

Object Oriented Systems Modeling The World In Data

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Object-oriented Software for Manufacturing Systems - S. Adiga 2012-12-06

I must confess that I stumbled upon the object-oriented (OO) world view during my explorations into the world of artificial intelligence (AI) in search of a new solution to the problem of building computer-integrated manufacturing systems (CIM). In OO computing, I found the

constructs to model the manufacturing enterprise in terms of information, a resource that is common to all activities in an organization. It offered a level of modularity, and the coupling/binding necessary for fostering integration without placing undue restrictions on what the individual applications can do. The implications of OO computing are more extensive

than just being a vehicle for manufacturing applications. Leaders in the field such as Brad Cox see it introducing a paradigm shift that will change our world gradually, but as radically as the Industrial Revolution changed manufacturing. However, it must be borne in mind that simply using an object-oriented language or environment does not, in itself, ensure success in one's applications. It requires a different way of thinking, design discipline, techniques, and tools to exploit what the technology has to offer. In other words, it calls for a paradigm shift (as defined by Kuhn in *The Structure of Scientific Revolution*, a classic text in the history of science). *Object-Oriented Analysis and Design for Information Systems* - Raul Sidnei Wazlawick
2014-01-28
Object-Oriented Analysis and Design for Information Systems clearly explains real object-oriented programming in practice. Expert author Raul Sidnei Wazlawick explains concepts such as object

responsibility, visibility and the real need for delegation in detail. The object-oriented code generated by using these concepts in a systematic way is concise, organized and reusable. The patterns and solutions presented in this book are based in research and industrial applications. You will come away with clarity regarding processes and use cases and a clear understand of how to expand a use case. Wazlawick clearly explains clearly how to build meaningful sequence diagrams. Object-Oriented Analysis and Design for Information Systems illustrates how and why building a class model is not just placing classes into a diagram. You will learn the necessary organizational patterns so that your software architecture will be maintainable. Learn how to build better class models, which are more maintainable and understandable. Write use cases in a more efficient and standardized way, using more effective and less complex diagrams. Build true object-

oriented code with division of responsibility and delegation.

Object-oriented Systems

Analysis - David W. Embley
1992

An introduction to powerful methods for accurate and complete system analysis and specification.

Object-Oriented Information Engineering - Stephen

Montgomery 2012-12-02
Object-Oriented Information Engineering: Analysis, Design, and Implementation discusses design, both its object-oriented and traditional development and analysis, on which the book gives much focus. The book begins with an introduction to information engineering and its phases, object-oriented information engineering, and object orientation. The text then moves on to more specific topics, such as business information requirements; detailed object modeling; business functions and subject areas; and individual object behaviors and object interactions. The book also explains the integration and

validation of analysis models; object structure designs; and system designs and its different applications. The text is recommended for undergraduates and practitioners of computer and/or information engineers who want to learn more about object-oriented design, its relation with traditional design, and its analysis. The book is also for those who wish to contribute and conduct further studies in the field of object-oriented design.

Innovations in Information Systems Modeling: Methods and Best Practices - Halpin, Terry 2009-03-31

Covers central topics in information systems modeling and architectures. Includes the latest developments in information systems modeling, methods, and best practices.

Enterprise Information Systems Engineering -

Monique Snoeck 2014-09-20
The increasing penetration of IT in organizations calls for an integrative perspective on enterprises and their supporting information

systems. MERODE offers an intuitive and practical approach to enterprise modelling and using these models as core for building enterprise information systems. From a business analyst perspective, benefits of the approach are its simplicity and the possibility to evaluate the consequences of modeling choices through fast prototyping, without requiring any technical experience. The focus on domain modelling ensures the development of a common language for talking about essential business concepts and of a shared understanding of business rules. On the construction side, experienced benefits of the approach are a clear separation between specification and implementation, more generic and future-proof systems, and an improved insight in the cost of changes. A first distinguishing feature is the method's grounding in process algebra provides clear criteria and practical support for model quality. Second, the use of the

concept of business events provides a deep integration between structural and behavioral aspects. The clear and intuitive semantics easily extend to application integration (COTS software and Web Services). Students and practitioners are the book's main target audience, as both groups will benefit from its practical advice on how to create complete models which combine structural and behavioral views of a system-to-be and which can readily be transformed into code, and on how to evaluate the quality of those models. In addition, researchers in the area of conceptual or enterprise modelling will find a concise overview of the main findings related to the MERODE project. The work is complemented by a wealth of extra material on the author's web page at KU Leuven, including a free CASE tool with code generator, a collection of cases with solutions, and a set of domain modelling patterns that have been developed on the basis of the method's use in

industry and government.

Object-oriented Systems Analysis - Sally Shlaer 1988

This book explains how to model a problem domain by abstracting objects, attributes, and relationships from observations of the real world. It provides a wealth of examples, guidelines, and suggestions based on the authors' extensive experience in both real time and commercial software development. This book describes the first of three steps in the method of Object-Oriented Analysis. Subsequent steps are described in *Object Lifecycles* by the same authors.

Software Reuse - Bernard Coulange 2012-12-06

Software Reuse is a state of the art book concerning all aspects of software reuse. It does away with the hype and shows the reality. Different techniques are presented which enable software reuse and the author demonstrates why object-oriented methods are better for reuse than other approaches. The book details the different factors to take into account

when managing reusable components: characterisation, identification, building, verification, storage, search, adaptation, maintenance and evolution. Comparisons and description of various types of companies that could benefit from applying reuse techniques are included outlining, amongst other things, increased profitability and likely problems that might arise from the purchase and selling of reuse tools and components. Based on a real experience of software reuse in a company with a bibliography of more than 200 references provided, this book is a 'must have' for all those working in the software reuse field.

Management of the Object-oriented Development

Process - Liping Liu 2006-01-01

"This book consists of a series of high-level discussions on technical and managerial issues related to object-oriented development"-- Provided by publisher.

Object-Oriented Analysis and Design with Applications -

Grady Booch 2007-04-30
Object-Oriented Design with Applications has long been the essential reference to object-oriented technology, which, in turn, has evolved to join the mainstream of industrial-strength software development. In this third edition--the first revision in 13 years--readers can learn to apply object-oriented methods using new paradigms such as Java, the Unified Modeling Language (UML) 2.0, and .NET. The authors draw upon their rich and varied experience to offer improved methods for object development and numerous examples that tackle the complex problems faced by software engineers, including systems architecture, data acquisition, cryptanalysis, control systems, and Web development. They illustrate essential concepts, explain the method, and show successful applications in a variety of fields. You'll also find pragmatic advice on a host of issues, including classification, implementation strategies, and

cost-effective project management. New to this new edition are An introduction to the new UML 2.0, from the notation's most fundamental and advanced elements with an emphasis on key changes New domains and contexts A greatly enhanced focus on modeling--as eagerly requested by readers--with five chapters that each delve into one phase of the overall development lifecycle. Fresh approaches to reasoning about complex systems An examination of the conceptual foundation of the widely misunderstood fundamental elements of the object model, such as abstraction, encapsulation, modularity, and hierarchy How to allocate the resources of a team of developers and manage the risks associated with developing complex software systems An appendix on object-oriented programming languages This is the seminal text for anyone who wishes to use object-oriented technology to manage the complexity inherent in many kinds of systems. Sidebars Preface

Acknowledgments About the Authors Section I: Concepts Chapter 1: Complexity Chapter 2: The Object Model Chapter 3: Classes and Objects Chapter 4: Classification Section II: Method Chapter 5: Notation Chapter 6: Process Chapter 7: Pragmatics Chapter 8: System Architecture: Satellite-Based Navigation Chapter 9: Control System: Traffic Management Chapter 10: Artificial Intelligence: Cryptanalysis Chapter 11: Data Acquisition: Weather Monitoring Station Chapter 12: Web Application: Vacation Tracking System Appendix A: Object-Oriented Programming Languages Appendix B: Further Reading Notes Glossary Classified Bibliography Index

Objectifying Real-Time

Systems - John R. Ellis

1998-01-13

This book is a comprehensive approach for creating a real-time information processing system requirements model. The author guides the reader through the steps of objectifying real-time systems. He exemplifies the evolution of

popular Real-Time Structured Analysis (RTSA) techniques into the object development era - Real-Time Object-Oriented Structured Analysis (RTOOSA).

OOER '95 Object-Oriented and Entity-Relationship Modeling

- Michael

Papazoglou 1995-11-23

This volume constitutes the refereed proceedings of the 14th International Conference on Object-Oriented and Entity-Relationship Modelling, OOER '95, held in Gold Coast, Australia in December 1995.

The 36 papers presented together with an invited presentation by Gio Wiederhold were selected from a total of 120 submissions. The papers are organized in sections on object design and modelling, models and languages, reverse engineering and schema transformation, behavioral modelling, non-traditional modelling, theoretical foundations, business re-engineering, integrated approaches, cooperative work modelling, temporal data modelling, federated systems

design, and industrial stream papers

Object-oriented Systems Analysis and Design with UML - Robert Stumpf 2004

Appropriate for all introductory level courses on object-oriented system analysis, design, and/or programming. This book systematically introduces the concepts and methods of object-oriented systems analysis and design to students with little or no object experience. Rigorous yet extremely readable, it introduces the entire process of information system design, providing a thorough grounding in object-oriented techniques, UML, and step-by-step system development. Two of the field's most experienced instructors carefully link information systems analysis and design issues to general systems theory, offering a domain-independent view of design that maintains a clear conceptual distinction between requirements and design. After introducing basic systems concepts and the Rational

Unified Process, they turn to object-oriented analysis, covering business event analysis, use cases, system sequence diagrams, domain modeling, and more. Part III focuses on system design, including overall system design based on a three-tier architecture, object-oriented program design, communication between the application layer and database, and user interface design. Finally, in Part IV, the authors offer a practical, real-world discussion of both information gathering and software project management. To support effective learning, every chapter begins with clear learning objectives and ends with summaries, lists of key terminology, review materials, exercises, discussion points, and wherever appropriate, case studies for project assignments.

Object-Oriented

Metamethods - B. Henderson-Sellers 2012-12-06

In part the book creates and motivates the notion of metamodeling and how it can

be used to standardise the creation of industry-strength design. At its heart, the book presents an analysis of the main object-oriented design methodologies, including: Booch, OMT, Coad, and Martin/Odell. Based on these descriptions, a proposal is made for a core metamodel framework into which the leading methodologies may be fitted. As a result, software engineers and software managers will find this a valuable "road map" in the future development of software standards.

Object Technologies for Advanced Software - Shojiro Nishio 1993-10-07

This volume constitutes the proceedings of the First International Symposium organized by the Japan Society for Software Science and Technology. The symposium was held in Kanazawa, Japan, November 4-6, 1993 and attracted many researchers from academia and industry as well as ambitious practitioners. Object technologies, in particular

object-oriented programming, object-oriented databases, and software object bases, currently attract much attention and hold a great promise of future research and development in diverse areas of advanced software. The volume contains besides 6 invited presentations by renown researchers and 25 contributed papers carefully selected by an international program committee from a total of 92 submissions.

Information Systems and Data Analysis - Hans-

Hermann Bock 2013-03-13

Proceedings of the 17th Annual Conference of the Gesellschaft für Klassifikation e.V.,

University of Kaiserslautern, March 3 - 5, 1993

Systems Analysis and Design -

Alan Dennis 2020-11-17

Systems Analysis and Design:

An Object-Oriented Approach

with UML, Sixth Edition helps

students develop the core skills

required to plan, design,

analyze, and implement

information systems. Offering a

practical hands-on approach to

the subject, this textbook is designed to keep students focused on doing SAD, rather than simply reading about it. Each chapter describes a specific part of the SAD process, providing clear instructions, a detailed example, and practice exercises. Students are guided through the topics in the same order as professional analysts working on a typical real-world project. Now in its sixth edition, this edition has been carefully updated to reflect current methods and practices in SAD and prepare students for their future roles as systems analysts. Every essential area of systems analysis and design is clearly and thoroughly covered, from project management, to analysis and design modeling, to construction, installation, and operations. The textbook includes access to a range of teaching and learning resources, and a running case study of a fictitious healthcare company that shows students how SAD concepts are applied in real-life scenarios.

High-Performance Web Databases - Sanjiv Purba
2000-09-21

As Web-based systems and e-commerce carry businesses into the 21st century, databases are becoming workhorses that shoulder each and every online transaction. For organizations to have effective 24/7 Web operations, they need powerhouse databases that deliver at peak performance-all the time. High Performance Web Databases: Design, Development, and Advanced Concepts, Life Cycle Models and Tools for Object-oriented Software Development - 1997

New Technologies for Constructing Complex Agricultural and Environmental Systems -

Papajorgji, Petraq 2012-03-31
"This book presents high quality research on the design and implementation of information systems in the fields of agronomics, mathematics, economics, computer science, and the environment, offering holistic

approaches to the design, development, and implementation of complex agricultural and environmental information systems"--Provided by publisher.

Formal Object-Oriented Development - Kevin Lano
2012-12-06

Formal Object-Oriented Development provides a comprehensive overview of the use of formal object-oriented methods; it covers how and where they should be introduced into the development process, how they can be introduced selectively for critical parts of an application, and how to incorporate them effectively into existing developmental practices. The text is extensively illustrated, both with tutorial and self-assessment exercises and with examples of industrial applications from the reactive systems domain. This book will be of interest to academic and industrial researchers, software engineering practitioners and consultants, and will also provide invaluable

reading material for students learning Z++ and VDM++.

System-on-Chip Methodologies & Design Languages - Peter J. Ashenden 2013-03-14

System-on-Chip Methodologies & Design Languages brings together a selection of the best papers from three international electronic design language conferences in 2000. The conferences are the Hardware Description Language Conference and Exhibition (HDLCon), held in the Silicon Valley area of USA; the Forum on Design Languages (FDL), held in Europe; and the Asia Pacific Chip Design Language (APChDL) Conference. The papers cover a range of topics, including design methods, specification and modeling languages, tool issues, formal verification, simulation and synthesis. The results presented in these papers will help researchers and practicing engineers keep abreast of developments in this rapidly evolving field.

Functional and Object Oriented Analysis and Design: An Integrated

Methodology - Shoval, Peretz
2006-07-31

Summary: "The main objective of this book is to teach both students and practitioners of information systems, software engineering, computer science and related areas to analyze and design information systems using the FOOM methodology. FOOM combines the object-oriented approach and the functional (process-oriented) approach"--Provided by publisher.

Object-oriented Design of a Near Real-time Marine Environmental Data Acquisition and Reporting System - James C. Hendee
1996

Principles of Object-Oriented Modeling and Simulation with Modelica 3.3 - Peter Fritzson
2015-01-06

Fritzson covers the Modelica language in impressive depth from the basic concepts such as cyber-physical, equation-base, object-oriented, system, model, and simulation, while also incorporating over a hundred exercises and their

solutions for a tutorial, easy-to-read experience. The only book with complete Modelica 3.3 coverage Over one hundred exercises and solutions Examines basic concepts such as cyber-physical, equation-based, object-oriented, system, model, and simulation

UML and Data Modeling - David C. Hay 2011-11-01

Here you will learn how to develop an attractive, easily readable, conceptual, business-oriented entity/relationship model, using a variation on the UML Class Model notation.

This book has two audiences: •

Data modelers (both analysts and database designers) who are convinced that UML has nothing to do with them; and •

UML experts who don't realize that architectural data modeling really is different from object modeling (and that the differences are important).

David Hay's objective is to finally bring these two groups together in peace. Here all modelers will receive guidance on how to produce a high quality (that is, readable) entity/relationship model to

describe the data architecture of an organization. The notation involved happens to be the one for class models in the Unified Modeling Language, even though UML was originally developed to support object-oriented design. Designers have a different view of the world from those who develop business-oriented conceptual data models, which means that to use UML for architectural modeling requires some adjustments. These adjustments are described in this book. David Hay is the author of Enterprise Model Patterns: Describing the World, a comprehensive model of a generic enterprise. The diagrams were at various levels of abstraction, and they were all rendered in the slightly modified version of UML Class Diagrams presented here. This book is a handbook to describe how to build models such as these. By way of background, an appendix provides a history of the two groups, revealing the sources of their different attitudes towards the system development process. If you

are an old-school ER modeler and now find yourself having to come up to speed on UML to get that next job (or keep the current one), this is your guidebook to success. If you are a long time object oriented programmer who has to interact with data modelers, this book is for you too. David has done the hard work of mapping out how to do a logical entity relationship model using standard (and accepted) UML diagram components. This book shows you step-by-step, with ample examples, how to get from here to there with the least pain possible for all concerned. Kent Graziano Certified Data Vault Master and Oracle ACE Past-President of ODTUG & RMOUG Brilliantly organized: three books hidden in one cohesive work. Notwithstanding the tremendous value provided by cross-training data architects/modelers and object modelers/architects, making each better at what they do, Appendix B presents an absolutely awesome concise, yet detailed, history of

modeling objects and data that clearly documents the differences in the approaches over the years and helps bring it all into perspective. This book is packed with useful information. Even the footnotes add clarity and offer interesting and often humorous editorial insight making it a fun read. Whatever viewpoint the reader is coming from this book has something to offer as long as the reader maintains an open mind. Roland Berg Senior Architect Diligent Consulting, Inc. San Antonio, Texas
Object Lifecycles - Sally Shlaer 1992

A companion book to Mellor and Shlaer's Object-Oriented Systems Analysis which covers the Information Modeling step, this book details in three steps a systematic method for investigating and defining real-time, scientific, and business-oriented systems. It explains the State Modeling step, the Process Modeling step, and the External Specifications step.
Virtual Interaction: Interaction in Virtual Inhabited 3D Worlds
- E. Granum 2013-03-09

Lars Qvortrup The world of interactive 3D multimedia is a cross-institutional world. Here, researchers from media studies, linguistics, dramaturgy, media technology, 3D modelling, robotics, computer science, sociology etc. etc. meet. In order not to create a new tower of Babel, it is important to develop a set of common concepts and references. This is the aim of the first section of the book. In Chapter 2, Jens F. Jensen identifies the roots of interaction and interactivity in media studies, literature studies and computer science, and presents definitions of interaction as something going on among agents and agents and objects, and of interactivity as a property of media supporting interaction. Similarly, he makes a classification of human users, avatars, autonomous agents and objects, demonstrating that no universal differences can be made. We are dealing with a continuum. While Jensen approaches these categories from a semiotic point of view,

in Chapter 3 Peer Mylov discusses similar issues from a psychological point of view. Seen from the user's perspective, a basic difference is that between stage and back-stage (or rather: front-stage), i. e. between the real "I" and "we" and the virtual, representational "I" and "we". Focusing on the computer as a stage, in Chapter 4 Kjølner and Lehmann use the theatre metaphor to conceptualize the stage phenomena and the relationship between stage and front-stage.

Object-Oriented Systems in C++ - Dr. Durgesh Pant 2007

Software Engineering Techniques Applied to Agricultural Systems - Petraq J. Papajorgji 2014-07-08
Software Engineering Techniques Applied to Agricultural Systems presents cutting-edge software engineering techniques for designing and implementing better agricultural software systems based on the object-oriented paradigm and the Unified Modeling Language

(UML). The focus is on the presentation of rigorous step-by-step approaches for modeling flexible agricultural and environmental systems, starting with a conceptual diagram representing elements of the system and their relationships. Furthermore, diagrams such as sequential and collaboration diagrams are used to explain the dynamic and static aspects of the software system. This second edition includes: a new chapter on Object Constraint Language (OCL), a new section dedicated to the Model-VIEW-Controller (MVC) design pattern, new chapters presenting details of two MDA-based tools - the Virtual Enterprise and Olivia Nova and a new chapter with exercises on conceptual modeling. It may be highly useful to undergraduate and graduate students as the first edition has proven to be a useful supplementary textbook for courses in mathematical programming in agriculture, ecology, information technology, agricultural operations research methods,

agronomy and soil science and applied mathematical modeling. The book has broad appeal for anyone involved in software development projects in agriculture and to researchers in general who are interested in modeling complex systems. From the reviews of the first edition: "The book will be useful for those interested in gaining a quick understanding of current software development techniques and how they are applied in practice... this is a good introductory text on the application of OOAD, UML and design patterns to the creation of agricultural systems. It is technically sound and well written." —Computing

Reviews, September 2006

OOIS 2001 - Xingxu Wang
2012-12-06

Welcome to OOIS'01 and Calgary! This is the 7th International Conference on Object-Oriented Information Systems (OOIS) that focus on Object-Oriented and Web-Based Frameworks for Information Systems. In the last few years we've seen

significant new development in this field, from one-off design technologies to reusable frameworks, and from web applications to bioinformatic systems. We perceive that information processing is one of the most important activities of human beings. Object-orientation and frameworks have been the main-stream technologies for design and implementation of large-scale and complex information systems. Recent research advances and industrial innovations in information systems modeling and Internet applications have explored the new trends in shifting information system vendors from component and system developers to services providers. Users of information systems are increasingly demanding higher performance, mobility, and personalization in order to realize the dream to access and obtain necessary information anywhere and anytime. The new development requires the investigation of new architectures, frameworks,

processes, and inter-connectivity of information systems at society, organization, team, and personal levels. The OOS'01 Proceedings has put together a program of 53 papers from leading researchers and practitioners in the field of object technology and information systems.

Lectures on Embedded Systems - Grzegorz Rozenberg
1998-10-14

This volume originates from the School on Embedded Systems held in Veldhoven, The Netherlands, in November 1996 as the first event organized by the European Educational Forum. Besides thoroughly reviewed and revised chapters based on lectures given during the school, additional papers have been solicited for inclusion in the present book in order to complete coverage of the relevant topics. The authors address professionals involved in the design and management of embedded systems in industry as well as researchers and students interested in a

competent survey. The book will convince the reader that many architectural and algorithmic problems in the area of embedded systems have well documented optimal or correct solutions, notably in the fields of real-time computing, distributed computing, and fault-tolerant computing.

Object-Oriented Modeling - Jean-Michel Bergé 2012-12-06
Object-oriented techniques and languages have been proven to significantly increase engineering efficiency in software development. Many benefits are expected from their introduction into electronic modeling. Among them are better support for model reusability and flexibility, more efficient system modeling, and more possibilities in design space exploration and prototyping. *Object-Oriented Modeling* explores the latest techniques in object-oriented methods, formalisms and hardware description language extensions. The seven chapters comprising this book provide

an overview of the latest object-oriented techniques for designing systems and hardware. Many examples are given in C++, VHDL and real-time programming languages. Object-Oriented Modeling describes further the use of object-oriented techniques in applications such as embedded systems, telecommunications and real-time systems, using the very latest techniques in object-oriented modeling. It is an essential guide to researchers, practitioners and students involved in software, hardware and system design.

Domain Modeling-Based Software Engineering -

Ruqian Lu 2012-12-06

Many approaches have been proposed to enhance software productivity and reliability. These approaches typically fall into three categories: the engineering approach, the formal approach, and the knowledge-based approach. The optimal gain in software productivity cannot be obtained if one relies on only one of these approaches. Thus, the integration of different

approaches has also become a major area of research. No approach can be said to be perfect if it fails to satisfy the following two criteria. Firstly, a good approach should support the full life cycle of software development. Secondly, a good approach should support the development of large-scale software for real use in many application domains. Such an approach can be referred to as a five-in-one approach. The authors of this book have, for the past eight years, conducted research in knowledge-based software engineering, of which the final goal is to develop a paradigm for software engineering which not only integrates the three approaches mentioned above, but also fulfils the two criteria on which the five-in-one approach is based. Domain Modeling- Based Software Engineering: A Formal Approach explores the results of this research. Domain Modeling-Based Software Engineering: A Formal Approach will be useful to researchers of knowledge-

based software engineering, students and instructors of computer science, and software engineers who are working on large-scale projects of software development and want to use knowledge-based development methods in their work.

Object-oriented Modeling and Design - James Rumbaugh 1991

This text applies object-oriented techniques to the entire software development cycle.

Testing Object-oriented Systems - Robert Binder 2000

More than ever, mission-critical and business-critical applications depend on object-oriented (OO) software. Testing techniques tailored to the unique challenges of OO technology are necessary to achieve high reliability and quality. "Testing Object-Oriented Systems: Models, Patterns, and Tools" is an authoritative guide to designing and automating test suites for OO applications. This comprehensive book explains why testing must be model-

based and provides in-depth coverage of techniques to develop testable models from state machines, combinational logic, and the Unified Modeling Language (UML). It introduces the test design pattern and presents 37 patterns that explain how to design responsibility-based test suites, how to tailor integration and regression testing for OO code, how to test reusable components and frameworks, and how to develop highly effective test suites from use cases. Effective testing must be automated and must leverage object technology. The author describes how to design and code specification-based assertions to offset testability losses due to inheritance and polymorphism. Fifteen micro-patterns present oracle strategies--practical solutions for one of the hardest problems in test design. Seventeen design patterns explain how to automate your test suites with a coherent OO test harness framework. The author provides thorough coverage of testing issues such as: The bug

hazards of OO programming and differences from testing procedural code How to design responsibility-based tests for classes, clusters, and subsystems using class invariants, interface data flow models, hierarchic state machines, class associations, and scenario analysis How to support reuse by effective testing of abstract classes, generic classes, components, and frameworks How to choose an integration strategy that supports iterative and incremental development How to achieve comprehensive system testing with testable use cases How to choose a regression test approach How to develop expected test results and evaluate the post-test state of an object How to automate testing with assertions, OO test drivers, stubs, and test frameworks Real-world experience, world-class best practices, and the latest research in object-oriented testing are included. Practical examples illustrate test design and test automation for Ada 95, C++, Eiffel, Java, Objective-C,

and Smalltalk. The UML is used throughout, but the test design patterns apply to systems developed with any OO language or methodology. 0201809389B04062001 Object-oriented Analysis of a Near Real-time Marine Environmental Data Acquisition and Reporting System - James C. Hendee 1996

Reliable Object-Oriented Software - Ed Seidewitz 1995

This 1998 book presents the underlying principles associated with object-orientation and its practical application.

Model Driven Architecture with Executable UML - Chris Raistrick 2004-03-18

This book offers a unique insight into a revolution in software development that allows model specifications to be fully and efficiently translated into code. Using the most widely adopted, industry standard, software modelling language, UML, the reader will learn how to build robust specifications based on OMG's

Model Driven Architecture (MDA). From there, the authors describe the steps needed to translate the Executable UML (xUML) models to any platform-specific implementation. The benefits of this approach go well beyond simply reducing or eliminating the coding stage - it also ensures platform independence, avoids obsolescence (programming languages may change, the model doesn't) and allows full verification of the models by executing them in a test and debug xUML environment. This is an excellent reference for anyone embarking on what is surely the future of software development for medium and large scale projects.

Balanced Automation Systems -
Luis M. Camarinha-Matos
2013-06-05

Towards Balanced Automation
The concept. Manufacturing industries worldwide are facing tough challenges as a consequence of the globalization of economy and the openness of the markets. Progress of the economic

blocks such as the European Union, NAFTA, and MERCOSUR, and the global agreements such as GATT, in addition to their obvious economic and social consequences, provoke strong paradigm shifts in the way that the manufacturing systems are conceived and operate. To increase profitability and reduce the manufacturing costs, there is a recent tendency towards establishing partnership links among the involved industries, usually between big industries and the networks of components' suppliers. To benefit from the advances in technology, similar agreements are being established between industries and universities and research institutes. Such an open tete-cooperation network may be identified as an extended enterprise or a virtual enterprise. In fact, the manufacturing process is no more carried out by a single enterprise, rather each enterprise is just a node that adds some value (a step in the manufacturing chain) to the

cooperation network of enterprises. The new trends create new scenarios and technological challenges, especially to the Small and Medium size Enterprises (SMEs) that clearly comprise the overwhelming majority of

manufacturing enterprises worldwide. Under the classical scenarios, these SMEs would have had big difficulties to access or benefit from the state of the art technology, due to their limited human, financial, and material resources.