

Design Patterns For Object Oriented Software Development ACM Press

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ECOOP 2000 - Object-Oriented Programming - Elisa Bertino
2003-06-26

Following a 13-year tradition of excellence, the 14th ECOOP conference repeated the success of its predecessors. This excellence is certainly due to the level of maturity that object-oriented technology has reached, which warrants its use as a key paradigm in any computerized system. The principles of the object-oriented paradigm and the features of systems, languages, tools, and methodologies based on it are a source of research ideas and solutions to many in all areas of computer science. ECOOP 2000 showed a thriving field characterized by success on the practical side and at the same time by continuous scientific growth. Firmly established as a leading forum in the object-oriented arena, ECOOP 2000 received 109 high quality submissions. After a thorough review process, the program committee selected 20 papers, which well reflect relevant trends in object-oriented research: object modeling, type theory, distribution and coordination, advanced tools, programming languages. The program committee, consisting of 31 distinguished researchers in object-orientation, met in Milan, Italy, to select the papers for inclusion in the technical program of the conference.

[Extreme Programming and Agile Processes in Software Engineering](#) - Jutta Eckstein 2004-06-01

Software development is being revolutionized. The heavy-weight processes of the 1980s and 1990s are being replaced by light-weight, so called agile processes. Agile processes move the focus of software development back to what really matters: running software. This is only made possible by accepting that software development is a creative job done by, with, and for individual human beings. For this reason, agile software development encourages interaction, communication, and fun. This was the focus of the Fifth International Conference on Extreme Programming and Agile Processes in Software Engineering which took place between June 6 and June 10, 2004 at the conference center in Garmisch-Partenkirchen at the foot of the Bavarian Alps near Munich, Germany. In this way the conference provided a unique forum for industry and academic professionals to discuss their needs and ideas for incorporating Extreme Programming and Agile Methodologies into their professional life under consideration of the human factor. We celebrated this year's conference by reflecting on what we had achieved in the last half decade and we also focused on the challenges we will face in the near future.

Modern Integrated Technology of Information Systems Design and Development - Emaid Abdul-Retha Victor Illushko, Alexander Sokolov Irena Zaretskaya Soenke Dierks Pascual Marques
2016-07-01

The main purpose of this monograph is to introduce the up-to-date technology of software development for different applied problems solution as one of the most important spheres of modern engineering activity. It is absolutely obvious today that the role of information technology in everyday engineering activity rises steeply. Moreover, the efficient skills in information technology form the obligatory and essential part of the qualification requirements to modern engineer.

Software Architectures - Leonor Barroca 2011-06-27

This book provides a unique overview of different approaches to developing software that is flexible, adaptable and easy to maintain and reuse. It covers the most recent advances in software architecture research. In addition, it provides the reader

with scalable solutions for engineering and reengineering business processes, including architectural components for business applications, framework design for Internet distributed business applications, and architectural standards for enterprise systems.

Generative and Component-Based Software Engineering - Greg Butler 2003-06-30

This book constitutes the thoroughly refereed post-proceedings of the Second International Symposium on Generative and Component-Based Software Engineering, GCSE 2000, held in Erfurt, Germany in October 2000. The twelve revised full papers presented with two invited keynote papers were carefully reviewed and selected from 29 submissions. The book offers topical sections on aspects and patterns, models and paradigms, components and architectures, and Mixin-based composition and metaprogramming.

Practicing Software Engineering in the 21st Century - Joan Peckham 2003-01-01

"This technological manual explores how software engineering principles can be used in tandem with software development tools to produce economical and reliable software that is faster and more accurate. Tools and techniques provided include the Unified Process for GIS application development, service-based approaches to business and information technology alignment, and an integrated model of application and software security. Current methods and future possibilities for software design are covered."

Patterns of Software - Richard P. Gabriel 1998

In a book that will intrigue anyone who is curious about Silicon Valley, computer programming, or the world of high technology, respected software pioneer and computer scientist Richard Gabriel offers an informative insider's look at the world of software design and computer programming and the business that surrounds them. 10 illustrations.

Generative Programming and Component Engineering - Frank Pfenning 2003-11-19

This volume constitutes the proceedings of the second International Conference on Generative Programming and Component Engineering (GPCE 2003), held September 22-25, 2003, in Erfurt, Germany, sponsored by the NetObjectDays German industrial software development event, in cooperation with the ACM SIGPLAN and SIGSOFT societies. GPCE was created as an effort to bring together researchers working on both the programming languages and the software

engineering side of program generation and component engineering. The common theme of program generation and component engineering is the domain-specific nature of both approaches. Depending on the characteristics of a domain, either a generative or a compositional technical solution may be appropriate. In just its second year, GPCE has shown a lot of promise for building a strong community. The response to the call for papers was excellent, with 62 submissions to the technical program, 2 of which were later withdrawn. Each paper received between three and five reviews, many of them quite thorough and hopefully valuable to all authors. The electronic meeting allowed for in-depth discussions of all submissions, often to a much greater extent than possible in a physical PC meeting. As a result, 21 papers were selected for presentation at the conference and are included in this volume, together with abstracts for the invited talks by

Olivier Danvy and Peri Tarr. Of the accepted papers, 3 are co-authored by PC members (from a total of 5 PC submissions). We tried hard to ensure fairness and hold PC submissions to a high standard. The EDAS conference submission system was used to manage the paper submissions. Our EDAS installation was supported by Blair MacIntyre, who was particularly helpful in resolving technical issues with the system.

Quality and Communicability for Interactive Hypermedia Systems: Concepts and Practices for Design - Cipolla-Ficarra, Francisco Vicente 2010-02-28

"This book introduces a new professional in the context of the information science, technology, and management called an 'heuristic assessor of qualitative communicability in interactive systems'"--Provided by publisher.

Engineering for Human-Computer Interaction - Stéphane Chatty 1999-08-31

The aim of IFIP Working Group 2.7 (13.4) for User Interface Engineering is to investigate the nature, concepts and construction of user interfaces for software systems. The group's scope is:

- developing user interfaces based on knowledge of system and user behaviour;
- developing frameworks for reasoning about interactive systems; and
- developing engineering models for user interfaces.

Every three years, the group holds a "working conference" on these issues. The conference mixes elements of a regular conference and a workshop. As in a regular conference, the papers describe relatively mature work and are thoroughly reviewed. As in a workshop, the audience is kept small, to enable in-depth discussions. The conference is held over 5-days (instead of the usual 3-days) to allow such discussions. Each paper is discussed after it is presented. A transcript of the discussion is found at the end of each paper in these proceedings, giving important insights about the paper. Each session was assigned a "notes taker", whose responsibility was to collect/transcribe the questions and answers during the session. After the conference, the original transcripts were distributed (via the Web) to the attendees and modifications that clarified the discussions were accepted.

Object-Oriented Technology. ECOOP '98 Workshop Reader - Serge Demeyer 1998-12-11

At the time of writing (mid-October 1998) we can look back at what has been a very successful ECOOP'98. Despite the time of the year - in the middle of what is traditionally regarded as a holiday period - ECOOP'98 was a record breaker in terms of number of participants. Over 700 persons found their way to the campus of the Brussels Free University to participate in a wide range of activities. This 3rd ECOOP workshop reader reports on many of these activities. It contains a careful selection of the input and a cautious summary of the outcome for the numerous discussions that happened during the workshops, demonstrations and posters. As such, this book serves as an excellent snapshot of the state of the art in the field of object oriented programming. About the diversity of the submissions A workshop reader is, by its very nature, quite diverse in the topics covered as well as in the form of its contributions. This reader is not an exception to this rule: as editors we have given the respective organizers much freedom in their choice of presentation because we feel form follows content. This explains the diversity in the types of reports as well as in their lay out.

Transactions on Pattern Languages of Programming II - Paris Avgeriou 2011-03-23

The Transactions on Pattern Languages of Programming subline aims to publish papers on patterns and pattern languages as applied to software design, development, and use, throughout all phases of the software life cycle, from requirements and design to implementation, maintenance and evolution. The primary focus of this LNCS Transactions subline is on patterns, pattern collections, and pattern languages themselves. The journal also includes reviews, survey articles, criticisms of patterns and pattern languages, as well as other research on patterns and pattern languages. This book, the second volume in the Transactions on Pattern Languages of Programming series, presents five papers that have been through a careful peer review process involving both pattern experts and domain experts. The papers demonstrate techniques for applying patterns in an industrial or research setting. Some have confronted the topic

within software engineering; others offer approaches in other pattern domains, which is an indication of the diverse fields where patterns are applied.

Objects, Components, Architectures, Services, and Applications for a Networked World - Mehmet Aksit 2003-02-25

This book constitutes the thoroughly refereed post-proceedings of the international conference NetObjectDays 2002, held in Erfurt, Germany, in October 2002. The 26 revised full papers presented were carefully selected during two rounds of reviewing and revision. The papers are organized in topical sections on embedded and distributed systems; components and MDA; Java technology; Web services; aspect-oriented software design; agents and mobility; software product lines; synchronization; testing, refactoring, and CASE tools.

Encyclopedia of Software Engineering Three-Volume Set (Print) - Phillip A. Laplante 2010-11-22

Software engineering requires specialized knowledge of a broad spectrum of topics, including the construction of software and the platforms, applications, and environments in which the software operates as well as an understanding of the people who build and use the software. Offering an authoritative perspective, the two volumes of the Encyclopedia of Software Engineering cover the entire multidisciplinary scope of this important field. More than 200 expert contributors and reviewers from industry and academia across 21 countries provide easy-to-read entries that cover software requirements, design, construction, testing, maintenance, configuration management, quality control, and software engineering management tools and methods. Editor Phillip A. Laplante uses the most universally recognized definition of the areas of relevance to software engineering, the Software Engineering Body of Knowledge (SWEBOK®), as a template for organizing the material. Also available in an electronic format, this encyclopedia supplies software engineering students, IT professionals, researchers, managers, and scholars with unrivaled coverage of the topics that encompass this ever-changing field. Also Available Online This Taylor & Francis encyclopedia is also available through online subscription, offering a variety of extra benefits for researchers, students, and librarians, including: Citation tracking and alerts Active reference linking Saved searches and marked lists HTML and PDF format options Contact Taylor and Francis for more information or to inquire about subscription options and print/online combination packages. US: (Tel) 1.888.318.2367; (E-mail) e-reference@taylorandfrancis.com International: (Tel) +44 (0) 20 7017 6062; (E-mail) online.sales@tandf.co.uk

New Trends in Software Methodologies, Tools and Techniques - Hamido Fujita 2012

Software is the essential enabling means for science and the new economy. It helps us to create a more reliable, flexible and robust society. But software often falls short of our expectations. Current methodologies, tools, and techniques remain expensive and are not yet sufficiently reliable, while many promising approaches have proved to be no more than case-by-case oriented methods. This book contains extensively reviewed papers from the eleventh International Conference on New Trends in software Methodology, Tools and Techniques (SoMeT_12), held in Genoa, Italy, in September 2012. The conference provides an opportunity for scholars from the international research community to discuss and share research experiences of new software methodologies and techniques, and the contributions presented here address issues ranging from research practices and techniques and methodologies to proposing and reporting solutions for global world business. The emphasis has been on human-centric software methodologies, end-user development techniques and emotional reasoning, for an optimally harmonized performance between the design tool and the user. Topics covered include the handling of cognitive issues in software development to adapt it to the user's mental state and intelligent software design in software utilizing new aspects on conceptual ontology and semantics reflected on knowledge base system models. This book provides an opportunity for the software science community to show where we are today and where the future may take us.

Feature-Oriented Software Product Lines - Sven Apel 2013-10-04

While standardization has empowered the software industry to

substantially scale software development and to provide affordable software to a broad market, it often does not address smaller market segments, nor the needs and wishes of individual customers. Software product lines reconcile mass production and standardization with mass customization in software engineering. Ideally, based on a set of reusable parts, a software manufacturer can generate a software product based on the requirements of its customer. The concept of features is central to achieving this level of automation, because features bridge the gap between the requirements the customer has and the functionality a product provides. Thus features are a central concept in all phases of product-line development. The authors take a developer's viewpoint, focus on the development, maintenance, and implementation of product-line variability, and especially concentrate on automated product derivation based on a user's feature selection. The book consists of three parts. Part I provides a general introduction to feature-oriented software product lines, describing the product-line approach and introducing the product-line development process with its two elements of domain and application engineering. The pivotal part II covers a wide variety of implementation techniques including design patterns, frameworks, components, feature-oriented programming, and aspect-oriented programming, as well as tool-based approaches including preprocessors, build systems, version-control systems, and virtual separation of concerns. Finally, part III is devoted to advanced topics related to feature-oriented product lines like refactoring, feature interaction, and analysis tools specific to product lines. In addition, an appendix lists various helpful tools for software product-line development, along with a description of how they relate to the topics covered in this book. To tie the book together, the authors use two running examples that are well documented in the product-line literature: data management for embedded systems, and variations of graph data structures. They start every chapter by explicitly stating the respective learning goals and finish it with a set of exercises; additional teaching material is also available online. All these features make the book ideally suited for teaching - both for academic classes and for professionals interested in self-study.

Objects, Models, Components, Patterns - Jan Vitek 2010-06-29
This book constitutes the proceedings of the 48th International Conference on Objects, Models, Components, Patterns, held in Málaga, Spain, in June/July 2010.

Transactions on Aspect-Oriented Software Development VIII - Shmuel Katz 2011-06-22

This volume, the 8th in the Transactions on Aspect-Oriented Software Development series, contains two regular submissions and a special section, consisting of five papers, on the industrial applications of aspect technology. The regular papers describe a framework for constructing aspect weavers, and patterns for reusable aspects. The special section begins with an invited contribution on how AspectJ is making its way from an exciting new hype topic to a valuable technology in enterprise computing. The remaining four papers each cover different industrial applications of aspect technology, which include a telecommunication platform, a framework for embedding user assistance in independently developed applications, a platform for digital publishing, and a framework for program code analysis and manipulation.

Product-Focused Software Process Improvement - Michael Felderer 2017-11-10

This book constitutes the refereed proceedings of the 18th International Conference on Product-Focused Software Process Improvement, PROFES 2017, held in Innsbruck, Austria, in November/December 2017. The 17 revised full papers presented together with 10 short papers, 21 workshop papers, 3 posters and tool demonstrations papers, and 4 tutorials were carefully reviewed and selected from 72 submissions. The papers are organized in topical sections on : Agile software Development; Data science and analytics; Software engineering processes and frameworks; Industry relevant qualitative research; User and value centric approaches; Software startups; Serum; Software testing.

Software Development, Design and Coding - John F. Dooley 2017-11-25

Learn the principles of good software design, and how to turn those principles into great code. This book introduces you to software engineering — from the application of engineering principles to the development of software. You'll see how to run a software development project, examine the different phases of a project, and learn how to design and implement programs that solve specific problems. It's also about code construction — how to write great programs and make them work. Whether you're new to programming or have written hundreds of applications, in this book you'll re-examine what you already do, and you'll investigate ways to improve. Using the Java language, you'll look deeply into coding standards, debugging, unit testing, modularity, and other characteristics of good programs. With *Software Development, Design and Coding*, author and professor John Dooley distills his years of teaching and development experience to demonstrate practical techniques for great coding. What You'll Learn Review modern agile methodologies including Scrum and Lean programming Leverage the capabilities of modern computer systems with parallel programming Work with design patterns to exploit application development best practices Use modern tools for development, collaboration, and source code controls Who This Book Is For Early career software developers, or upper-level students in software engineering courses

ECOOP - Object-Oriented Programming - Erik Ernst 2007-08-13

This book constitutes the refereed proceedings of the 21st European Conference on Object-Oriented Programming, ECOOP 2007, held in Berlin, Germany in July/August 2007. The 25 revised full papers, presented together with 3 invited talks were carefully reviewed and selected from a total of 135 final submissions. The papers are organized in topical sections on types, runtime implementation, empirical studies, programs and predicates, language design, inheritance and derivation, aspects, as well as language about language.

ECOOP 2005 - Object-Oriented Programming - Andrew Black 2005-07-18

The 19th Annual Meeting of the European Conference on Object-Oriented Programming—ECOOP 2005—took place during the last week of July in Glasgow, Scotland, UK. This volume includes the refereed technical papers presented at the conference, and two invited papers. It is traditional to preface a volume of proceedings such as this with a note that emphasizes the importance of the conference in its respective field. Although such self-evaluations should always be taken with a large grain of salt, ECOOP is undisputedly the pre-eminent conference on object-orientation outside of the United States. In its turn, object-orientation is today's principal technology not only for programming, but also for design, analysis and specification of software systems. As a consequence, ECOOP has expanded far beyond its roots in programming to encompass all of these areas of research—which is why ECOOP has remained such an interesting conference. But ECOOP is more than an interesting conference. It is the nucleus of a technical and academic community, a community whose goals are the creation and dissemination of new knowledge. Chance meetings at ECOOP have helped to spawn collaborations that span the boundaries of our many disciplines, bring together researchers and practitioners, cross cultures, and reach from one side of the world to the other. The ubiquity of fast electronic communication has made maintaining these collaborations easier than we would have believed possible only a dozen years ago. But the role of conferences like ECOOP in establishing collaborations has not diminished.

Handbook of Software Engineering and Knowledge Engineering - S K Chang 2001-12-27

This is the first handbook to cover comprehensively both software engineering and knowledge engineering — two important fields that have become interwoven in recent years. Over 60 international experts have contributed to the book. Each chapter has been written in such a way that a practitioner of software engineering and knowledge engineering can easily understand and obtain useful information. Each chapter covers one topic and can be read independently of other chapters, providing both a general survey of the topic and an in-depth exposition of the state of the art. Practitioners will find this handbook useful when

looking for solutions to practical problems. Researchers can use it for quick access to the background, current trends and most important references regarding a certain topic. The handbook consists of two volumes. Volume One covers the basic principles and applications of software engineering and knowledge engineering. Volume Two will cover the basic principles and applications of visual and multimedia software engineering, knowledge engineering, data mining for software knowledge, and emerging topics in software engineering and knowledge engineering.

Information Technology Management and Organizational Innovations - Mehdi Khosrowpour 1996-01-01

Emerging information technologies of the past few decades are now providing organizations with new tools to develop innovative organizational concepts and applications. This book is a collection of timely research and practical papers on the subject of IT management and its role in organizational innovation.

Design Patterns - Erich Gamma 1995

Software -- Software Engineering.

Perspectives of System Informatics - International Andrei Ershov Memorial Conference 1996-12-04

This book constitutes the refereed post-conference proceedings of the Second International Andrei Ershov Memorial Conference on System Informatics, held in Akademgorodok, Novosibirsk, Russia, in June 1996. The 27 revised full papers presented together with 9 invited contributions were thoroughly refereed for inclusion in this volume. The book is divided in topical sections on programming methodology, artificial intelligence, natural language processing, machine learning, dataflow and concurrency models, parallel programming, supercompilation, partial evaluation, object-oriented programming, semantics and abstract interpretation, programming and graphical interfaces, and logic programming.

Design Pattern Formalization Techniques - Taibi, Toufik 2007-04-30

Many formal approaches for pattern specification are emerging as a means to cope with the inherent shortcomings of informal description. Design Pattern Formalization Techniques presents multiple mathematical, formal approaches for pattern specification, emphasizing on software development processes for engineering disciplines. Design Pattern Formalization Techniques focuses on formalizing the solution element of patterns, providing tangible benefits to pattern users, researchers, scholars, academicians, practitioners and students working in the field of design patterns and software reuse. Design Pattern Formalization Techniques explains details on several specification languages, allowing readers to choose the most suitable formal technique to solve their specific inquiries.

Transactions on Aspect-Oriented Software Development V - 2009-06-18

The LNCS journal Transactions on Aspect-Oriented Software Development is devoted to all facets of aspect-oriented software development (AOSD) techniques in the context of all phases of the software life cycle, from requirements and design to implementation, maintenance and evolution. The focus of the journal is on approaches for systematic identification, modularization, representation and composition of crosscutting concerns, i.e., the aspects and evaluation of such approaches and their impact on improving quality attributes of software systems. This volume, the fifth in the Transactions on Aspect-Oriented Software Development series, contains three papers submitted through the regular channel, and three papers on the special focus area of aspects, dependencies and interactions. The first two papers concentrate on applications of AOSD to the fields of scheduling of web applications and operations research, respectively, while the third paper applies the technique of bisimulation to aspect-oriented languages. The special focus area on aspects, dependencies and interactions is introduced by the guest editors Ruzanna Chitchyan, Johan Fabry, Shmuel Katz, and Arend Rensink.

Emerging Methods, Technologies, and Process Management in Software Engineering - Andrea De Lucia 2008-02-25

A high-level introduction to new technologies and methods in the field of software engineering. Recent years have witnessed rapid evolution of software engineering methodologies, and until now,

there has been no single-source introduction to emerging technologies in the field. Written by a panel of experts and divided into four clear parts, Emerging Methods, Technologies, and Process Management in Software Engineering covers: Software Architectures - Evolution of software composition mechanisms; compositionality in software product lines; and teaching design patterns Emerging Methods - The impact of agent-oriented software engineering in service-oriented computing; testing object-oriented software; the UML and formal methods; and modern Web application development Technologies for Software Evolution - Migrating to Web services and software evolution analysis and visualization Process Management - Empirical experimentation in software engineering and foundations of agile methods Emerging Methods, Technologies, and Process Management in Software Engineering is a one-stop resource for software engineering practitioners and professionals, and also serves as an ideal textbook for undergraduate and graduate students alike.

Object-oriented Software Engineering - Ivar Jacobson 1992
Based on Objectory which is the first commercially available comprehensive object-oriented process for developing large scale industrial systems.

Object-Oriented Application Frameworks - T. G. Lewis 1995

A comprehensive guide to the state-of-the-art and current research in object-oriented frameworks, this book covers the fundamentals and evolution of OOP, the commercial and public-domain frameworks now available, and examples of framework technology. It also includes coverage of Microsoft's MFC and the visual, object-oriented language Prograph.

Handbook of Software Engineering and Knowledge Engineering - Shi Kuo Chang 2001

This is the first handbook to cover comprehensively both software engineering and knowledge engineering OCo two important fields that have become interwoven in recent years. Over 60 international experts have contributed to the book. Each chapter has been written in such a way that a practitioner of software engineering and knowledge engineering can easily understand and obtain useful information. Each chapter covers one topic and can be read independently of other chapters, providing both a general survey of the topic and an in-depth exposition of the state of the art. Practitioners will find this handbook useful when looking for solutions to practical problems. Researchers can use it for quick access to the background, current trends and most important references regarding a certain topic. The handbook consists of two volumes. Volume One covers the basic principles and applications of software engineering and knowledge engineering. Volume Two will cover the basic principles and applications of visual and multimedia software engineering, knowledge engineering, data mining for software knowledge, and emerging topics in software engineering and knowledge engineering. Sample Chapter(s). Chapter 1.1: Introduction (97k). Chapter 1.2: Theoretical Language Research (97k). Chapter 1.3: Experimental Science (96k). Chapter 1.4: Evolutionary Versus Revolutionary (108k). Chapter 1.5: Concurrency and Parallelisms (232k). Chapter 1.6: Summary (123k). Contents: Computer Language Advances (D E Cooke et al.); Software Maintenance (G Canfora & A Cimitile); Requirements Engineering (A T Berztiss); Software Engineering Standards: Review and Perspectives (Y-X Wang); A Large Scale Neural Network and Its Applications (D Graupe & H Kordylewski); Software Configuration Management in Software and Hypermedia Engineering: A Survey (L Bendix et al.); The Knowledge Modeling Paradigm in Knowledge Engineering (E Motta); Software Engineering and Knowledge Engineering Issues in Bioinformatics (J T L Wang et al.); Conceptual Modeling in Software Engineering and Knowledge Engineering: Concepts, Techniques and Trends (O Dieste et al.); Rationale Management in Software Engineering (A H Dutoit & B Paech); Exploring Ontologies (Y Kalfoglou), and other papers. Readership: Graduate students, researchers, programmers, managers and academics in software engineering and knowledge engineering."

Java and Object Orientation: An Introduction - John Hunt 2002-03-15

This second edition shows readers how to build object oriented applications in Java. Written in a clear and concise style, with lots

of examples, this revised edition provides: a detailed understanding of object orientation, a thorough introduction to Java including building blocks, constructs, classes, data structures etc, coverage of graphical user interfaces and applets (AWT; Servlets), and object oriented analysis. If you are looking for a good introduction to Java and object orientation, then this is the book for you. Source code for the examples in this book is available on the Internet.

Transactions on Aspect-Oriented Software Development IX - Gary T. Leavens 2012-11-28

The LNCS journal Transactions on Aspect-Oriented Software Development is devoted to all facets of aspect-oriented software development (AOSD) techniques in the context of all phases of the software life cycle, from requirements and design to implementation, maintenance and evolution. The focus of the journal is on approaches for systematic identification, modularization, representation and composition of crosscutting concerns, i.e., the aspects and evaluation of such approaches and their impact on improving quality attributes of software systems. This volume, the 9th in the Transactions on Aspect-Oriented Software Development series, contains three regular submissions and two special sections, each consisting of two papers. The papers focus on the following topics: modularization, pointcut language, dynamic adaptation, event-based programming, aspect-aware design, system software, object composition and templates.

Design Methods and Applications for Distributed Embedded Systems - Bernd Kleinjohann 2006-04-11

The IFIP TC-10 Working Conference on Distributed and Parallel Embedded Systems (DIPES 2004) brings together experts from industry and academia to discuss recent developments in this important and growing field in the splendid city of Toulouse, France. The ever decreasing price/performance ratio of microcontrollers makes it economically attractive to replace more and more conventional mechanical or electronic control systems within many products by embedded real-time computer systems. An embedded real-time computer system is always part of a well-specified larger system, which we call an intelligent product. Although most intelligent products start out as stand-alone units, many of them are required to interact with other systems at a later stage. At present, many industries are in the middle of this transition from stand-alone products to networked embedded systems. This transition requires reflection and architecting: The complexity of the evolving distributed artifact can only be controlled, if careful planning and principled design methods replace the - hoc engineering of the first version of many standalone embedded products.

Design Patterns for Object-oriented Software Development - Wolfgang Pree 1995

Software -- Software Engineering.

The UML Profile for Framework Architectures - Marcus Fontoura 2002

The aim of the UML profile for framework architectures is the definition of a UML subset, enriched with a few UML-compliant extensions, which allows the annotation of such artefacts. Thus, the resulting profile that we call UML-F does not correspond to a specific domain, but to framework technology. Though profiles might be standardized in the future, sound proposals from various communities will get the process of defining and standardizing UML profiles started. In that sense, this book sets the stage for the UML profile for framework architectures.

Software Engineering for Multi-Agent Systems V - Ricardo Choren 2007-08-22

The papers selected for this volume present advances in software engineering approaches to develop dependable high-quality multi-agent systems. These papers describe experiences and techniques associated with large multi-agent systems in a wide variety of problem domains. They cover fault tolerance, exception handling and diagnosis, security and trust, verification and validation, as well as early development phases and software reuse.

Software Engineering with Computational Intelligence - Taghi M. Khoshgoftaar 2012-12-06

The constantly evolving technological infrastructure of the modern world presents a great challenge of developing software systems with increasing size, complexity, and functionality. The software engineering field has seen changes and innovations to meet these and other continuously growing challenges by developing and implementing useful software engineering methodologies. Among the more recent advances are those made in the context of software portability, formal verification techniques, software measurement, and software reuse. However, despite the introduction of some important and useful paradigms in the software engineering discipline, their technological transfer on a larger scale has been extremely gradual and limited. For example, many software development organizations may not have a well-defined software assurance team, which can be considered as a key ingredient in the development of a high-quality and dependable software product. Recently, the software engineering field has observed an increased integration or fusion with the computational intelligence (CI) field, which is comprised of primarily the mature technologies of fuzzy logic, neural networks, genetic algorithms, genetic programming, and rough sets. Hybrid systems that combine two or more of these individual technologies are also categorized under the CI umbrella. Software engineering is unlike the other well-founded engineering disciplines, primarily due to its human component (designers, developers, testers, etc.) factor. The highly non-mechanical and intuitive nature of the human factor characterizes many of the problems associated with software engineering, including those observed in development effort estimation, software quality and reliability prediction, software design, and software testing.

Handbook of Software Engineering & Knowledge Engineering: Fundamentals - Shi Kuo Chang 2001

This is the first handbook to cover comprehensively both software engineering and knowledge engineering -- two important fields that have become interwoven in recent years. Over 60 international experts have contributed to the book. Each chapter has been written in such a way that a practitioner of software engineering and knowledge engineering can easily understand and obtain useful information. Each chapter covers one topic and can be read independently of other chapters, providing both a general survey of the topic and an in-depth exposition of the state of the art. Practitioners will find this handbook useful when looking for solutions to practical problems. Researchers can use it for quick access to the background, current trends and most important references regarding a certain topic. The handbook consists of two volumes. Volume One covers the basic principles and applications of software engineering and knowledge engineering. Volume Two will cover the basic principles and applications of visual and multimedia software engineering, knowledge engineering, data mining for software knowledge, and emerging topics in software engineering and knowledge engineering.