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[Data Flow Diagrams – Simply Put!](#) Aug 03 2020 WHAT IS THIS BOOK ABOUT? Learn about Data Flow Diagrams (DFDs), Context-level DFDs, and Rigorous Physical Process Models (RPPM), what they are, why they are important, and who can use them. Use Data Flow Diagrams to Visualize Workflows An old Chinese proverb says, “A picture is worth a thousand words.” In the world of Information Technology (IT), we maintain that it may even be worth a whole lot more. For most people, it is difficult or impossible to envision a process flow, especially when someone else is describing it. Understanding current workflows, however, is critical to defining a future IT solution. Just as critical is understanding how data is created and consumed throughout the workflow. To truly understand problems inherent in a business process or workflow, you need to help the practitioners visualize what they do. Visualization lets them identify better ways of working that remove current restrictions. Data Flow Diagrams are phenomenal tools for visualization. Working with business experts, you can help them identify problems and inefficiencies they don’t even know they have. These are not people problems; they are process problems. Understanding when and how to create and use Data Flow Diagrams will help you discover and capture the requirements for improving the use of information technology. Why Should You Take this Course? In “Data Flow Diagrams – Simply Put!”, you will learn the benefits of process visualization for the business community, for the one wearing the BA hat, for those tasked with developing the solution, and ultimately for the entire organization. You will also discover how DFDs are powerful tools for recognizing and eliminating two of the major problems that haunt IT projects, namely Scope Creep and Project Overruns caused by late project change requests. This book uses a concrete business scenario to present a simple, easy-to-learn approach for creating and using Data Flow Diagrams depicting workflow and data manipulation from interviews with Subject Matter Experts. You will learn how to create a Context-Level Data Flow Diagram and explode relevant process(es) to reveal the nitty-gritty detail (i.e., individual process and data specifications) that developers need to create IT solutions that the business community needs. This book answers the following questions: - What is a Data Flow Diagram (DFD)? - What is a Rigorous Physical Process Model? - What is a Context-Level DFD? - Why should I use Data Flow Diagrams? - What symbols can I use on each type of diagram? - How can I drill down into a process? - How can I show internal processes and flows that produce the results? - What does balancing a Data Flow Diagram mean and what is the business value? - What is the most efficient approach to balancing a DFD? - What business value do process specifications offer? - How can I express detailed specifications for processes and data? - What is “metadata” and why do you need it? - What does a fully balanced DFD look like? - What value does a DFD fragment provide? - Regardless of your job title or role, if you are tasked with communicating a workflow or functional requirements to others, this book is for you. WHO WILL BENEFIT FROM READING THIS BOOK? Many distinct roles or job titles in the business community perform business needs analysis for digital solutions. They include: - Product Owners - Business Analysts - Requirements Engineers - Test Developers - Business- and Customer-side Team Members - Agile Team Members - Subject Matter Experts (SME) - Project Leaders and Managers - Systems Analysts and Designers - AND “anyone wearing the business analysis hat”, meaning anyone responsible for defining a future IT solution TOM AND ANGELA’S (the authors) STORY Like all good IT stories, theirs started on a project many years ago. Tom was the super techie, Angela the super SME. They fought their way through the 3-year development of a new policy maintenance system for an insurance company. They vehemently disagreed on many aspects, but in the process discovered a fundamental truth about IT projects. The business community (Angela) should decide on the business needs while the technical team’s (Tom)’s job was to make the technology deliver what the business needed. Talk about a revolutionary idea! All that was left was learning how to communicate with each other without bloodshed to make the project a resounding success. Mission accomplished. They decided this epiphany was so important that the world needed to know about it. As a result, they made it their mission (and their passion) to share this ground-breaking concept with the rest of the world. To achieve that lofty goal, they married and began the mission that still defines their life. After over 30 years of living and working together 24x7x365, they are still wildly enthusiastic about helping the victims of technology learn how to ask for and get the digital (IT) solutions they need to do their jobs better. More importantly, they are more enthusiastically in love with each other than ever before!

**Environment Modeling-Based Requirements Engineering for Software Intensive Systems** Jan 20 2022 Environment Modeling-Based Requirements Engineering for Software Intensive Systems provides a new and promising approach for engineering the requirements of software-intensive systems; Environment Modelling Requirements Engineering. Environment Modeling-Based Requirements Engineering for Software Intensive Systems presents a systematic, promising approach to identifying, clarifying, modelling, deriving, and validating the requirements of software-intensive systems from well-modelled environment simulations, while giving a new view of software capability, i.e. the effect-based software capability in terms of environment modelling. Provides novel and systematic methodologies for engineering the requirements of software-intensive systems. Describes ontologies and easily-understandable notations for modelling software-intensive systems Analyzes the functional and non-functional requirements based on the properties of the software surroundings Provides an essential, practical guide and formalization tools for the task of identifying the requirements of software-intensive systems Gives system analysts and requirements engineers insight into how to recognize and structure the problems of developing software-intensive systems

**Advances in Conceptual Modeling** Oct 25 2019 This book constitutes the refereed proceedings of five workshops symposia, held at the 38th International Conference on Conceptual Modeling, ER 2019, in Salvador, Brazil, in November 2019. The 34 papers promote and disseminate research on theories of concepts underlying conceptual modeling, methods and tools for developing and communicating conceptual models, techniques for transforming conceptual models into effective implementations, and the impact of conceptual modeling techniques on databases, business strategies and information systems. The following workshops are included in this volume: Workshop on Conceptual Modeling, Ontologies and Metadata Management for FAIR Data (FAIR), 6th Workshop on Conceptual Modeling in Requirements Engineering and Business Analysis (MREBA), 2nd International Workshop on Empirical Methods in Conceptual Modeling (EmpER), 8th International Workshop on Modeling and Management of Big Data (MoBiD19), and 7th International Workshop on Ontologies and Conceptual Modelling (OntoCom).

[Requirements Engineering](#) Apr 23 2022 Essential comprehensive coverage of the fundamentals of requirements engineering Requirements engineering (RE) deals with the variety of prerequisites that must be met by a software system within an organization in order for that system to produce stellar results. With that explanation in mind, this must-have book presents a disciplined approach to the engineering of high-quality requirements. Serving as a helpful introduction to the fundamental concepts and principles of requirements engineering, this guide offers a comprehensive review of the aim, scope, and role of requirements engineering as well as best practices and flaws to avoid. Shares state-of-the-art techniques for domain analysis, requirements elicitation, risk analysis, conflict management, and more Features in-depth treatment of system modeling in the specific context of engineering requirements Presents various forms of reasoning about models for requirements quality assurance Discusses the transitions from requirements to software specifications to software architecture In addition, case studies are included that complement the many examples provided in the book in order to show you how the described method and techniques are applied in practical situations.

[User Modeling Servers](#) Sep 23 2019 Software systems that adapt their services to characteristics of individual users have already proven to be more effective and/or usable than non-adaptive systems. User-adaptive systems rely on user modeling systems for exhibiting personalized behavior. Quite a few user modeling systems have been developed during the past fifteen years. The decisions as to what useful services/functionality of these systems are were mostly based on intuition and/or experience gained from studying the literature of a few user-adaptive applications. Results from neighboring disciplines and commercial developments have been largely ignored. Empirical evaluations of the practical applicability of user modeling systems were hardly ever carried out. This book is different: the author takes an interdisciplinary and application-oriented approach, defines meaningful requirements on user modeling servers, gives an overview of existing systems, pinpoints their deficiencies, develops a very novel architecture for user modeling servers, implements it, and tests its utility both within an application project and in empirically founded performance experiments. His excellent synthesis of scientific and industrial concerns (which rests on research in data bases, distributed systems, human-computer interaction, user modeling, statistics, and e-commerce) and his very convincing solutions make this book a worthwhile reading both for researchers and for industrial practitioners.

**Software Product Lines** Nov 25 2019 Software product lines are emerging as a critical new paradigm for software development. Product lines are enabling organizations to achieve impressive time-to-market gains and cost reductions. With the increasing number of product lines and product-line researchers and practitioners, the time is right for a comprehensive examination of the issues surrounding the software product line approach. The Software Engineering Institute at Carnegie Mellon University is proud to sponsor the first conference on this important subject. This book comprises the proceedings of the First Software Product Line Conference (SPLC1), held August 28-31, 2000, in Denver, Colorado, USA. The twenty-seven papers of the conference technical program present research results and experience reports that cover all aspects of software product lines. Topics include business issues, enabling technologies, organizational issues, and life-cycle issues. Emphasis is placed on experiences in the development and fielding of product lines of complex systems, especially those that expose problems in the design, development, or evolution of software product lines. The book will be essential reading for researchers and practitioners alike.

**SYSMOD - The Systems Modeling Toolbox - Pragmatic MBSE with SysML** Mar 10 2021 SYSMOD is an MBSE toolbox for pragmatic modeling of systems. It is well-suited to be used with SysML. The book provides a set of methods with roles and outputs. Concrete guidances and examples show how to apply the methods with SysML. \* Requirements modeling \* System Context \* Use Cases \* Functional, Physical, Logical and Product Architectures \* Guidances how to create a SysML model \* Full-fledged SysML example \* Complete definition of a profile for SYSMOD This book is also available as an eBook at [leanpub.com/sysmod](#).

[Requirements Modeling and Coding](#) Sep 28 2022 Requirements Modeling and Coding attempts to bridge the gap between modeling and coding and serves the growing trend of agile development better than existing textbooks in the area. Instead of using toy tools to create modeling and coding examples, the author teaches IBM Rational Rhapsody as a modeling tool and Microsoft Visual C# as a programming tool. C# is the purest object-oriented programming language and the best tool for developing graphical user interfaces, while Rhapsody is a visual development environment that real software developers use to create real-time or embedded systems. This book serves as a text for a capstone course on Systems Analysis and Design in Information Systems programs. It conceptualizes business objects and functions, develops business models and software architectures, and enriches the models and the architectures by storyboarding use cases along with user interface designs.

**Systems Modeling & Requirements Specification Using ECSAM** Jun 25 2022 Partial ContentsPart 1: Conceptual Modeling and Analysis of Systems, the External ViewIntroductionThe System’s Context DiagramThe Environmental Modes and StatechartsThe E-System CapabilitiesThe E-System ProcessesThe Integrated Conceptual E-System ModelOperational ScenariosPart 2: Conceptual Modeling of Systems, the Internal ViewConcepts of White Box ModelingObject-Based System DecompositionAnalysis of Internal Information Flows and Subsystem ActivitiesInternal System Modes (S-modes)Internal System Processes (S-processes)Transition to DesignPart 3: Requirements Engineering: An OverviewThe Stakeholders’ Requirements ProcessModel-Driven Refinement of RequirementsRequirements ManagementAppendices: Five Sample ProjectsIntegrated Automatic Teller MachineGo Anywhere Universal Personal CommunicatorChariot—a Smart Mobile Chair for the DisabledAutomated Parking Facility Control and Billing SystemSARAH—a Search and Rescue Automatic HelicopterSummary of NotationGlossaryBibliographyIndex

**Requirements Engineering Fundamentals, 2nd Edition** Jan 28 2020 Requirements engineering tasks have become increasingly complex. In order to ensure a high level of knowledge and competency among requirements engineers, the International Requirements Engineering Board (IREB) developed a standardized qualification called the Certified Professional for Requirements Engineering (CPRE). The certification defines the practical skills of a requirements engineer on various training levels. This book is designed for self-study and covers the curriculum for the Certified Professional for Requirements Engineering Foundation Level exam as defined by the IREB. **The 2nd edition** has been thoroughly revised and is aligned with the curriculum Version 2.2 of the IREB. In addition, some minor corrections to the 1st edition have been included. **About IREB:** The mission of the IREB is to contribute to the standardization of further education in the fields of business analysis and requirements engineering by providing syllabi and examinations, thereby achieving a higher level of applied requirements engineering. The IRE Board is comprised of a balanced mix of independent, internationally recognized experts in the fields of economy, consulting, research, and science. The IREB is a non-profit corporation. For more information visit [www.certified-re.com](#)

[Managing Systems Requirements](#) Jul 14 2021 Here is the first book to offer a practical way to identify systems requirements and manage them when budgets and schedules are tight. It describes a process that leads from fuzzy, ill-defined requirements to requirements that can be modeled and prototyped. Managing Systems Requirements presents methods for communicating requirements and achieving buy-in from system users and owners before expensive programming begins. There are techniques, tools, and software suggestions for project managers and systems analysts, plus case studies that illustrate how the whole requirements gathering process works. The cornerstone of the book is its practicality: it combines in one place a suite of methods, templates, off-the-shelf computer-based tools, and real-world examples that software developers can use to get a handle on software requirements and solve the problems they face every day on the job. IS managers, system project managers, systems analysts, and programmers will find the book indispensable and value how it integrates technical methods with organizational realities.

**Modeling Requirements Propagation** Sep 04 2020

[Advances in Conceptual Modeling](#) Aug 23 2019 This book constitutes the refereed proceedings of five workshops symposia, held at the 37th International Conference on Conceptual Modeling, ER 2018, in Xi’an, China, in October 2018. The 42 papers promote and disseminate research on theories of concepts underlying conceptual modeling, methods and tools for developing and communicating conceptual models, techniques for transforming conceptual models into effective implementations, and the impact of conceptual modeling techniques on databases, business strategies and information systems. The following workshops are included in this volume: Emp-ER: Empirical Methods in Conceptual Modeling, MoBiD: Modeling and Management of Big Data, MREBA: Conceptual Modeling in Requirements and Business Analysis, QMMQ: Quality of Models and Models of Quality, SCME: Conceptual Modeling Education.

[Software requirements](#) Dec 19 2021 Nicht wenige Software-Projekte erreichen ihre gesteckten Ziele nicht, da bereits in ihrer Anfangsphase Anforderungen an die Software nicht gründlich genug analysiert und dokumentiert wurden. Oft wird auch vernachlässigt, dass Softwareentwicklung genauso viel mit Kommunikation, wie mit eigentlicher Entwicklungsarbeit zu tun hat. An diesem Punkt setzt dieser Klassiker der Softwareentwicklungsliteratur an, in dem überzeugend präsentiert wird, warum die Erhebung, Zusammenstellung und das Managen von Software Requirements essentiell für erfolgreiche Projekte ist und mit welchen erprobten Mitteln diese Aufgaben am besten zu meistern sind. Karl Wiegers zeigt damit, wie Requirements-Analysten, Projektleiter, aber auch alle Programmierer und Designer, die Anforderungen der Kunden umsetzen müssen, Produktivität, Termintreue, Kundenzufriedenheit und Wartungs- und Supportkosten mit dem im Buch beschriebenen Praktiken drastisch verbessern können. - Realistische Erwartungen für Funktionalität und Qualität setzen - Geschäftsregeln in die Anwendungsentwicklung integrieren - Anwendungsfälle zur Definition von Benutzeranforderungen verwenden - Unausgesprochene und wechselnde Requirements identifizieren und managen - Revisionen einschränken und damit Kosten sparen - Besser Software produzieren

[Strategic Requirements Analysis](#) Dec 27 2019 One of the many important skills a business analyst needs in requirements discovery is the ability to effectively plan, conduct and manage a set of interviews to get the requirements right, be they strategic, operational or IT-oriented. In Strategic Requirements Analysis Dr Karl A. Cox offers a process, guidelines and ideas - that have been tried and tested in practice - for conducting interviews and shows you how to turn interview findings into strategic requirements models all on one page, to present to your clients, customers, team and supervisors.

**Requirements Modeling And Coding: An Object-oriented Approach** Aug 15 2021 Requirements Modeling and Coding attempts to bridge the gap between modeling and coding and serves the growing trend of agile development better than existing textbooks in the area. Instead of using toy tools to create modeling and coding examples, the author teaches IBM Rational Rhapsody as a modeling tool and Microsoft Visual C# as a programming tool. C# is the purest object-oriented programming language and the best tool for developing graphical user interfaces, while Rhapsody is a visual development environment that real software developers use to create real-time or embedded systems. This book serves as a text for a capstone course on Systems Analysis and Design in Information Systems programs. It conceptualizes business objects and functions, develops business models and software architectures, and enriches the models and the architectures by storyboarding use cases along with user interface designs. Instructor’s resources are provided for free to instructors who adopt the book as textbook. Please send your request to [sales@wspc.com](#).

[Environment Modeling-Based Requirements Engineering for Software Intensive Systems](#) Oct 17 2021 Environment Modeling-Based Requirements Engineering for Software Intensive Systems provides a new and promising approach for engineering the requirements of software-intensive systems, presenting a systematic, promising approach to identifying, clarifying, modeling, deriving, and validating the requirements of software-intensive systems from well-modeled environment simulations. In addition, the book presents a new view of software capability, i.e. the effect-based software capability in terms of environment modeling. Provides novel and systematic methodologies for engineering the requirements of software-intensive systems Describes ontologies and easily-understandable notations for modeling software-intensive systems Analyzes the functional and non-functional requirements based on the properties of the software surroundings Provides an essential, practical guide and formalization tools for the task of identifying the requirements of software-intensive systems Gives system analysts and requirements engineers insight into how to recognize and structure the problems of developing software-intensive systems

**Visual Models for Software Requirements** Oct 29 2022 Provides information on using visual models in the software engineering process.

**Non-Functional Properties in Service Oriented Architecture: Requirements, Models and Methods** Sep 16 2021 "This book offers a selection of chapters that cover three important aspects related to the use of non-functional properties in SOA: requirements specification with respect to non-functional properties, modeling non-functional properties and implementation of non-functional properties"--Provided by publisher.

*The Practice of Enterprise Modeling* Jun 20 2019 This book constitutes the proceedings papers of the 13th IFIP Working Conference on the Practice of Enterprise Modeling, held in Riga, Latvia, in November 2020. Due to the COVID-19 pandemic the conference took place virtually. The 19 full papers presented together with 7 short and 2 invited papers in this volume were carefully reviewed and selected from a total of 58 submissions to the main conference. The special focus of PoEM 2020 is on the role of enterprise modelling in the digital age. The selected papers are grouped by the following topics: Enterprise Modeling and Enterprise Architecture, Formal Aspects of Enterprise Modelling, Foundations and Applications of Enterprise Modeling, Enterprise Ontologies, Business Process Modeling, Risk and Security Modeling, Requirements Modeling, and Process Mining.

*The Engineering Design of Systems* Dec 07 2020 The ideal introduction to the engineering design of systems—now in a new edition The Engineering Design of Systems, Second Edition compiles a wealth of information from diverse sources to provide a unique, one-stop reference to current methods for systems engineering. It takes a model-based approach to key systems engineering design activities and introduces methods and models used in the real world. Features new to this edition include: The addition of Systems Modeling Language (SysML) to several of the chapters, as well as the introduction of new terminology Additional material on partitioning functions and components More descriptive material on usage scenarios based on literature from use case development Updated homework assignments The software product CORE (from Vitech Corporation) is used to generate the traditional SE figures and the software product MagicDraw UML with SysML plugins (from No Magic, Inc.) is used for the SysML figures This book is designed to be an introductory reference and textbook for professionals and students in systems engineering. It is also useful in related courses in engineering programs that emphasize design methods and models.

*Model-Based Engineering of Embedded Systems* Mar 30 2020 Embedded systems have long become essential in application areas in which human control is impossible or infeasible. The development of modern embedded systems is becoming increasingly difficult and challenging because of their overall system complexity, their tighter and cross-functional integration, the increasing requirements concerning safety and real-time behavior, and the need to reduce development and operation costs. This book provides a comprehensive overview of the Software Platform Embedded Systems (SPES) modeling framework and demonstrates its applicability in embedded system development in various industry domains such as automation, automotive, avionics, energy, and healthcare. In SPES 2020, twenty-one partners from academia and industry have joined forces in order to develop and evaluate in different industrial domains a modeling framework that reflects the current state of the art in embedded systems engineering. The content of this book is structured in four parts. Part I “Starting Point” discusses the status quo of embedded systems development and model-based engineering, and summarizes the key requirements faced when developing embedded systems in different application domains. Part II “The SPES Modeling Framework” describes the SPES modeling framework. Part III “Application and Evaluation of the SPES Modeling Framework” reports on the validation steps taken to ensure that the framework met the requirements discussed in Part I. Finally, Part IV “Impact of the SPES Modeling Framework” summarizes the results achieved and provides an outlook on future work. The book is mainly aimed at professionals and practitioners who deal with the development of embedded systems on a daily basis. Researchers in academia and industry may use it as a compendium for the requirements and state-of-the-art solution concepts for embedded systems development.

*Visual Models for Software Requirements* Nov 06 2020 Apply best practices for capturing, analyzing, and implementing software requirements through visual models—and deliver better results for your business. The authors—experts in eliciting and visualizing requirements—walk you through a simple but comprehensive language of visual models that has been used on hundreds of real-world, large-scale projects. Build your fluency with core concepts—and gain essential, scenario-based context and implementation advice—as you progress through each chapter. Transcend the limitations of text-based requirements data using visual models that more rigorously identify, capture, and validate requirements Get real-world guidance on best ways to use visual models—how and when, and ways to combine them for best project outcomes Practice the book’s concepts as you work through chapters Change your focus from writing a good requirement to ensuring a complete system

**Upper and Middle Atmospheric Density Modeling Requirements for Spacecraft Design and Operations** Feb 09 2021

**Reference Modeling** Nov 18 2021 This book examines reference modeling from different perspectives. It discusses reference modeling languages that provide special modeling language concepts for the development and application of reference models. The book also covers reference modeling methodologies, which additionally provide procedure models for the construction and application of reference models, as well as particular reference models.

*Data Collection and Modeling Requirements for Assessing Transportation Impacts of Micro-scale Design* Jan 08 2021

Foundations of Software and System Performance Engineering Feb 27 2020 “If this book had been available to Healthcare.gov’s contractors, and they read and followed its life cycle performance processes, there would not have been the enormous problems apparent in that application. In my 40+ years of experience in building leading-edge products, poor performance is the single most frequent cause of the failure or cancellation of software-intensive projects. This book provides techniques and skills necessary to implement performance engineering at the beginning of a project and manage it throughout the product’s life cycle. I cannot recommend it highly enough.” – Don Shafer, CSDP, Technical Fellow, Athens Group, LLC Poor performance is a frequent cause of software project failure. Performance engineering can be extremely challenging. In Foundations of Software and System Performance Engineering, leading software performance expert Dr. André Bondi helps you create effective performance requirements up front, and then architect, develop, test, and deliver systems that meet them. Drawing on many years of experience at Siemens, AT&T Labs, Bell Laboratories, and two startups, Bondi offers practical guidance for every software stakeholder and development team participant. He shows you how to define and use metrics; plan for diverse workloads; evaluate scalability, capacity, and responsiveness; and test both individual components and entire systems. Throughout, Bondi helps you link performance engineering with everything else you do in the software life cycle, so you can achieve the right performance—now and in the future—at lower cost and with less pain. This guide will help you • Mitigate the business and engineering risk associated with poor system performance • Specify system performance requirements in business and engineering terms • Identify metrics for comparing performance requirements with actual performance • Verify the accuracy of measurements • Use simple mathematical models to make predictions, plan performance tests, and anticipate the impact of changes to the system or the load placed upon it • Avoid common performance and scalability mistakes • Clarify business and engineering needs to be satisfied by given levels of throughput and response time • Incorporate performance engineering into agile processes • Help stakeholders of a system make better performance-related decisions • Manage stakeholders’ expectations about system performance throughout the software life cycle, and deliver a software product with quality performance André B. Bondi is a senior staff engineer at Siemens Corp., Corporate Technologies in Princeton, New Jersey. His specialties include performance requirements, performance analysis, modeling, simulation, and testing. Bondi has applied his industrial and academic experience to the solution of performance issues in many problem domains. In addition to holding a doctorate in computer science and a master’s in statistics, he is a Certified Scrum Master.

*Scale Modeling Requirements for a Tractor-semitrailer Truck* Jul 02 2020

**Requirements Analysis from Multiple Perspectives** Apr 30 2020

**Social Modeling for Requirements Engineering** Aug 27 2022 This book describes a modeling approach (called the i\* framework) that conceives of software-based information systems as being situated in environments in which social actors relate to each other in terms of goals to be achieved, tasks to be performed, and resources to be furnished.

**Use Case Modeling** Feb 21 2022 Discusses how to define and organize use cases that model the user requirements of a software application. The approach focuses on identifying all the parties who will be using the system, then writing detailed use case descriptions and structuring the use case model. An ATM example runs throughout the book. The authors work at Rational Software. Annotation copyrighted by Book News, Inc., Portland, OR

*Requirements Engineering* Mar 22 2022 Written for those who want to develop their knowledge of requirements engineering process, whether practitioners or students. Using the latest research and driven by practical experience from industry, Requirements Engineering gives useful hints to practitioners on how to write and structure requirements. It explains the importance of Systems Engineering and the creation of effective solutions to problems. It describes the underlying representations used in system modeling and introduces the UML2, and considers the relationship between requirements and modeling. Covering a generic multi-layer requirements process, the book discusses the key elements of effective requirements management. The latest version of DOORS (Version 7) - a software tool which serves as an enabler of a requirements management process - is also introduced to the reader here. Additional material and links are available at: <http://www.requirementsengineering.info>

*Requirements Modeling with Uml* May 24 2022 The Unified Modeling Language (UML) provides an environment for modeling complex systems. It supports a variety of diagrams for analyzing, designing, and implementing software systems. During the requirements phase, developers abstract concepts from the application domain and describe what the system is intended to do, not how it will do it. UML was adopted as a standard for OO modeling by the Object Management Group in 1997 and has found use in various software development projects. However, the continued success of any new technology depends a great deal on its usability. To predict the future success of a language like UML it is important to address the issue of usability from the perspective of the users of the language, the software developers. This publication reports on the results of an empirical study aimed at assessing the usability of UML for developing software requirements. It addresses the dimensions of ease of use, usefulness, and usefulness for communicating requirements to various project stakeholders.

**Modelling and Quality in Requirements Engineering** Jul 26 2022 "Modeling and Quality in Requirements Engineering" is the Festschrift dedicated to Martin Glinz on the occasion of his 60th birthday. Colleagues and friends have sent contributions to honor his achievements in the field of Software and Requirements Engineering. The contributions address specific topics in Martin's main research areas of modeling and quality in requirements engineering. Examples include risk-driven requirements engineering, non-functional requirements and lightweight requirements modeling. Furthermore, they cover related topics such as quality of business processes, SOA, process modeling and testing. Reminiscences and congratulations from fellow researchers and friends conclude the Festschrift." --Back of book.

*Integrated Requirements Modeling* Oct 05 2020

**Advanced Use Case Modeling** May 12 2021 "This book isn't just another introduction to use cases. The authors have used their wealth of experience to produce an excellent and insightful collection of detailed examples, explanations, and advice on how to work with use cases." –Maria Ericsson The toughest challenge in building a software system that meets the needs of your audience lies in clearly understanding the problems that the system must solve. Advanced Use Case Modeling presents a framework for discovering, identifying, and modeling the problem that the software system will ultimately solve. Software developers often employ use cases to specify what should be performed by the system they're constructing. Although use case-driven analysis, design, and testing of software systems has become increasingly popular, little has been written on the role of use cases in the complete software cycle. This book fills that need by describing how to create use case models for complex software development projects, using practical examples to explain conceptual information. The authors extend the work of software visionary Ivar Jacobson, using the Unified Modeling Language (UML) as the notation to describe the book's models. Aimed primarily at software professionals, Advanced Use Case Modeling also includes information that relates use case technique to business processes. This book presents a process for creating and maintaining use case models in a framework that can be fully customized for your organization. The authors, pioneers in the application of use cases in software development, bring their extensive experience to cover topics such as: A process model for applying a use case model How to keep your use case modeling effort on track Tips and pitfalls in use case modeling How to organize your use case model for large-system development Similarities between Advanced Use Case Modeling and the Rational Unified Process framework Effect of use cases on user interface design Guidelines for quality use case modeling

*Business Requirements Modeling of the Project Level NEPA Process* Apr 11 2021

*Facilities Staffing Requirements for the Veterans Health Administration* –“*Resourcing, Workforce Modeling, and Staffing* Jun 13 2021 In January 2019, the National Academies of Sciences, Engineering, and Medicine convened the 2-day Workshop on Resourcing, Workforce Modeling, and Staffing. This workshop is one of several data-gathering sessions to support the committee's iterative study. The overarching goal of the study is to help the Veterans Health Administration (VHA) assess the overall resource needs of its Facilities Management Program and to develop budget and staffing methodologies. Such methodologies can provide better justification for ensuring that local VHA programs are adequately and consistently staffed to accomplish the mission and meet all requirements. This publication summarizes the presentations and discussions from the workshop.

**Visual Modeling with Rational Software Architect and UML** Jul 22 2019 “Terry’s style is always direct, approachable, and pragmatic. Abstraction is hard, and visualizing abstractions is as well, but here she’ll guide you in doing both using Rational Software Architect.” —From the Foreword by Grady Booch, IBM Fellow Master UML 2.0 Visual Modeling with IBM Rational Software Architect Using IBM Rational Software Architect, you can unify all aspects of software design and development. It allows you to exploit new modeling language technology to architect systems more effectively and develop them more productively. Now, two of IBM’s leading experts have written the definitive, start-to-finish guide to UML 2-based visual modeling with Rational Software Architect. You’ll learn hands-on, using a simplified case study that’s already helped thousands of professionals master analysis, design, and implementation with IBM Rational technologies. Renowned UML expert Terry Quatrani and J2EE/SOA evangelist Jim Palistrant walk you through visualizing all facets of system architecture at every stage of the project lifecycle. Whether you’re an architect, developer, or project manager, you’ll discover how to leverage IBM Rational’s latest innovations to optimize any project. Coverage includes Making the most of model-driven development with Rational Software Architect’s integrated design and development tools Understanding visual modeling: goals, techniques, language, and processes Beginning any visual modeling project: sound principles and best practices Capturing and documenting functional requirements with use case models Creating analysis models that begin to reveal your optimal system implementation Building design models that abstract your implementation model and source code Using implementation models to represent your system’s physical composition, from subsystems to executables and data Transforming these models to actual running code The IBM Press developerWorks® Series is a unique undertaking in which print books and the Web are mutually supportive. The publications in this series are complemented by resources on the developerWorks Web site on [ibm.com](http://ibm.com). Icons throughout the book alert the reader to these valuable resources.

**From Requirements to Java in a Snap** Jun 01 2020 This book provides a coherent methodology for Model-Driven Requirements Engineering which stresses the systematic treatment of requirements within the realm of modelling and model transformations. The underlying basic assumption is that detailed requirements models are used as first-class artefacts playing a direct role in constructing software. To this end, the book presents the Requirements Specification Language (RSL) that allows precision and formality, which eventually permits automation of the process of turning requirements into a working system by applying model transformations and code generation to RSL. The book is structured in eight chapters. The first two chapters present the main concepts and give an introduction to requirements modelling in RSL. The next two chapters concentrate on presenting RSL in a formal way, suitable for automated processing. Subsequently, chapters 5 and 6 concentrate on model transformations with the emphasis on those involving RSL and UML. Finally, chapters 7 and 8 provide a summary in the form of a systematic methodology with a comprehensive case study. Presenting technical details of requirements modelling and model transformations for requirements, this book is of interest to researchers, graduate students and advanced practitioners from industry. While researchers will benefit from the latest results and possible research directions in MDRE, students and practitioners can exploit the presented information and practical techniques in several areas, including requirements engineering, architectural design, software language construction and model transformation. Together with a tool suite available online, the book supplies the reader with what it promises: the means to get from requirements to code “in a snap”.

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