

An Extensible Architecture For Avionics Sensor Health

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Open-Source Electronics Platforms - Trung Dung Ngo 2019-05-20

Open-source electronics are becoming very popular, and are integrated with our daily educational and developmental activities. At present, the use open-source electronics for teaching science, technology, engineering, and mathematics (STEM) has become a global trend. Off-the-shelf embedded electronics such as Arduino- and Raspberry-compatible modules have been widely used for various applications, from do-it-yourself (DIY) to industrial projects. In addition to the growth of open-source software platforms, open-source electronics play an important role in narrowing the gap between prototyping and product development. Indeed, the technological and social impacts of open-source electronics in teaching, research, and innovation have been widely recognized.

International Aerospace Abstracts - 1999

The Art of Systems Architecting, Third Edition - Mark W. Maier 2009-01-06

If engineering is the art and science of technical problem solving, systems architecting happens when you don't yet know what the problem is. The third edition of a highly respected bestseller, *The Art of Systems Architecting* provides in-depth coverage of the least understood part of systems design: moving from a vague concept and limited resources to a satisfactory and feasible system concept and an executable program. The book provides a practical, heuristic approach to the "art" of systems architecting. It provides methods for embracing, and then taming, the growing complexity of modern systems. New in the Third Edition: Five major case studies illustrating successful and unsuccessful practices Information on architecture frameworks as standards for architecture descriptions New methods for integrating business strategy and architecture and the role of architecture as the technical embodiment of strategy Integration of process guidance for organizing and managing architecture projects Updates to the rapidly changing fields of software and systems-of-systems architecture Organization of heuristics around a simple and practical process model A Practical Heuristic Approach to the Art of Systems Architecting Extensively rewritten to reflect the latest developments, the text explains how to create a system from scratch, presenting invention/design rules together with clear explanations of how to use them. The author supplies practical guidelines for avoiding common systematic failures while implementing new mandates. He uses a heuristics-based approach that provides an organized attack on very ill-structured engineering problems. Examining architecture as more than a set of diagrams and documents, but as a set of decisions that either drive a system to success or doom it to failure, the book provide methods for integrating business strategy with technical architectural decision making.

Building Secure and Reliable Systems - Heather Adkins 2020-03-16

Can a system be considered truly reliable if it isn't fundamentally secure? Or can it be considered secure if it's unreliable? Security is crucial to the design and operation of scalable systems in production, as it plays an important part in product quality, performance, and availability. In this book, experts from Google share best practices to help your organization design scalable and reliable systems that are fundamentally secure. Two previous O'Reilly books from Google—*Site Reliability Engineering* and *The Site Reliability Workbook*—demonstrated how and why a commitment to the entire service lifecycle enables organizations to successfully build, deploy, monitor, and maintain software systems. In this latest guide, the authors offer insights into system design, implementation, and maintenance from practitioners who specialize in security and reliability. They also discuss how building and adopting their recommended best practices requires a culture that's supportive of such change. You'll learn about secure and reliable systems through: Design strategies Recommendations for coding, testing, and debugging practices Strategies to prepare for, respond to, and recover from incidents Cultural best practices that help teams across your

organization collaborate effectively

Advances in Aeronautical Informatics - Umut Durak 2018-05-10

The history of flight started with the pioneer era. The introduction of mechanical controls (including hydraulics) then led to the second era. Later, with the utilization of computers and automation in aircraft, we reached the third era. Now, we are moving towards the fourth era of flight, namely Flight 4.0, which is characterized by "smart" and "connected" aircraft that extensively exploit emerging information and communication technologies. Aeronautical informatics is advancing rapidly through the synergy between information and communication technologies and aeronautics. Multi-core avionic platforms, wireless avionics networking, service-oriented architectures and IoT, data sciences and semantic infrastructures are shaping systems to come. Increasing autonomy requirements are challenging the community to investigate new ways to assure safety. Modern software engineering methodologies and real-time software techniques are altering the established development practice. Universities are starting to align their aerospace engineering and computer science curriculums in order to address this synergy. This book is a unique compilation of advancements in aeronautical informatics, introducing the changing technology landscape of flight with respect to a new push in information and communication technology.

Just Enough Software Architecture - George Fairbanks 2010-08-30

This is a practical guide for software developers, and different than other software architecture books. Here's why: It teaches risk-driven architecting. There is no need for meticulous designs when risks are small, nor any excuse for sloppy designs when risks threaten your success. This book describes a way to do just enough architecture. It avoids the one-size-fits-all process tar pit with advice on how to tune your design effort based on the risks you face. It democratizes architecture. This book seeks to make architecture relevant to all software developers. Developers need to understand how to use constraints as guiderails that ensure desired outcomes, and how seemingly small changes can affect a system's properties. It cultivates declarative knowledge. There is a difference between being able to hit a ball and knowing why you are able to hit it, what psychologists refer to as procedural knowledge versus declarative knowledge. This book will make you more aware of what you have been doing and provide names for the concepts. It emphasizes the engineering. This book focuses on the technical parts of software development and what developers do to ensure the system works not job titles or processes. It shows you how to build models and analyze architectures so that you can make principled design tradeoffs. It describes the techniques software designers use to reason about medium to large sized problems and points out where you can learn specialized techniques in more detail. It provides practical advice. Software design decisions influence the architecture and vice versa. The approach in this book embraces drill-down/pop-up behavior by describing models that have various levels of abstraction, from architecture to data structure design.

Data Infrastructure for Medical Research - Thomas Heinis 2017-11-08

This monograph is an ideal primer for medical and computer science professionals designing and understanding data infrastructure for medical research. It is intended to technical/computer scientists and medical professionals who want to understand the challenges involved

The Internet of Things - Pethuru Raj 2017-02-24

As more and more devices become interconnected through the Internet of Things (IoT), there is an even greater need for this book, which explains the technology, the internetworking, and applications that are making IoT an everyday reality. The book begins with a discussion of IoT "ecosystems" and the technology that enables them, which includes: Wireless Infrastructure and Service Discovery Protocols Integration Technologies and Tools Application and Analytics Enablement Platforms A chapter on next-generation cloud infrastructure explains hosting IoT platforms and applications. A chapter on data analytics throws light on

IoT data collection, storage, translation, real-time processing, mining, and analysis, all of which can yield actionable insights from the data collected by IoT applications. There is also a chapter on edge/fog computing. The second half of the book presents various IoT ecosystem use cases. One chapter discusses smart airports and highlights the role of IoT integration. It explains how mobile devices, mobile technology, wearables, RFID sensors, and beacons work together as the core technologies of a smart airport. Integrating these components into the airport ecosystem is examined in detail, and use cases and real-life examples illustrate this IoT ecosystem in operation. Another in-depth look is on envisioning smart healthcare systems in a connected world. This chapter focuses on the requirements, promising applications, and roles of cloud computing and data analytics. The book also examines smart homes, smart cities, and smart governments. The book concludes with a chapter on IoT security and privacy. This chapter examines the emerging security and privacy requirements of IoT environments. The security issues and an assortment of surmounting techniques and best practices are also discussed in this chapter.

Software Engineering for Robotics - Ana Cavalcanti 2021-07-05

The topics covered in this book range from modeling and programming languages and environments, via approaches for design and verification, to issues of ethics and regulation. In terms of techniques, there are results on model-based engineering, product lines, mission specification, component-based development, simulation, testing, and proof.

Applications range from manufacturing to service robots, to autonomous vehicles, and even robots that evolve in the real world. A final chapter summarizes issues on ethics and regulation based on discussions from a panel of experts. The origin of this book is a two-day event, entitled RoboSoft, that took place in November 2019, in London. Organized with the generous support of the Royal Academy of Engineering and the University of York, UK, RoboSoft brought together more than 100 scientists, engineers and practitioners from all over the world, representing 70 international institutions. The intended readership includes researchers and practitioners with all levels of experience interested in working in the area of robotics, and software engineering more generally. The chapters are all self-contained, include explanations of the core concepts, and finish with a discussion of directions for further work. Chapters 'Towards Autonomous Robot Evolution', 'Composition, Separation of Roles and Model-Driven Approaches as Enabler of a Robotics Software Ecosystem' and 'Verifiable Autonomy and Responsible Robotics' are available open access under a Creative Commons Attribution 4.0 International License via link.springer.com.

Beyond BIOS - Vincent Zimmer 2017-01-23

Chapter 4 - Protocols You Should Know ; EFI OS Loaders ; Device Path and Image Information of the OS Loader ; Accessing Files in the Device Path of the OS Loader ; Finding the OS Partition ; Getting the Current System Configuration ; Getting the Current Memory Map.

Handbook of Software Reliability Engineering - Michael R. Lyu 1996

From leading industrial/research experts, here is an insider's look at today's best practices for software reliability engineering. Using this guide, software developers, designers, and project managers, high-level applications programmers and designers, and students will be able to tap into an unparalleled repository of accumulated experience and expertise.

Satellite Systems - Tien M. Nguyen 2021-04-14

This book provides a high-level overview of the current state of the art and future of satellite systems, satellite control systems, and satellite systems design. Chapters cover such topics as existing and future satellite systems, satellite communication subsystems, space control and Space Situation Awareness (SAA), machine learning methods with novel neural networks, data measurements in Global Navigation Satellite Systems, and much more. This volume is a practical reference for system engineers, design engineers, system analysts, and researchers in satellite engineering and advanced mathematical modeling fields.

Embedded System Design - Peter Marwedel 2010-11-16

Until the late 1980s, information processing was associated with large mainframe computers and huge tape drives. During the 1990s, this trend shifted toward information processing with personal computers, or PCs. The trend toward miniaturization continues and in the future the majority of information processing systems will be small mobile computers, many of which will be embedded into larger products and interfaced to the physical environment. Hence, these kinds of systems are called embedded systems. Embedded systems together with their physical environment are called cyber-physical systems. Examples include systems such as transportation and fabrication equipment. It is expected that the total market volume of embedded systems will be

significantly larger than that of traditional information processing systems such as PCs and mainframes. Embedded systems share a number of common characteristics. For example, they must be dependable, efficient, meet real-time constraints and require customized user interfaces (instead of generic keyboard and mouse interfaces).

Therefore, it makes sense to consider common principles of embedded system design. Embedded System Design starts with an introduction into the area and a survey of specification models and languages for embedded and cyber-physical systems. It provides a brief overview of hardware devices used for such systems and presents the essentials of system software for embedded systems, like real-time operating systems. The book also discusses evaluation and validation techniques for embedded systems. Furthermore, the book presents an overview of techniques for mapping applications to execution platforms. Due to the importance of resource efficiency, the book also contains a selected set of optimization techniques for embedded systems, including special compilation techniques. The book closes with a brief survey on testing. Embedded System Design can be used as a text book for courses on embedded systems and as a source which provides pointers to relevant material in the area for PhD students and teachers. It assumes a basic knowledge of information processing hardware and software.

Courseware related to this book is available at

<http://ls12-www.cs.tu-dortmund.de/~marwedel>.

UAV Sensors for Environmental Monitoring - Felipe Gonzalez Toro 2018-03-05

This book is a printed edition of the Special Issue "UAV Sensors for Environmental Monitoring" that was published in Sensors. **Architecture of Network Systems** - Dimitrios Serpanos 2011-01-12 Architecture of Network Systems explains the practice and methodologies that will allow you to solve a broad range of problems in system design, including problems related to security, quality of service, performance, manageability, and more. Leading researchers Dimitrios Serpanos and Tilman Wolf develop architectures for all network sub-systems, bridging the gap between operation and VLSI. This book provides comprehensive coverage of the technical aspects of network systems, including system-on-chip technologies, embedded protocol processing and high-performance, and low-power design. It develops a functional approach to network system architecture based on the OSI reference model, which is useful for practitioners at every level. It also covers both fundamentals and the latest developments in network systems architecture, including network-on-chip, network processors, algorithms for lookup and classification, and network systems for the next-generation Internet. The book is recommended for practicing engineers designing the architecture of network systems and graduate students in computer engineering and computer science studying network system design. This is the first book to provide comprehensive coverage of the technical aspects of network systems, including processing systems, hardware technologies, memory managers, software routers, and more. Develops a systematic approach to network architectures, based on the OSI reference model, that is useful for practitioners at every level. Covers both the important basics and cutting-edge topics in network systems architecture, including Quality of Service and Security for mobile, real-time P2P services, Low-Power Requirements for Mobile Systems, and next generation Internet systems.

CAN System Engineering - Wolfhard Lawrenz 2013-12-05

This book addresses the various challenges and open questions relating to CAN communication networks. Opening with a short introduction into the fundamentals of CAN, the book then examines the problems and solutions for the physical layout of networks, including EMC issues and topology layout. Additionally, a discussion of quality issues with a particular focus on test techniques is presented. Each chapter features a collection of illuminating insights and detailed technical information supplied by a selection of internationally-regarded experts from industry and academia. Features: presents thorough coverage of architectures, implementations and application of CAN transceiver, data link layer and so-called higher layer software; explains CAN EMC characteristics and countermeasures, as well as how to design CAN networks; demonstrates how to practically apply and test CAN systems; includes examples of real networks from diverse applications in automotive engineering, avionics, and home heating technology.

Electrical & Electronics Abstracts - 1997

An Extensible Component & Connector Architecture Description Infrastructure for Multi-Platform Modeling - Andreas Wortmann 2016-11-08

Software engineering for complex systems requires abstraction, multi-domain expertise, separation of concerns, and reuse. Domain experts rarely are software engineers and should formulate solutions using their domain's vocabulary instead of general purpose programming languages (GPLs). Successful integration of domain-specific languages (DSLs) into a software system requires a separation of concerns between domain issues and integration issues while retaining a loose enough coupling to support DSL reuse in different contexts. Component-based software engineering (CBSE) increases reuse and separation of concerns by encapsulating functionalities in components. Components are GPL artifacts, which raises accidental complexities. Model-driven engineering (MDE) abstracts from GPLs by lifting models to primary development artifacts. Models can be abstract and better comprehensible by using domain vocabulary instead of a GPL. They can be platform-independent and translated into GPLs for different target platforms. Component & connector (C&C) architecture description languages (ADLs) combine CBSE and MDE to compose of architectures from component models. We present concepts for engineering software systems with exchangeable component behavior languages. The concepts are realized in a software architecture modeling infrastructure that comprises modeling languages to develop applications based on C&C software architectures with exchangeable component behavior DSLs. It supports transformations from platform-independent to platform-specific software architectures and compositional code generation. With this, it enables domain experts to (re-)use the most appropriate component behavior DSL and facilitates composition of domain solutions through encapsulation in components.

Engineering Asset Management - Joseph Mathew 2008-02-06

It is with great pleasure that we welcome you to the inaugural World Congress on Engineering Asset Management (WCEAM) being held at the Conrad Jupiters Hotel on the Gold Coast from July 11 to 14, 2006. More than 170 authors from 28 countries have contributed over 160 papers to be presented over the first three days of the conference. Day four will be host to a series of workshops devoted to the practice of various aspects of Engineering Asset Management. WCEAM is a new annual global forum on the various multidisciplinary aspects of Engineering Asset Management. It deals with the presentation and publication of outputs of research and development activities as well as the application of knowledge in the practical aspects of: strategic asset management risk management in asset management design and life-cycle integrity of physical assets asset performance and level of service models financial analysis methods for physical assets reliability modelling and prognostics information systems and knowledge management asset data management, warehousing and mining condition monitoring and intelligent maintenance intelligent sensors and devices regulations and standards in asset management human dimensions in integrated asset management education and training in asset management and performance management in asset management. We have attracted academics, practitioners and scientists from around the world to share their knowledge in this important emerging transdiscipline that impacts on almost every aspect of daily life.

Real-Time Systems Design and Analysis - Phillip A. Laplante 1997
Acknowledgments. Basic Real-Time Concepts. Computer Hardware. Languages Issues. The Software Life Cycle. Real-Time Specification and Design Techniques. Real-Time Kernels. Intertask Communication and Synchronization. Real-Time Memory Management. System Performance Analysis and Optimization. Queuing Models. Reliability, Testing, and Fault Tolerance. Multiprocessing Systems. Hardware/Software Integration. Real-Time Applications. Glossary. Bibliography. Index.

Aircraft Landing Gear Design - Norman S. Currey 1988

This is the only book available today that covers military and commercial aircraft landing gear design. It is a comprehensive text that will lead students and engineers from the initial concepts of landing gear design through final detail design. The book provides a vital link in landing gear design technology from historical practices to modern design trends, and it considers the necessary airfield interface with landing gear design. The text is backed up by calculations, specifications, references, working examples.

Index to IEEE Publications - Institute of Electrical and Electronics Engineers 1989

Issues for 1973- cover the entire IEEE technical literature.

Automotive Embedded Systems Handbook - Nicolas Navet 2017-12-19

A Clear Outline of Current Methods for Designing and Implementing Automotive Systems Highlighting requirements, technologies, and business models, the Automotive Embedded Systems Handbook provides a comprehensive overview of existing and future automotive electronic

systems. It presents state-of-the-art methodological and technical solutions in the areas of in-vehicle architectures, multipartner development processes, software engineering methods, embedded communications, and safety and dependability assessment. Divided into four parts, the book begins with an introduction to the design constraints of automotive-embedded systems. It also examines AUTOSAR as the emerging de facto standard and looks at how key technologies, such as sensors and wireless networks, will facilitate the conception of partially and fully autonomous vehicles. The next section focuses on networks and protocols, including CAN, LIN, FlexRay, and TTCAN. The third part explores the design processes of electronic embedded systems, along with new design methodologies, such as the virtual platform. The final section presents validation and verification techniques relating to safety issues. Providing domain-specific solutions to various technical challenges, this handbook serves as a reliable, complete, and well-documented source of information on automotive embedded systems.

StarBriefs 2001 - 2012-12-06

This compilation probably looks like one of the craziest things a human being could spend his or her time on. Yet nobody would wonder at someone taking a short walk every day - after twenty five years that person would have covered a surprisingly long distance. This is exactly the story behind this list, which appeared first as a few pages within the directory StarGuides (or whatever name it had at that time) and as a distinct sister publication since 1990. The idea behind this dictionary is to offer astronomers and related space scientists practical assistance in decoding the numerous abbreviations, acronyms, contractions and symbols which they might encounter in all aspects of the vast range of their professional activities, including traveling. Perhaps it is a bit paradoxical, but if scientists quickly grasp the meaning of an acronym solely in their own specific discipline, they will probably encounter more difficulties when dealing with adjacent fields. It is for this purpose that this dictionary might be most often used. Scientists might also refer to this compilation in order to avoid identifying a project by an acronym which already has too many meanings or confused definitions.

Government and Industry Cooperation to Promote Economic

Conversion - United States. Congress. House. Committee on Science, Space, and Technology. Subcommittee on Investigations and Oversight 1994

Challenges in Design and Implementation of Middlewares for Real-Time Systems - Wei Zhao 2012-12-06

Challenges in Design and Implementation of Middlewares for Real-Time Systems brings together in one place important contributions and up-to-date research results in this fast moving area. Challenges in Design and Implementation of Middlewares for Real-Time Systems serves as an excellent reference, providing insight into some of the most challenging research issues in the field.

Rethinking the Internet of Things - Francis daCosta 2014-01-23

Apress is proud to announce that Rethinking the Internet of Things was a 2014 Jolt Award Finalist, the highest honor for a programming book. And the amazing part is that there is no code in the book. Over the next decade, most devices connected to the Internet will not be used by people in the familiar way that personal computers, tablets and smart phones are. Billions of interconnected devices will be monitoring the environment, transportation systems, factories, farms, forests, utilities, soil and weather conditions, oceans and resources. Many of these sensors and actuators will be networked into autonomous sets, with much of the information being exchanged machine-to-machine directly and without human involvement. Machine-to-machine communications are typically terse. Most sensors and actuators will report or act upon small pieces of information - "chirps". Burdening these devices with current network protocol stacks is inefficient, unnecessary and unduly increases their cost of ownership. This must change. The architecture of the Internet of Things must evolve now by incorporating simpler protocols toward at the edges of the network, or remain forever inefficient. Rethinking the Internet of Things describes reasons why we must rethink current approaches to the Internet of Things. Appropriate architectures that will coexist with existing networking protocols are described in detail. An architecture comprised of integrator functions, propagator nodes, and end devices, along with their interactions, is explored.

Avionics - Cary R. Spitzer 2018-10-03

Renamed to reflect the increased role of digital electronics in modern flight control systems, Cary Spitzer's industry-standard Digital Avionics Handbook, Second Edition is available in two comprehensive volumes

designed to provide focused coverage for specialists working in different areas of avionics development. The second installment, Avionics: Development and Implementation explores the practical side of avionics. The book examines such topics as modeling and simulation, electronic hardware reliability, certification, fault tolerance, and several examples of real-world applications. New chapters discuss RTCA DO-297/EUROCAE ED-124 integrated modular avionics development and the Genesis platform.

Systems Analysis and Design in a Changing World - John W. Satzinger 2015-02-01

Refined and streamlined, SYSTEMS ANALYSIS AND DESIGN IN A CHANGING WORLD, 7E helps students develop the conceptual, technical, and managerial foundations for systems analysis design and implementation as well as project management principles for systems development. Using case driven techniques, the succinct 14-chapter text focuses on content that is key for success in today's market. The authors' highly effective presentation teaches both traditional (structured) and object-oriented (OO) approaches to systems analysis and design. The book highlights use cases, use diagrams, and use case descriptions required for a modeling approach, while demonstrating their application to traditional, web development, object-oriented, and service-oriented architecture approaches. The Seventh Edition's refined sequence of topics makes it easier to read and understand than ever. Regrouped analysis and design chapters provide more flexibility in course organization. Additionally, the text's running cases have been completely updated and now include a stronger focus on connectivity in applications. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Middleware for Communications - Qusay Mahmoud 2005-06-10

A state-of-the-art guide to middleware technologies, and their pivotal role in communications networks. Middleware is about integration and interoperability of applications and services running on heterogeneous computing and communications devices. The services it provides - including identification, authentication, authorization, soft-switching, certification and security - are used in a vast range of global appliances and systems, from smart cards and wireless devices to mobile services and e-Commerce. Qusay H. Mahmoud has created an invaluable reference tool that explores the origins and current uses of middleware (highlighting the importance of such technologies as CORBA, J2EE and JMS) and has thus compiled the roadmap to future research in this area. **Middleware for Communications**: discusses the emerging fields of Peer-to-Peer (P2P) and grid middleware detailing middleware platforms such as JXTA and the Globus middleware toolkit. shows how Middleware will play a significant role in mobile computing. presents a Platform Supporting Mobile Applications (PLASMA) - a middleware platform that consists of components for location, event, and profile handling of Location-Based Services. introduces middleware security focusing on the appropriate aspects of CORBA, J2EE, and .NET and demonstrates how to realize complex security capabilities such as role-based access control (RBAC) and mandatory access control (MAC). discusses how Quality of Service (QoS) component middleware can be combined with Model Driven Architecture (MDA) technologies to rapidly develop, generate, assemble and deploy flexible communications applications. This incomparable overview of middleware for communications is suitable for graduate students and researchers in communications and computing departments. It is also an authoritative guide for engineers and developers working on distributed systems, mobile computing and networked appliances.

Designing Unmanned Systems with Greater Autonomy - Daniel Gonzales 2014

Many current unmanned systems (UxSs) employ different communication systems and have limited autonomy, which limit information sharing with warfighters and other UxSs. This report identifies ways to address these limitations.

Real Time Graphics - 1998

The Design of Aircraft Landing Gear - Robert Kyle Schmidt 2021-02-18

The aircraft landing gear and its associated systems represent a compelling design challenge: simultaneously a system, a structure, and a machine, it supports the aircraft on the ground, absorbs landing and braking energy, permits maneuvering, and retracts to minimize aircraft drag. Yet, as it is not required during flight, it also represents dead weight and significant effort must be made to minimize its total mass. **The Design of Aircraft Landing Gear**, written by R. Kyle Schmidt, PE

(B.A.Sc. - Mechanical Engineering, M.Sc. - Safety and Aircraft Accident Investigation, Chairman of the SAE A-5 Committee on Aircraft Landing Gear), is designed to guide the reader through the key principles of landing system design and to provide additional references when available. Many problems which must be confronted have already been addressed by others in the past, but the information is not known or shared, leading to the observation that there are few new problems, but many new people. **The Design of Aircraft Landing Gear** is intended to share much of the existing information and provide avenues for further exploration. The design of an aircraft and its associated systems, including the landing system, involves iterative loops as the impact of each modification to a system or component is evaluated against the whole. It is rare to find that the lightest possible landing gear represents the best solution for the aircraft: the lightest landing gear may require attachment structures which don't exist and which would require significant weight and compromise on the part of the airframe structure design. With those requirements and compromises in mind, **The Design of Aircraft Landing Gear** starts with the study of airfield compatibility, aircraft stability on the ground, the correct choice of tires, followed by discussion of brakes, wheels, and brake control systems. Various landing gear architectures are investigated together with the details of shock absorber designs. Retraction, kinematics, and mechanisms are studied as well as possible actuation approaches. Detailed information on the various hydraulic and electric services commonly found on aircraft, and system elements such as dressings, lighting, and steering are also reviewed. Detail design points, the process of analysis, and a review of the relevant requirements and regulations round out the book content. **The Design of Aircraft Landing Gear** is a landmark work in the industry, and a must-read for any engineer interested in updating specific skills and students preparing for an exciting career.

Real-time Design Patterns - Bruce Powel Douglass 2003

This revised and enlarged edition of a classic in Old Testament scholarship reflects the most up-to-date research on the prophetic books and offers substantially expanded discussions of important new insight on Isaiah and the other prophets.

Dynamic Data Driven Applications Systems - Frederica Darema 2020-11-02

This book constitutes the refereed proceedings of the Third International Conference on Dynamic Data Driven Application Systems, DDDAS 2020, held in Boston, MA, USA, in October 2020. The 21 full papers and 14 short papers presented in this volume were carefully reviewed and selected from 40 submissions. They cover topics such as: digital twins; environment cognizant adaptive-planning systems; energy systems; materials systems; physics-based systems analysis; imaging methods and systems; and learning systems.

Artificial Intelligence Abstracts - 1989

Communication Systems - Lyman Chapin 2013-03-09

Communication Systems: The State of the Art captures the depth and breadth of the field of communication systems: -Architectures and Protocols for Distributed Systems; -Network and Internetwork Architectures; -Performance of Communication Systems; -Internet Applications Engineering; -Management of Networks and Distributed Systems; -Smart Networks; -Wireless Communications; -Communication Systems for Developing Countries; -Photonic Networking; -Communication Systems in Electronic Commerce. This volume's scope and authority present a rare opportunity for people in many different fields to gain a practical understanding of where the leading edge in communication systems lies today-and where it will be tomorrow.

Model-Driven Software Development - Markus Völter 2013-06-26

Model-Driven Software Development (MDS) is currently a highly regarded development paradigm among developers and researchers. With the advent of OMG's MDA and Microsoft's Software Factories, the MDS approach has moved to the centre of the programmer's attention, becoming the focus of conferences such as OOPSLA, JAOO and OOP. MDS is about using domain-specific languages to create models that express application structure or behaviour in an efficient and domain-specific way. These models are subsequently transformed into executable code by a sequence of model transformations. This practical guide for software architects and developers is peppered with practical examples and extensive case studies. International experts deliver: * A comprehensive overview of MDS and how it relates to industry standards such as MDA and Software Factories. * Technical details on meta modeling, DSL construction, model-to-model and model-to-code transformations, and

software architecture. * Invaluable insight into the software development process, plus engineering issues such as versioning, testing and product line engineering. * Essential management knowledge covering economic and organizational topics, from a global perspective. Get started and benefit from some practical support along the way!

Service-Oriented Architecture (paperback) - Thomas Erl 2016-02-19
"Service Oriented Architecture is a hot, but often misunderstood topic in IT today. Thomas articulately describes the concepts, specifications, and standards behind service orientation and Web Services. For enterprises adopting SOA, there is detailed advice for service-oriented analysis, planning, and design. This book is a must read!" --Alex Lynch, Principal Consultant, Microsoft Enterprise Services "One primary objective of applying SOA in design is to provide business value to the solutions we build. Understanding the right approach to analyzing, designing, and developing service-oriented solutions is critical. Thomas has done a great job of demystifying SOA in practical terms with his book." --Rick Weaver, IBM Senior Consulting Certified SW I/T Specialist "A pragmatic guide to SOA principles, strategy, and best practices that distills the hype into a general framework for approaching SOA adoption in complex enterprise environments." --Sameer Tyagi, Senior Staff Engineer, Sun Microsystems "A very timely and much needed contribution to a rapidly emerging field. Through clarifying the principles and nuances of this space, the author provides a comprehensive treatment of critical key aspects of SOA from analysis and planning to standards ranging from WS-specifications to BPEL. I'll be recommending this book to both clients and peers who are planning on embracing SOA principles." --Ravi Palepu, Senior Field Architect, Rogue Wave Software "Finally, an SOA book based on real implementation experience in production environments. Too many SOA books get lost in the technical details of Web Services standards, or simply repeat vendor hype. This book covers the really hard parts: the complex process of planning, designing and implementing service-oriented architectures that meet organizational goals. It is an essential companion to any software developer, architect, or project manager implementing--or thinking about implementing--a service-oriented architecture." --Priscilla Walmsley, Managing Director of Datypic "Thomas Erl's Service-Oriented Architecture: Concepts, Technology, and Design is as good an introduction to service-oriented architectures as one could wish for. In a single volume, it covers the entire topic, from theory to real-world use to technical details. The examples are superb and the writing is wonderfully clear." --Ronald Bourret, Author, "XML and Databases" "Finally an SOA book which gets to the point with real world answers and examples. Erl guides you on a real world SOA journey. From architecture design to industry standards, this book is well written and can be easily referenced for everyday use. When embarking on your own service orientated adventures, this is the book you want in your bag." --Clark Sell, Vice President, CSell Incorporated "Organizations struggling to evolve existing service-oriented solutions beyond simple Web Services now have an expert resource available. Leading the way to the true service-oriented enterprise, Thomas Erl demystifies the complexities of the open WS-I standards with detailed practical

discussions and case studies. Erl's depth and clarity makes this work a superb complement to his Field Guide." --Kevin P. Davis, PhD., Software Architect "This book is an excellent guide for architects, developers, and managers who are already working with or are considering developing Web Services or Service-Oriented Architecture solutions. The book is divided into four sections. In the first section the fundamental technologies of XML, Web Services and Service-Oriented Architectures are described in detail with attention given to emerging standards. The book is well written and very thorough in its coverage of the subject. I recommend this book highly to anyone interested in enterprise level service architectures." --Adam Hocek, President and CTO, Broadstrokes, Inc. Additional praise quotes are published at: www.soabooks.com/reviews.asp The foremost "how-to" guide to SOA Service-Oriented Architecture (SOA) is at the heart of a revolutionary computing platform that is being adopted world-wide and has earned the support of every major software provider. In Service-Oriented Architecture: Concepts, Technology, and Design, Thomas Erl presents the first end-to-end tutorial that provides step-by-step instructions for modeling and designing service-oriented solutions from the ground up. Erl uses more than 125 case study examples and over 300 diagrams to illuminate the most important facets of building SOA platforms: goals, obstacles, concepts, technologies, standards, delivery strategies, and processes for analysis and design. His book's broad coverage includes Detailed step-by-step processes for service-oriented analysis and service-oriented design An in-depth exploration of service-orientation as a distinct design paradigm, including a comparison to object-orientation A comprehensive study of SOA support in .NET and J2EE development and runtime platforms Descriptions of over a dozen key Web services technologies and WS-* specifications, including explanations of how they interrelate and how they are positioned within SOA The use of "In Plain English" sections, which describe complex concepts through non-technical analogies Guidelines for service-oriented business modeling and the creation of specialized service abstraction layers A study contrasting past architectures with SOA and reviewing current industry influences Project planning and the comparison of different SOA delivery strategies The goal of this book is to help you attain a solid understanding of what constitutes contemporary SOA along with step-by-step guidance for realizing its successful implementation. About the Web Sites Erl's Service-Oriented Architecture books are supported by two Web sites. [http:// www.soabooks.com](http://www.soabooks.com) provides a variety of content resources and [http:// www.soaspecs.com](http://www.soaspecs.com) supplies a descriptive portal to referenced specifications. ♦ Copyright Pearson Education. All rights reserved.

Encyclopedia of Software Engineering - John J. Marciniak 2002-01-04
Covering all aspects of engineering for practitioners who design, write, or test computer programs, this updated edition explores all the issues and principles of software design and engineering. With terminology that adheres to the standard set by The Institute of Electrical and Electronics Engineers (IEEE), the book features over 500 entries in 35 taxonomic areas, as well as biographies of over 100 personalities who have made an impact in the field.