, governance, and a set of recognized best practices. The examples featured in this book were realized using the open source Modelio tool, which includes extensions for TOGAF. Includes intuitive summaries of the complex TOGAF standard to let you effectively model enterprise architecture Uses practical examples to illustrate ways to adapt TOGAF to the needs of your enterprise Provides model examples with Modelio, a free modeling tool, letting you exercise TOGAF modeling immediately using a dedicated tool Combines existing modeling standards with TOGAF.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. Business Process Modeling Notation (BPML) 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, BPM has been widely adopted by Business Process Management (BPM) related products—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 collects essential research on the practical application of executable business process modeling in real-world projects, i.e., model-driven solutions for the support and automation of digital business processes that are created using languages such as BPEL or BPMN. It mainly focuses on empirical research, but also includes an up-to-date cross-section of case studies in order to assess examples of BPM's practical impact in the industry. On the one hand, executable models are formally and precisely defined so that computers can interpret and execute them; on the other, they are visualized so that humans can describe, document and optimize business processes at a higher level of abstraction than with traditional textual programming languages. While these important research areas have long been separated from one another, this book is an attempt at cross-fertilization, driven by the insight that business processes are the software behind today's digital organizations, and that achieving a precise representation of such processes is key to their reliable execution. Consequently, the book presents various case studies and experiments that investigate questions of interest to both academia (e.g., identifying challenges for which no solution exists; sharing new insights into how existing approaches are actually used) and industry (e.g., guidelines on using certain technologies and on modeling comprehensible and executable processes). Both researchers and practitioners will benefit from the presentation of how concepts are transformed into working solutions. The subjects are presented in a structured manner and with sufficient rigor to be considered empirical research, further enhancing the book's value for the research community, while practitioners will find concrete guidance on making the right decisions for their projects. Multimedia information and digital images are increasingly important in the field of healthcare, but establishing an adequate technological framework for their management, and workable international standards to ensure compatibility and interoperability, are crucial if they are to be employed effectively. This book presents the main research efforts of EURO-TELEPATH, an initiative of the European Corporation in Science and Technology (COST) Action, IC0604. This program began in November 2007, and ran until November 2011. Its aim was to develop the standards and solutions necessary to represent, interpret, browse and retrieve digital medical images, while preserving their semantic information. Achievements are documented in the book, which comprises three parts. Part I presents the main results of the program, while Parts II and III provide a comprehensive overview of the state-of-the-art. The book also presents the main research efforts of EURO-TELEPATH u were asked to contribute to a book which would compile the main research efforts of the European COST Action consortium. The book is divided into six parts. Part I provides an introduction to the instruments and activities of COST. This is followed by sections dealing with: the state-of-the-art in pathology; pathology business modeling; standards and specifications in pathology; the analysis, processing, retrieval and management of images; technology and automation in pathology; and strategic developments and emerging research. As well as being a comprehensive overview of the IC0604 COST program, the book includes a selection of papers from American and Japanese researchers working in the same field. 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 traversals disciplines which have earned more and more relevance over the last 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 I 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 II 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. This book constitutes the revised selected papers from the 6th IFIP WG 2.6 International Symposium on Data-Driven Process Discovery and Analysis, SIMPDA 2016, held in Graz, Austria in December 2016. The 5 papers presented in this volume were carefully reviewed and selected from 18 submissions. In this edition, the presentations focus on the adoption of process mining algorithms for monitoring of business processes. They underline the most relevant challenges identified and propose novel solutions for their resolution. The four-volume set LNCS 11244, 11245, 11246, and 11247 constitutes the refereed proceedings of the 8th International Symposium on Leveraging Applications of Formal Methods, Verification and Validation, ISoLA 2018, held in Limassol, Cyprus, in October/November 2018. The papers presented were carefully reviewed and selected for inclusion in the proceedings. Each volume focuses on an individual topic with topical section headings within the volume. Part I, Modeling: Towards a unified view of modeling and programming: X-by-construction, STRESS 2018. Part II, Verification: A broader view on verification: from static to runtime and back; evaluating tools for software verification; statistical model checking; REIRS 2018; doctoral symposium. Part III, Distributed Systems: rigorous engineering of collective adaptive systems; verification and validation of distributed systems; and cyber-physical systems engineering. Part IV, Industrial Practice: runtime verification from the theory to the industry practice: formal methods in industrial practice - bridging the gap; reliable smart contracts: state-of-the-art, applications, challenges and future directions; and industrial day. This book constitutes the proceedings of the 13th International Conference on Business Process Management, BPM 2015, held in Enschede, The Netherlands, in August/September 2015. The 21 regular papers, 7 short papers and 2 industrial papers included in this volume were carefully reviewed and selected from 125 submissions. The papers are organized in topical sections on runtime process management, process modeling, process discovery, business process models and analytics, BPM in industry, process compliance and deviations, emerging and practical areas of BPM, and process monitoring. Copyright code: p:3b9d698e5c9d4e42a5e9f8e04a1c4c Page 3/3