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KEY=ORIENTED - JORDYN ELAINA

Program Development in Java

Abstraction, Specification, and Object-Oriented Design

Pearson Education Written by a world-renowned expert on programming methodology, and the winner of the 2008 Turing Award, this book shows how to build production-quality programs--programs that are reliable, easy to maintain, and quick to modify. Its emphasis is on modular program construction: how to get the modules right and how to organize a program as a collection of modules. The book presents a methodology effective for either an individual programmer, who may be writing a small program or a single module in a larger one; or a software engineer, who may be part of a team developing a complex program comprised of many modules. Both audiences will acquire a solid foundation for object-oriented program design and component-based software development from this methodology. Because each module in a program corresponds to an abstraction, such as a collection of documents or a routine to search the collection for documents of interest, the book first explains the kinds of abstractions most useful to programmers: procedures; iteration abstractions; and, most critically, data abstractions. Indeed, the author treats data abstraction as the central paradigm in object-oriented program design and implementation. The author also shows, with numerous examples, how to develop informal specifications that define these abstractions--specifications that describe what the modules do--and then discusses how to implement the modules so that they do what they are supposed to do with acceptable performance. Other topics discussed include: Encapsulation and the need for an implementation to provide the behavior defined by the specification Tradeoffs between simplicity and performance Techniques to help readers of code understand and reason about it, focusing on such properties as rep invariants and abstraction functions Type hierarchy and its use in defining families of related data abstractions Debugging, testing, and requirements analysis Program design as a top-down, iterative process, and design patterns The Java programming language is used for the book's examples. However, the techniques presented are language independent, and an introduction to key Java concepts is included for programmers who may not be familiar with the language.

Program Development in Java: Abstraction, Specification, and Object-Oriented Design

Program Development in Java

Abstraction, Specification, and Object-oriented Design

Addison-Wesley Professional Liskov (engineering, Massachusetts Institute of Technology) and Guttag (computer science and engineering, also at MIT) present a component- based methodology for software program development. The book focuses on modular program construction: how to get the modules right and how to organize a program as a collection of modules. It explains the key types of abstractions, demonstrates how to develop specifications that define these abstractions, and illustrates how to implement them using numerous examples. An introduction to key Java concepts is included. Annotation copyrighted by Book News, Inc., Portland, OR.

Objects, Abstraction, Data Structures and Design Using Java Version 5.0

John Wiley & Sons Incorporated This version of the book uses the latest Java technology, Java 2 Standard Edition Version 5.0 (J2SE V. 5.0), or otherwise known as "Version 5.0." This revolutionary book intertwines problem solving and software engineering with the study of traditional data structures topics. The book emphasizes the use of objects and object-oriented design. Early chapters provide background coverage of software engineering. Then, in the chapters on data structures, these principles are applied. The authors encourage use of a five-step process for the solution of case studies: problem specification, analysis, design, implementation, and testing. As is done in industry, these steps are sometimes performed in an iterative fashion rather than in strict sequence. The Java Application Programming Interface (API) is used throughout the text. Wherever possible, the specification and interface for a data structure follow the Java Collections Framework. Emphasizes the use of objects and object-oriented design Provides a primer on the Java language and offers background coverage of software engineering Encourages an iterative five-step process for the solution of case studies: problem specification, analysis, design, implementation, and testing The Java Application Programming Interface (API) is used throughout

Objects, Abstraction, Data Structures and Design

Using Java

John Wiley & Sons Incorporated A revolutionary book that intertwines problem solving and software engineering with the study of traditional data structures topics Promotes a five-step methodology to limit program errors and increase efficiency: problem specification, analysis, design, implementation, and testing The Java Application Programming Interface (API) is used throughout and wherever possible, the specification and interface for a data structure follow the Java Collections Framework

Formal Methods and Software Engineering

6th International Conference on Formal Engineering Methods, ICFEM 2004, Seattle, WA, USA, November 8-12, 2004, Proceedings

Springer Science & Business Media Formal engineering methods are changing the way that software systems are - veloped.Withlanguageandtoolsupport,theyarebeingusedforautomaticcode generation, and for the automatic abstraction and checking of implementations. In the future, they will be used at every stage of development: requirements, speci?cation, design, implementation, testing, and documentation. The ICFEM series of conferences aims to bring together those interested in the application of formal engineering methods to computer systems. Researchers and practitioners, from industry, academia, and government, are encouraged to attend,andtohelpadvancethestateoftheart.Authorsarestronglyencouraged to make their ideas as accessible as possible, and there is a clear emphasis upon work that promises to bring practical, tangible bene?t: reports of case studies should have a conceptual message, theory papers should have a clear link to application, and papers describing tools should have an account of results. ICFEM 2004 was the sixth conference in the series, and the ?rst to be held in North America. Previous conferences were held in Singapore, China, UK, A-tralia, and Japan. The Programme Committee received 110 papers and selected 30forpresentation.The?nalversionsofthosepapersareincludedhere,together with 2-page abstracts for the 5 accepted tutorials, and shorter abstracts for the 4 invited talks.

Fundamental Approaches to Software Engineering

16th International Conference, FASE 2013, Held as Part of the European Joint Conferences on Theory and Practice of Software, ETAPS 2013, Rome, Italy, March 16-24, 2013, Proceedings

Springer This book constitutes the proceedings of the 16th International Conference on Fundamental Approaches to Software Engineering, FASE 2013, held as part of the European Joint Conference on Theory and Practice of Software, ETAPS 2013, which took place in Rome, Italy, in March 2013. The 25 papers presented in this volume were carefully reviewed and selected from 112 submissions. They are organized in topical sections named: model-driven engineering; verification and validation; software comprehension; analysis tools; model-driven engineering: applications; model transformations; and testing.

Design and Rigorous Prototyping of Object-Oriented Modeling with Syntropy

BoD – Books on Demand

Introduction to Programming Languages

CRC Press In programming courses, using the different syntax of multiple languages, such as C++, Java, PHP, and Python, for the same abstraction often confuses students new to computer science. Introduction to Programming Languages separates programming language concepts from the restraints of multiple language syntax by discussing the concepts at an abstrac

Java for Artists

The Art, Philosophy, and Science of Object-oriented Programming

Pulp Free Press Java For Artists: The Art, Philosophy, and Science of Object-Oriented Programming is a Java programming language text/tradebook that targets beginner and intermediate Java programmers.

Fundamental Approaches to Software Engineering

13th International Conference, FASE 2010, Held as Part of the Joint European Conferences on Theory and Practice of Software, ETAPS 2010, Paphos, Cyprus, March 20-28, 2010, Proceedings

Springer This book constitutes the refereed proceedings of the 13th International Conference on Fundamental Approaches to Software Engineering, FASE 2010, held in Paphos, Cyprus, in March 2010, as part of ETAPS 2010, the European Joint Conferences on Theory and Practice of Software. The 25 papers presented were carefully reviewed and selected from 103 submissions. The volume also contains one invited talk. The topics covered are model transformation, software evolution, graph transformation, modeling concepts, verification, program analysis, testing and debugging, and performance modeling and analysis.

Object-Oriented Technology. ECOOP 2004 Workshop Reader

ECOOP 2004 Workshop, Oslo, Norway, June 14-18, 2004, Final Reports

Springer This year, for the eighth time, the European Conference on Object-Oriented Programming (ECOOP) series, in cooperation with Springer, is glad to o?er the object-oriented research community the ECOOP 2004 Workshop Reader, a compendium of workshop reports pertaining to the ECOOP 2004 conference, held in Oslo from June 15 to 19, 2004. ECOOP 2004 hosted 19 high-quality workshops covering a large spectrum of hot research topics. These workshops were chosen through a tight peer review process following a speci?c call for proposals ending on November 30, 2003. We are very grateful to the members of the Workshop Selection Committee for their careful reviews and hard work to put together the excellent workshop program. We also want to thank all submitters, accepted or not, to whom the workshop program equally owes its quality. This selection process was then followed by a selection of workshop participants, done by each team of organizers based on an open call for position papers. This participant selection process ensured that we gathered the most active researchers in each workshop research area, and therefore a fruitful working meeting. Following the tradition of the ECOOP Workshop Reader, we strove for hi- quality, value-adding and open-ended workshop reports. The result, as you can judgefromthefollowingpages,isathought-provokingsnapshotofthecurrent-searchinobject-orientation,fullofpointersforfurtherexplorationofthecovered topics. We want to thank our workshop organizers who, despite the additional burden, did a great job in putting together these reports.

Codecharts

Roadmaps and blueprints for object-oriented programs

John Wiley & Sons NEW LANGUAGE VISUALIZES PROGRAM ABSTRACTIONS CLEARLY AND PRECISELY Popular software modelling notations visualize implementation minutiae but fail to scale, to capture design abstractions, and to deliver effective tool support. Tailored to overcome these limitations, Codecharts can elegantly model roadmaps and blueprints for Java, C++, and C# programs of any size clearly, precisely, and at any level of abstraction. More practically, significant productivity gains for programmers using tools supporting Codecharts have been demonstrated in controlled experiments. Hundreds of figures and examples in this book illustrate how Codecharts are used to: Visualize the building-blocks of object-oriented design Create bird's-eye roadmaps of large programs with minimal symbols and no clutter Model blueprints of patterns, frameworks, and other design decisions Be exactly sure what diagrams claim about programs and reason rigorously about them Tools supporting Codecharts are also shown here to: Recover design from plain Java and visualize the program's roadmap Verify conformance to design decision with a click of a button This classroom-tested book includes two main parts: Practice (Part I) offers experienced programmers, software designers and software engineering students practical tools for representing and communicating object-oriented design. It demonstrates how to model programs, patterns, libraries, and frameworks using examples from JDK, Java 3D, JUnit, JDOM, Enterprise JavaBeans, and the Composite, Iterator, Factory Method, Abstract Factory, and Proxy design patterns. Theory (Part II) offers a mathematical foundation for Codecharts to graduate students and researchers studying software design, modelling, specification, and verification. It defines a formal semantics and a satisfies relation for design verification, and uses them to reason about the relations between patterns and programs (e.g., "java.awt implements Composite" and "Factory Method is an abstraction of Iterator").

Formal Methods for Components and Objects

9th International Symposium, FMCO 2010, Graz, Austria, November 29 - December 1, 2010

Springer Science & Business Media The focus in development methodologies of large and complex software systems has switched in the last two decades from functional issues to structural issues; this holds for both the object-oriented and the more recent component-based software engineering paradigms. Formal methods have been applied successfully to the verification of medium-sized programs in protocol and hardware design for quite a long time. However, their application to the development of large systems requires more emphasis on specification, modeling and validation techniques supporting the concepts of reusability and modifiability, and their implementation in new extensions of existing programming languages like Java. This state-of-the-art survey presents the outcome of the 9th Symposium on Formal Methods for Components and Objects, held in Graz, Austria, in November/December 2010. The volume contains 20 revised contributions submitted after the symposium by speakers from each of the following European IST projects: the FP7-IST project AVANTSSAR on automated validation of trust and security of service-oriented architectures; the FP7-IST project DEPLOY on industrial deployment of advanced system engineering methods for high productivity and dependability; the ESF-COST Action IC0701 on formal verification of object-oriented software; the FP7-IST project HATS on highly adaptable and trustworthy software using formal models; the FP7-SST project INESS on an integrated European railway signalling system; the FP7-IST project MADES on a model-driven approach to improve the current practice in the development of embedded systems; the FP7-IST project MOGENTES on model-based generation of tests for dependable embedded systems; as well as the FP7-IST project MULTIFORM on integrated multi-formalism tool support for the design of networked embedded control systems.

Object-Oriented Analysis and Design

Understanding System Development with UML 2.0

John Wiley & Sons Incorporated Covering the breadth of a large topic, this book provides a thorough grounding in object-oriented concepts, the software development process, UML and multi-tier technologies. After covering some basic ground work underpinning OO software projects, the book follows the steps of a typical development project (Requirements Capture - Design - Specification & Test), showing how an abstract problem is taken through to a concrete solution. The book is programming language agnostic - so code is kept to a minimum to avoid detail and deviation into implementation minutiae. A single case study running through the text provides a realistic example showing development from an initial proposal through to a finished system. Key artifacts such as the requirements document and detailed designs are included. For each aspect of the case study, there is an exercise for the reader to produce similar documents for a different system.

Deriving Object-Oriented Specifications from Algebraic Specifications through Refinement

Cuvillier Verlag

Object-Oriented Technology. ECOOP'99 Workshop Reader

ECOOP'99 Workshops, Panels, and Posters, Lisbon, Portugal, June 14-18, 1999 Proceedings

Springer ECOOP'99 Workshops, Panels, and Posters Lisbon, Portugal, June 14-18, 1999 Proceedings

Formal Methods for Components and Objects

11th International Symposium, FMCO 2012, Bertinoro, Italy, September 24-28, 2012, Revised Lectures

Springer This book constitutes revised lectures from the 11th Symposium on Formal Methods for Components and Object, FMCO 2012, held in Bertinoro, Italy, in September 2012. The 8 lectures featured in this volume are by world-renowned experts within the area of formal models for objects and components. The book provides a unique combination of ideas on software engineering and formal methods which reflect the expanding body of knowledge on modern software systems.

Distributed Computing and Networking

10th International Conference, ICDCN 2009, Hyderabad, India, January 3-6, 2009, Proceedings

Springer Science & Business Media This book constitutes the refereed proceedings of the 10th International Conference on Distributed Computing and Networking, ICDCN 2009, held in Hyderabad, India, during January 3-6, 2009. The 20 papers and 32 short presentations presented together with 3 keynote talks and a memorial lecture on A.K. Choudhury were carefully reviewed and selected from 179 submissions. The topics addressed are sensor networks, multi-core and shared memory, peer-to-peer-computing, reliability and security, distributed computing, network algorithms, fault tolerance and models, fault tolerance and replication, wireless networks, and grid and cluster computing.

Modular Specification and Verification of Object-Oriented Programs

Springer Software systems play an increasingly important role in modern societies. Smart cards for personal identi?cation, e-banking, software-controlled me- cal tools, airbags in cars, and autopilots for aircraft control are only some examples that illustrate how everyday life depends on the good behavior of software. Consequently, techniques and methods for the development of hi- quality, dependable software systems are a central research topic in computer science. A fundamental approach to this area is to use formal speci?cation and veri?cation. Speci?cation languages allow one to describe the crucial p- perties of software systems in an abstract, mathematically precise, and implementation-independent way. By formal veri?cation, one can then prove that an implementation really has the desired, speci?ed properties. Although this formal methods approach has been a research topic for more than 30 years, its practical success is still restricted to domains in which devel- ment costs are of minor importance. Two aspects are crucial to widen the application area of formal methods: – Formal speci?cation techniques have to be smoothly integrated into the software and program development process. – The techniques have to be applicable to reusable software components. This way, the quality gain can be exploited for more than one system, thereby justifying the higher development costs. Starting from these considerations, Peter Muller¨ has developed new te- niques for the formal speci?cation and veri?cation of object-oriented so- ware. The speci?cation techniques are declarative and implementati- independent. They can be used for object-oriented design and programming.

Fundamental Approaches to Software Engineering

Second International Conference, FASE'99, Held as Part of the Joint European Conferences on Theory and Practice of Software, ETAPS'99, Amsterdam, The Netherlands, March 22-28, 1999, Proceedings

Springer ETAPS'99 is the second instance of the European Joint Conferences on Theory and Practice of Software. ETAPS is an annual federated conference that was established in 1998 by combining a number of existing and new conferences. This year it comprises ?ve conferences (FOSSACS, FASE, ESOP, CC, TACAS), four satellite workshops (CMCS, AS, WAGA, CoFI), seven invited lectures, two invited tutorials, and six contributed tutorials. The events that comprise ETAPS address various aspects of the system - velopment process, including speci?cation, design, implementation, analysis and improvement. The languages, methodologies and tools which support these - tivities are all well within its scope. Di?erent blends of theory and practice are represented, with an inclination towards theory with a practical motivation on one hand and soundly-based practice on the other. Many of the issues involved in software design apply to systems in general, including hardware systems, and the emphasis on software is not intended to be exclusive.

The Object of Data Abstraction and Structures Using Java

Addison-Wesley The Object of Data Abstraction and Structures Using Java is the perfect book for your data structures course. It presents traditional data structures topics with a distinct object-oriented flavor that offers students useful approaches for data structure design and implementation.

Object-Oriented Analysis and Design

Springer Science & Business Media Object-oriented analysis and design (OOAD) has over the years, become a vast field, encompassing such diverse topics as design process and principles, documentation tools, refactoring, and design and architectural patterns. For most students the learning experience is incomplete without implementation. This new textbook provides a comprehensive introduction to OOAD. The salient points of its coverage are: • A sound footing on object-oriented concepts such as classes, objects, interfaces, inheritance, polymorphism, dynamic linking, etc. • A good introduction to the stage of requirements analysis. • Use of UML to document user requirements and design. • An extensive treatment of the design process. • Coverage of implementation issues. • Appropriate use of design and architectural patterns. • Introduction to the art and craft of refactoring. • Pointers to resources that further the reader's knowledge. All the main case-studies used for this book have been implemented by the authors using Java. The text is liberally peppered with snippets of code, which are short and fairly self-explanatory and easy to read. Familiarity with a Java-like syntax and a broad understanding of the structure of Java would be helpful in using the book to its full potential.

FM'99 - Formal Methods

World Congress on Formal Methods in the Development of Computing Systems, Toulouse, France, September 20-24, 1999 Proceedings, Volume II

Springer Formal methods are coming of age. Mathematical techniques and tools are now regarded as an important part of the development process in a wide range of industrial and governmental organisations. A transfer of technology into the mainstream of systems development is slowly, but surely, taking place. FM'99, the First World Congress on Formal Methods in the Development of Computing Systems, is a result, and a measure, of this new-found maturity. It brings an impressive array of industrial and applications-oriented papers that show how formal methods have been used to

tackle real problems. These proceedings are a record of the technical symposium ofFM'99:alo- side the papers describingapplicationsofformalmethods,youwill ndtechnical reports,papers,andabstracts detailing new advances in formaltechniques,from mathematical foundations to practical tools. The World Congress is the successor to the four Formal Methods Europe Symposia, which in turn succeeded the four VDM Europe Symposia. This s- cession re?ects an increasing openness within the international community of researchers and practitioners: papers were submitted covering a wide variety of formal methods and application areas. The programmecommittee re?ects the Congress's international nature, with a membership of 84 leading researchersfrom 38 di erent countries.The comm- tee was divided into 19 tracks, each with its own chair to oversee the reviewing process. Our collective task was a di cult one: there were 259 high-quality s- missions from 35 di erent countries.

Formal Engineering for Industrial Software Development

Using the SOFL Method

Springer Science & Business Media In any serious engineering discipline, it would be unthinkable to construct a large system without having a precise notion of what is to be built and without verifying how the system is expected to function. Software engineering is no different in this respect. Formal methods involve the use of mathematical notation and calculus in software development; such methods are difficult to apply to large-scale systems with practical constraints (e.g., limited developer skills, time and budget restrictions, changing requirements). Here Liu claims that formal engineering methods may bridge this gap. He advocates the incorporation of mathematical notation into the software engineering process, thus substantially improving the rigor, comprehensibility and effectiveness of the methods commonly used in industry. This book provides an introduction to the SOFL (Structured Object-Oriented Formal Language) method that was designed and industry-tested by the author. Written in a style suitable for lecture courses or for use by professionals, there are numerous exercises and a significant real-world case study, so the readers are provided with all the knowledge and examples needed to successfully apply the method in their own projects.

Inheritance Relationships for Disciplined Software Construction

Springer Science & Business Media Object-oriented inheritance has been in widespread use for a decade, and it is now realised that although inheritance is a powerful modelling tool with many associated advantages, its benefits are not automatically conferred on systems that simply use it. This book introduces a model of inheritance based around five fundamental inheritance relationships. Each relationship has a clear conceptual basis, representing a fundamental, specialised use of inheritance. The resulting model replaces a confused notion of inheritance with five distinct conceptual relationships supporting more precise modelling of systems and capturing the semantic intent of each use of inheritance within a system.

Verification, Model Checking, and Abstract Interpretation

8th International Conference, VMCAI 2007, Nice, France, January 14-16, 2007, Proceedings

Springer The book constitutes the refereed proceedings of the 7th International Conference on Verification, Model Checking, and Abstract Interpretation, VMCAI 2007, held in Nice, France in January 2007. This event was co-located with the Symposium on Principles of Programming Languages (POPL 2007). The 21 revised full papers presented together with three invited lectures and three invited tutorials were carefully reviewed and selected from a total of 85 submissions.

Object-Oriented Design And Patterns

John Wiley & Sons Cay Horstmann offers readers an effective means for mastering computing concepts and developing strong design skills. This book introduces object-oriented fundamentals critical to designing software and shows how to implement design techniques. The author's clear, hands-on presentation and outstanding writing style help readers to better understand the material.· A Crash Course in Java· The Object-Oriented Design Process· Guidelines for Class Design· Interface Types and Polymorphism· Patterns and GUI Programming· Inheritance and Abstract Classes· The Java Object Model· Frameworks· Multithreading· More Design Patterns

Objects, Abstraction, Data Structures and Design

Using C++

*John Wiley & Sons "It is a practical book with emphasis on real problems the programmers encounter daily." --Dr.Tim H. Lin, California State Polytechnic University, Pomona "My overall impressions of this book are excellent. This book emphasizes the three areas I want: advanced C++, data structures and the STL and is much stronger in these areas than other competing books." --Al Verbanec, Pennsylvania State University Think, Then Code When it comes to writing code, preparation is crucial to success. Before you can begin writing successful code, you need to first work through your options and analyze the expected performance of your design. That's why Elliot Koffman and Paul Wolfgang's Objects, Abstraction, Data Structures, and Design: Using C++ encourages you to Think, Then Code, to help you make good decisions in those critical first steps in the software design process. The text helps you thoroughly understand basic data structures and algorithms, as well as essential design skills and principles. Approximately 20 case studies show you how to apply those skills and principles to real-world problems. Along the way, you'll gain an understanding of why different data structures are needed, the applications they are suited for, and the advantages and disadvantages of their possible implementations. Key Features * Object-oriented approach. * Data structures are presented in the context of software design principles. * 20 case studies reinforce good programming practice. * Problem-solving methodology used throughout... "Think, then code!" * Emphasis on the C++ Standard Library. * Effective pedagogy.*

ECOOP 2003 - Object-Oriented Programming

17th European Conference, Darmstadt, Germany, July 21-25, 2003. Proceedings

Springer The refereed proceedings of the 17th European Conference on Object-Oriented Programming, ECOOP 2003, held in Darmstadt, Germany in July 2003. The 18 revised full papers presented together with 2 invited papers were carefully reviewed and selected from 88 submissions. The papers are organized in topical sections on aspects and components; patterns, architecture, and collaboration; types; modeling; algorithms, optimization, and runtimes; and formal techniques and methodology.

Formal Methods for Components and Objects

First International Symposium, FMCO 2002, Leiden, The Netherlands, November 5-8, 2002, Revised Lectures

Springer Science & Business Media This book presents revised tutorial lectures given by invited speakers at the First International Symposium on Formal Methods for Components and Objects, FMCO 2002, held in Leiden, The Netherlands, in November 2002. The 21 revised lectures by leading researchers present a comprehensive account of the potential of formal methods applied to complex software systems such as components and object systems. The book makes a unique contribution to bridging the gap between theory and practice in software engineering.

Diagrammatic Representation and Inference

5th International Conference, Diagrams 2008, Herrsching, Germany, September 19-21, 2008, Proceedings

Springer Diagrams is an international and interdisciplinary conference series, covering all aspects of research on the theory and application of diagrams. Recent technological advances have enabled the large-scale adoption of d- grams in a diverse range of areas. Increasingly sophisticated visual represen- tions are emerging and, to enable e?ective communication, insight is required into how diagrams are used and when they are appropriate for use. The per- sive, everyday use of diagrams for communicating information and ideas serves to illustrate the importance of providing a sound understanding of the role that diagrams can, and do, play. Research in the ?eld of diagrams aims to improve our understanding of the role of diagrams, sketches and other visualizations in communication, computation, cognition, creative thought, and problem solving. These concerns have triggered a surge of interest in the study of diagrams. The study of diagrammatic communication as a whole must be pursued as an interdisciplinary endeavour.Diagrams 2008 was the ?fth event in this conf- ence series, which was launched in Edinburghduring September 2000.Diagrams attracts a large number of researchers from virtually all related ?elds, placing the conference as a major international event in the area. Diagrams is the only conference that provides a united forum for all areas that are concerned with the study of diagrams: for example, architecture, - ti?cial intelligence, cartography, cognitive science, computer science, education, graphicdesign,historyofscience,human-computerinteraction,linguistics,logic,

mathematics,philosophy,psychology,andsoftwaremodelling.Weseeissuesfrom all of these ?elds discussed in the papers collected in the present volume.

Sixth International Conferencew on Information Technology

Allied Publishers

Practical Foundations of Business System Specifications

Springer Science & Business Media "In the mathematics I can report no deficience, except that it be that men do not sufficiently understand the excellent use of the pure mathematics, in that they do remedy and cure many defects in the wit and faculties intellectual. For if the wit be too dull, they sharpen it; if too wandering, they fix it; if too inherent in the sense, they abstract it. " Roger Bacon (1214?-1294?) "Mathematics-the art and science of effective reasoning. " E. W. Dijkstra, 1976 "A person who had studied at a good mathematical school can do anything. " Ye. Bunimovich, 2000 This is the third book published by Kluwer based on the very successful OOPSLA workshops on behavioral semantics (the first two books were published in 1996 [KH 1996] and 1999 [KRS 1999]). These workshops fostered precise and explicit specifications of business and system semantics, independently of any (possible) realization. Some progress has been made in these areas, both in academia and in industry. At the same time, in too many cases only lip service to elegant specifica tions of semantics has been provided, and as a result the systems we build or buy are all too often not what they are supposed to be. We used to live with that, and quite often users relied on human intermediaries to "sort the things out. " This approach worked perfectly well for a long time.

Practical Aspects of Declarative Languages

5th International Symposium, PADL 2003, New Orleans, LA, USA, January 13-14, 2003, Proceedings

Springer This book constitutes the refereed proceedings of the 5th International Symposium on Practical Aspects of Declarative Languages, PADL 2003, held in New Orleans, LA, USA, in January 2003. The 23 revised full papers presented together with 3 invited contributions were carefully reviewed and selected from 57 submissions. All current aspects of declarative programming are addressed.

Foundations of Component-Based Systems

Cambridge University Press This collection of articles by well-known experts was originally published in 2000 and is intended for researchers in computer science, practitioners of formal methods, and computer programmers working in safety-critical applications or in the technology of component-based systems. The work brings together several elements of this area that were fast becoming the focus of much research and practice in computing. The introduction by Clemens Szyperski gives a snapshot of research in the field. About half the articles deal with theoretical frameworks, models, and systems of notation; the rest of the book concentrates on case studies by researchers who have built prototype systems and present findings on architectures verification. The emphasis is on advances in the technological infrastructure of component-based systems; how to design and specify reusable components; and how to reason about, verify, and validate systems from components. Thus the book shows how theory might move into practice.

Scientific Engineering for Distributed Java Applications

International Workshop, FIDJI 2002, Luxembourg, Luxembourg, November 28-29, 2002, Revised Papers

Springer FIDJI 2002 was an international forum for researchers and practitioners in- rested in the advances in, and applications of, software engineering for distri- ted application development. Concerning the technologies, the workshop focused on "Java-related" technologies. It was an opportunity to present and observe the latest research, results, and ideas in these areas. All papers submitted to this workshop were reviewed by at least two members of the International Program Committee. Acceptance was based primarily on the originality and contribution. We selected for these postworkshop proceedings 16 papers amongst 33 submitted, two tutorials, and two keynotes. FIDJI 2002 was aimed at promoting a scienti?c approach to software engin- ring. The scope of the workshop included the following topics: – design of distributed Java applications – Java-related technologies – software and system architecture engineering and development methodo- gies – development methodologies for UML – development methodologies for reliable distributed systems – component-based development methodologies – management of evolutions/iterations in the analysis, design, implementation, and test phases – dependability support during system lifecycle – managing inconsistencies during application development – atomicity and exception handling in system development – software architectures, frameworks, and design patterns for developing d- tributed systems – integration of formal techniques in the development process – formal analysis and grounding of modeling notation and techniques (e. g.

Schaum's Outline of Data Structures with Java, 2ed

McGraw Hill Professional Tough Test Questions? Missed Lectures? Not Enough Time? Fortunately for you, there's Schaum's Outlines. More than 40 million students have trusted Schaum's to help them succeed in the classroom and on exams. Schaum's is the key to faster learning and higher grades in every subject. Each Outline presents all the essential course information in an easy-to-follow, topic-by-topic format. You also get hundreds of examples, solved problems, and practice exercises to test your skills. This Schaum's Outline gives you Practice problems with full explanations that reinforce knowledge Coverage of the most up-to-date developments in your course field In-depth review of practices and applications Fully compatible with your classroom text, Schaum's highlights all the important facts you need to know. Use Schaum's to shorten your study time-and get your best test scores! Schaum's Outlines-Problem Solved.

Object-oriented Software Engineering

Using UML, Patterns, and Java

Pearson This text shows students how to use both the principles of software engineering and the practices of various object-oriented tools, processes, and products. Using case studies to illustrate the concepts in each chapter, the book emphasises learning object-oriented software engineering through practical experience.

Java Design

Objects, UML, and Process

Addison-Wesley Professional A systematic approach to striving for perfection in Java "TM" enterprise software! -- Principles and best-practice patterns for the key design and implementation problems facing enterprise developers. -- Effective integration of UML, object-oriented development, Java "TM," and your software development processes. -- Identifies behavioral and structural modeling techniques that deliver exceptional value. Drawing upon the experiences of hundreds of developers he has trained or worked with, Kirk Knoernschild offers a systematic guide to solving today's complex problems of Java-based enterprise application design and implementation. Knoernschild focuses on both technology and process, offering a phased approach to integrating UML, object-oriented development, and Java "TM" throughout the entire development lifecycle. Knoernschild begins by reintroducing objects and object-oriented design, presenting key concepts such as polymorphism and inheritance in terms of several powerful principles and patterns that inform the entire book. Next, he introduces the UML: how it evolved, the problems it helps to solve, and how various UML constructs can be mapped to Java. Knoernschild shows how to structure UML diagrams to more easily identify the problem being solved, introduces best practices that any software development process should promote, and shows how the UML fits with these best practices. He reviews the external considerations that impact how companies really use the UML, Java "TM," and object-based techniques, presenting a pragmatic, phased approach to integrating them with the least pain and the greatest effectiveness. The book concludes with in-depth coverage of behavioral andstructural modeling, again emphasizing the principles and patterns associated with long-term success. For every Java "TM" enterprise developer, architect, analyst, and project manager.