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The Amazon Way on IoT - John Rossman 2016

La 4e de couverture indique : "The Amazon Way on IoT is for the leader who wants to understand how the Internet of things is transforming business and society. Listeners will discover business cases, key concepts, technologies and tools to help develop, explain and execute their own IoT approach through understanding Amazon's and other leading companies sophisticated IoT technologies and strategies. Connected devices, wearables, cloud computing, sensors, machine learning and algorithms are all capabilities and technologies dramatically changing business, government and organizational landscapes. These are the core components enabling the Internet of things, which Harvard professor Michael Porter writes is the backbone for a third wave of technology-led innovation and digital disruption. This book gives you the easy recipes to identify the opportunities in your business."

Application Administrators Handbook - Kelly C Bourne 2013-09-16

An application administrator installs, updates, optimizes, debugs and otherwise maintains computer applications for an organization. In most cases, these applications have been licensed from a third party, but they may have been developed internally. Examples of application types include enterprise resource planning (ERP), customer resource management (CRM), and point of sale (POS), legal contract management, time tracking, accounts payable/receivable, payroll, SOX compliance

tracking, budgeting, forecasting and training. In many cases, the organization is absolutely dependent that these applications be kept running. The importance of application administrators and the level to which organizations depend upon them is easily overlooked. Application Administrators Handbook provides an overview of every phase of administering an application, from working with the vendor before installation, the installation process itself, importing data into the application, handling upgrades, working with application users to report problems, scheduling backups, automating tasks that need to be done on a repetitive schedule, and finally retiring an application. It provides detailed, hands-on instructions on how to perform many specific tasks that an application administrator must be able to handle. Learn how to install, administer and maintain key software applications throughout the product life cycle Get detailed, hands-on instructions on steps that should be taken before installing or upgrading an application to ensure continuous operation Identify repetitive tasks and find out how they can be automated, thereby saving valuable time Understand the latest on government mandates and regulations, such as privacy, SOX, HIPAA, PCI, and FISMA and how to fully comply

Small Satellites for Earth Observation - Rainer Sandau 2010-11-10

The 6th IAA Symposium on Small Satellites for Earth Observation, initiated by the International Academy of Astronautics (IAA), was again

hosted by DLR, the German Aerospace Center. The participation of scientists, engineers, and managers from 24 countries reflected the high interest in the use of small satellites for dedicated missions applied to Earth observation. The contributions showed that dedicated Earth observation missions cover a wide range of very different tasks.

2019 8th International Conference on Renewable Energy Research and Applications (ICRERA) - IEEE Staff 2019-11-03

Renewable (Green) Energy Systems and Sources (RESSs) as Wind Power, Hydropower, Solar Energy, Biomass, Biofuel, Geothermal Energy, Wave Energy, Tidal energy, Hydrogen & Fuel Cells, Energy Storage New Trends and Technologies for RESSs Policies and Strategies for RESSs Energy Transformation from Renewable Energy System (RES) to Grid Novel Energy Conversion Studies for RESs Power Devices and Driving Circuits for RESs Control Techniques for RESs Grid Interactive Systems Used in Hybrid RESs Hybrid RESSs Decision Support Systems for RESSs Renewable Energy Research and Applications RESSs for Electrical Vehicles and Components Artificial Intelligence Machine Learning Studies for RESs and Applications Computational Methods for RESSs Energy Savings for Vehicular Technology, Power Electronics, Electric Machinery and Control New Approaches in Lightnings Public Awareness Smart Grids

Building the Internet of Things - Maciej Kranz 2016-11-09

Connect your organization to the Internet of Things with solid strategy and a proven implementation plan Building Internet of Things provides front-line business decision makers with a practical handbook for capitalizing on this latest transformation. Focusing on the business implications of Internet of Things (IoT), this book describes the sheer impact, spread, and opportunities arising every day, and how business leaders can implement IoT today to realize tangible business advantages. The discussion delves into IoT from a business, strategy and organizational standpoint, and includes use-cases that illustrate the ripple effect that this latest disruption brings; you'll learn how to fashion a viable IoT plan that works with your organization's strategy and direction, and how to implement that strategy successfully by integrating

IoT into your organization tomorrow. For business managers, the biggest question surrounding the Internet of Things is what to do with it. This book examines the way IoT is being used today—and will be used in the future—to help you craft a robust plan for your organization. Grasp the depth and breadth of the Internet of Things Create a secure IoT recipe that aligns with your company's strategy Capitalize on advances while avoiding disruption from others Leverage the technical, organizational, and social impact of IoT In the past five years, the Internet of Things has become the new frontier of technology that has everyone talking. It seems that almost every week a major vendor announces a new IoT strategy or division; is your company missing the boat? Learn where IoT fits into your organization, and how to turn disruption into profit with the expert guidance in Building the Internet of Things.

Learning NumPy Array - Ivan Idris 2014-06-13

A step-by-step guide, packed with examples of practical numerical analysis that will give you a comprehensive, but concise overview of NumPy. This book is for programmers, scientists, or engineers, who have basic Python knowledge and would like to be able to do numerical computations with Python.

The Zynq Book - Louise H. Crockett 2014

This book is about the Zynq-7000 All Programmable System on Chip, the family of devices from Xilinx that combines an application-grade ARM Cortex-A9 processor with traditional FPGA logic fabric. Catering for both new and experienced readers, it covers fundamental issues in an accessible way, starting with a clear overview of the device architecture, and an introduction to the design tools and processes for developing a Zynq SoC. Later chapters progress to more advanced topics such as embedded systems development, IP block design and operating systems. Maintaining a 'real-world' perspective, the book also compares Zynq with other device alternatives, and considers end-user applications. The Zynq Book is accompanied by a set of practical tutorials hosted on a companion website. These tutorials will guide the reader through first steps with Zynq, following on to a complete, audio-based embedded systems design.

Advanced FPGA Design - Steve Kilts 2007-06-18

This book provides the advanced issues of FPGA design as the underlying theme of the work. In practice, an engineer typically needs to be mentored for several years before these principles are appropriately utilized. The topics that will be discussed in this book are essential to designing FPGA's beyond moderate complexity. The goal of the book is to present practical design techniques that are otherwise only available through mentorship and real-world experience.

An Introduction to Splines for Use in Computer Graphics and Geometric Modeling - Richard H. Bartels 1995-09

As the field of computer graphics develops, techniques for modeling complex curves and surfaces are increasingly important. A major technique is the use of parametric splines in which a curve is defined by piecing together a succession of curve segments, and surfaces are defined by stitching together a mosaic of surface patches. An Introduction to Splines for Use in Computer Graphics and Geometric Modeling discusses the use of splines from the point of view of the computer scientist. Assuming only a background in beginning calculus, the authors present the material using many examples and illustrations with the goal of building the reader's intuition. Based on courses given at the University of California, Berkeley, and the University of Waterloo, as well as numerous ACM Siggraph tutorials, the book includes the most recent advances in computer-aided geometric modeling and design to make spline modeling techniques generally accessible to the computer graphics and geometric modeling communities.

Precision: Principles, Practices and Solutions for the Internet of Things - Timothy Chou, PhD 2016-10-20

You may not be sure why your coffee pot should talk to your toaster, but precision technology powering an Internet of Things has the potential to reshape the planet. To help clarify, Dr. Timothy Chou has created Precision to introduce us to the basics of the Industrial Internet of Things (IIoT). The first part - Precision: Principles and Practices - introduces a vendor-neutral, acronym-free framework. Dr. Chou then discusses the framework's fundamental principles and these principles put into

practice. The second part - Precision: Solutions - puts Dr. Chou's IIoT framework into practice highlighting 14 real world solutions for manufacturers who are building precision machines and companies utilizing these machines to receive precision enhanced business outcomes. Case studies discussed span a number of industries such as power, water, healthcare, transportation, oil & gas, construction, agriculture, gene sequencers, mining and race cars.

Embedded Systems - Jason D. Bakos 2015-09-03

Embedded Systems: ARM Programming and Optimization combines an exploration of the ARM architecture with an examination of the facilities offered by the Linux operating system to explain how various features of program design can influence processor performance. It demonstrates methods by which a programmer can optimize program code in a way that does not impact its behavior but improves its performance. Several applications, including image transformations, fractal generation, image convolution, and computer vision tasks, are used to describe and demonstrate these methods. From this, the reader will gain insight into computer architecture and application design, as well as gain practical knowledge in the area of embedded software design for modern embedded systems. Covers three ARM instruction set architectures, the ARMv6 and ARMv7-A, as well as three ARM cores, the ARM11 on the Raspberry Pi, Cortex-A9 on the Xilinx Zynq 7020, and Cortex-A15 on the NVIDIA Tegra K1. Describes how to fully leverage the facilities offered by the Linux operating system, including the Linux GCC compiler toolchain and debug tools, performance monitoring support, OpenMP multicore runtime environment, video frame buffer, and video capture capabilities. Designed to accompany and work with most of the low cost Linux/ARM embedded development boards currently available.

Heterogeneous Computing with OpenCL 2.0 - David R. Kaeli 2015-06-18

Heterogeneous Computing with OpenCL 2.0 teaches OpenCL and parallel programming for complex systems that may include a variety of device architectures: multi-core CPUs, GPUs, and fully-integrated Accelerated Processing Units (APUs). This fully-revised edition includes the latest enhancements in OpenCL 2.0 including:

- Shared virtual

memory to increase programming flexibility and reduce data transfers that consume resources • Dynamic parallelism which reduces processor load and avoids bottlenecks • Improved imaging support and integration with OpenGL Designed to work on multiple platforms, OpenCL will help you more effectively program for a heterogeneous future. Written by leaders in the parallel computing and OpenCL communities, this book explores memory spaces, optimization techniques, extensions, debugging and profiling. Multiple case studies and examples illustrate high-performance algorithms, distributing work across heterogeneous systems, embedded domain-specific languages, and will give you hands-on OpenCL experience to address a range of fundamental parallel algorithms. Updated content to cover the latest developments in OpenCL 2.0, including improvements in memory handling, parallelism, and imaging support Explanations of principles and strategies to learn parallel programming with OpenCL, from understanding the abstraction models to thoroughly testing and debugging complete applications Example code covering image analytics, web plugins, particle simulations, video editing, performance optimization, and more

Towards Ubiquitous Low-power Image Processing Platforms -

Magnus Jahre 2020-12-15

This book summarizes the key scientific outcomes of the Horizon 2020 research project TULIPP: Towards Ubiquitous Low-power Image Processing Platforms. The main focus lies on the development of high-performance, energy-efficient embedded systems for the growing range of increasingly complex image processing applications. The holistic TULIPP approach is described in the book, which addresses hardware platforms, programming tools and embedded operating systems. Several of the results are available as open-source hardware/software for the community. The results are evaluated with several use cases taken from real-world applications in key domains such as Unmanned Aerial Vehicles (UAVs), robotics, space and medicine. Discusses the development of high-performance, energy-efficient embedded systems for the growing range of increasingly complex image processing applications; Covers the hardware architecture of embedded image

processing systems, novel methods, tools and libraries for programming those systems as well as embedded operating systems to manage those systems; Demonstrates results with several challenging applications, such as medical systems, robotics, drones and automotive.

Architecting High Performing, Scalable and Available Enterprise Web Applications -

Shailesh Kumar Shivakumar 2014-10-29
Architecting High Performing, Scalable and Available Enterprise Web Applications provides in-depth insights into techniques for achieving desired scalability, availability and performance quality goals for enterprise web applications. The book provides an integrated 360-degree view of achieving and maintaining these attributes through practical, proven patterns, novel models, best practices, performance strategies, and continuous improvement methodologies and case studies. The author shares his years of experience in application security, enterprise application testing, caching techniques, production operations and maintenance, and efficient project management techniques. Delivers holistic view of scalability, availability and security, caching, testing and project management Includes patterns and frameworks that are illustrated with end-to-end case studies Offers tips and troubleshooting methods for enterprise application testing, security, caching, production operations and project management Exploration of synergies between techniques and methodologies to achieve end-to-end availability, scalability, performance and security quality attributes 360-degree viewpoint approach for achieving overall quality Practitioner viewpoint on proven patterns, techniques, methodologies, models and best practices. Bulleted summary and tabular representation of concepts for effective understanding Production operations and troubleshooting tips
THE WBF BOOK SERIES- ISA 95 Implementation Experiences - The WBF 2011-02-10

THE WBF BOOK SERIES-APPLYING ISA 95 Implementation Experiences features: * Explanation of ISA 95 and ERP-MES integration * How to map SAP PP-PI, ISAN 94 Production Schedule and ISA 95 Production Performance * How to Use ISA 95 as a manufacturing enterprise Analytic tool ISA (International Society of Automation) standards 88 and 95 are

manufacturing standards established in the late 1990s and periodically updated by the governing bodies responsible for them--the Instrumentation Society of America and the American National Standards Institute). The two standards set up protocols and uniform specifications for batch control systems, including types of control equipment, design of control systems and interpretation of batch control data. In Volume 4, the reader will find examples and case studies of how the ISA 95 standard is used to integrate manufacturing operations with the rest of the business enterprise--from inventory to accounting to customer relations. The ISA 88 and 95 standards have been around (and periodically updated) for nearly 20 years now, but little really helpful has been published on how to put those standards into use, particularly from a pragmatic, real-life experience point of view. The four books in this new series will do exactly that: explain to the manufacturing engineer, the controls engineers, and the industrial planner and manager alike how these standards translate into improved batch and continuous process operations--and ultimately how those operations can be integrated and automated into the general business operations (accounting, inventory, customer relations, product development) of the manufacturing concern.

Medical Robotics - Achim Schweikard 2015-10-08

This book provides a thorough background to the emerging field of medical robotics. It covers the mathematics needed to understand the use of robotic devices in medicine, including but not limited to robot kinematics, hand-eye and robot-world calibration, reconstruction, registration, motion planning, motion prediction, motion correlation, motion replication and motion learning. Additionally, basic methods behind state-of-the art robots like the DaVinci system, the CyberKnife, motorized C-arms and operating microscopes as well as stereotactic frames are presented. The book is a text book for undergraduates in computer science and engineering. The main idea of the book is to motivate the methods in robotics in medical applications rather than industrial applications. The book then follows the standard path for a robotics textbook. It is thus suitable for a first course in robotics for undergraduates. It is the first textbook on medical robotics.

Extensible Processing for Archives and Special Collections - Daniel A. Santamaria 2014-09-22

Archivists and special collections librarians will find in this book the tools, confidence, and freedom to improve user experience through extensible processing.

Advances in Theory and Applications of Stereo Vision - Asim Bhatti 2011-01-08

The book presents a wide range of innovative research ideas and current trends in stereo vision. The topics covered in this book encapsulate research trends from fundamental theoretical aspects of robust stereo correspondence estimation to the establishment of novel and robust algorithms as well as applications in a wide range of disciplines. Particularly interesting theoretical trends presented in this book involve the exploitation of the evolutionary approach, wavelets and multiwavelet theories, Markov random fields and fuzzy sets in addressing the correspondence estimation problem. Novel algorithms utilizing inspiration from biological systems (such as the silicon retina imager and fish eye) and nature (through the exploitation of the refractive index of liquids) make this book an interesting compilation of current research ideas.

The Third Industrial Revolution - Jeremy Rifkin 2011-10-04

The Industrial Revolution, powered by oil and other fossil fuels, is spiraling into a dangerous endgame. The price of gas and food are climbing, unemployment remains high, the housing market has tanked, consumer and government debt is soaring, and the recovery is slowing. Facing the prospect of a second collapse of the global economy, humanity is desperate for a sustainable economic game plan to take us into the future. Here, Jeremy Rifkin explores how Internet technology and renewable energy are merging to create a powerful "Third Industrial Revolution." He asks us to imagine hundreds of millions of people producing their own green energy in their homes, offices, and factories, and sharing it with each other in an "energy internet," just like we now create and share information online. Rifkin describes how the five-pillars of the Third Industrial Revolution will create thousands of businesses,

millions of jobs, and usher in a fundamental reordering of human relationships, from hierarchical to lateral power, that will impact the way we conduct commerce, govern society, educate our children, and engage in civic life. Rifkin's vision is already gaining traction in the international community. The European Union Parliament has issued a formal declaration calling for its implementation, and other nations in Asia, Africa, and the Americas, are quickly preparing their own initiatives for transitioning into the new economic paradigm. The Third Industrial Revolution is an insider's account of the next great economic era, including a look into the personalities and players — heads of state, global CEOs, social entrepreneurs, and NGOs — who are pioneering its implementation around the world.

Heterogeneous Computing with OpenCL - Benedict Gaster 2012-11-13
Heterogeneous Computing with OpenCL, Second Edition teaches OpenCL and parallel programming for complex systems that may include a variety of device architectures: multi-core CPUs, GPUs, and fully-integrated Accelerated Processing Units (APUs) such as AMD Fusion technology. It is the first textbook that presents OpenCL programming appropriate for the classroom and is intended to support a parallel programming course. Students will come away from this text with hands-on experience and significant knowledge of the syntax and use of OpenCL to address a range of fundamental parallel algorithms. Designed to work on multiple platforms and with wide industry support, OpenCL will help you more effectively program for a heterogeneous future. Written by leaders in the parallel computing and OpenCL communities, Heterogeneous Computing with OpenCL explores memory spaces, optimization techniques, graphics interoperability, extensions, and debugging and profiling. It includes detailed examples throughout, plus additional online exercises and other supporting materials that can be downloaded at http://www.heterogeneouscompute.org/?page_id=7 This book will appeal to software engineers, programmers, hardware engineers, and students/advanced students. Explains principles and strategies to learn parallel programming with OpenCL, from understanding the four abstraction models to thoroughly testing and

debugging complete applications. Covers image processing, web plugins, particle simulations, video editing, performance optimization, and more. Shows how OpenCL maps to an example target architecture and explains some of the tradeoffs associated with mapping to various architectures Addresses a range of fundamental programming techniques, with multiple examples and case studies that demonstrate OpenCL extensions for a variety of hardware platforms

Field-Programmable Logic and Applications - Gordon Brebner
2001-08-15

This book constitutes the refereed proceedings of the 11th International Conference on Field-Programmable Logic and Application, FPL 2001, held in Belfast, Northern Ireland, UK, in August 2001. The 56 revised full papers and 15 short papers presented were carefully reviewed and selected from a total of 117 submissions. The book offers topical sections on architectural framework, place and route, architecture, DSP, synthesis, encryption, runtime reconfiguration, graphics and vision, networking, processor interaction, applications, methodology, loops and systolic, image processing, faults, and arithmetic.

Computers as Components - Wayne Wolf 2008-07-08

Computers as Components, Second Edition, updates the first book to bring essential knowledge on embedded systems technology and techniques under a single cover. This edition has been updated to the state-of-the-art by reworking and expanding performance analysis with more examples and exercises, and coverage of electronic systems now focuses on the latest applications. It gives a more comprehensive view of multiprocessors including VLIW and superscalar architectures as well as more detail about power consumption. There is also more advanced treatment of all the components of the system as well as in-depth coverage of networks, reconfigurable systems, hardware-software co-design, security, and program analysis. It presents an updated discussion of current industry development software including Linux and Windows CE. The new edition's case studies cover SHARC DSP with the TI C5000 and C6000 series, and real-world applications such as DVD players and cell phones. Researchers, students, and savvy professionals schooled in

hardware or software design, will value Wayne Wolf's integrated engineering design approach. * Uses real processors (ARM processor and TI C55x DSP) to demonstrate both technology and techniques...Shows readers how to apply principles to actual design practice. * Covers all necessary topics with emphasis on actual design practice...Realistic introduction to the state-of-the-art for both students and practitioners. * Stresses necessary fundamentals which can be applied to evolving technologies...helps readers gain facility to design large, complex embedded systems that actually work.

Stm32 Arm Programming for Embedded Systems - Muhammad Ali Mazidi 2018-05-14

This book covers the peripheral programming of the STM32 Arm chip. Throughout this book, we use C language to program the STM32F4xx chip peripherals such as I/O ports, ADCs, Timers, DACs, SPIs, I2Cs and UARTs. We use STM32F446RE NUCLEO Development Board which is based on ARM(R) Cortex(R)-M4 MCU. Volume 1 of this series is dedicated to Arm Assembly Language Programming and Architecture. See our website for other titles in this series: www.MicroDigitalEd.com You can also find the tutorials, source codes, PowerPoints and other support materials for this book on our website.

High-Performance Embedded Computing - Wayne Wolf 2010-07-26

Over the past several years, embedded systems have emerged as an integral though unseen part of many consumer, industrial, and military devices. The explosive growth of these systems has resulted in embedded computing becoming an increasingly important discipline. The need for designers of high-performance, application-specific computing systems has never been greater, and many universities and colleges in the US and worldwide are now developing advanced courses to help prepare their students for careers in embedded computing. *High-Performance Embedded Computing: Architectures, Applications, and Methodologies* is the first book designed to address the needs of advanced students and industry professionals. Focusing on the unique complexities of embedded system design, the book provides a detailed look at advanced topics in the field, including multiprocessors, VLIW and superscalar architectures,

and power consumption. Fundamental challenges in embedded computing are described, together with design methodologies and models of computation. HPEC provides an in-depth and advanced treatment of all the components of embedded systems, with discussions of the current developments in the field and numerous examples of real-world applications. Covers advanced topics in embedded computing, including multiprocessors, VLIW and superscalar architectures, and power consumption Provides in-depth coverage of networks, reconfigurable systems, hardware-software co-design, security, and program analysis Includes examples of many real-world embedded computing applications (cell phones, printers, digital video) and architectures (the Freescale Starcore, TI OMAP multiprocessor, the TI C5000 and C6000 series, and others)

2016 IEEE International Conference on Emerging Technologies and Innovative Business Practices for the Transformation of Societies (EmergiTech) - 2016

Annotation This first IEEE EmergiTech 2016 conference aims at bringing local and international researchers, academicians, business community and research scholars on a common platform to share their experiences, innovative ideas and research findings about the aspects of emerging trends and technologies to build smarter cities and countries. From the local perspective, this conference is well in line with the vision of the Government to build a new economy based on smart and collaborative systems and serve as a pioneering leader in the region by transforming the economy into a vibrant and prosperous one.

Local Positioning Systems - Krzysztof W. Kolodziej 2017-12-19

Local Positioning Systems: LBS Applications and Services explores the possible approaches and technologies to location problems including people and asset tracking, mobile resource management, public safety, and handset location-based services. The book examines several indoor positioning systems, providing detailed case studies of existing applications and their requirements, and shows how to set them up. Other chapters are dedicated to position computation algorithms using different signal metrics and determination methods, 2D/3D indoor map

data and location models, indoor navigation, system components and how they work, privacy, deployment issues, and standards. In detail, the book explains the steps for deploying a location-enabled network, including doing a site-survey, creating a positioning model and floor maps, and access point placement and configuration. Also presented is a classification for network-based and ad-hoc positioning systems, and a framework for developing indoor LBS services. This comprehensive guide will be invaluable to students and lecturers in the area of wireless computing. It will also be an enabling resource to developers and researchers seeking to expand their knowledge in this field.

RF Power Amplifiers - Marian K. Kazimierczuk 2014-10-14

This second edition of the highly acclaimed RF Power Amplifiers has been thoroughly revised and expanded to reflect the latest challenges associated with power transmitters used in communications systems. With more rigorous treatment of many concepts, the new edition includes a unique combination of class-tested analysis and industry-proven design techniques. Radio frequency (RF) power amplifiers are the fundamental building blocks used in a vast variety of wireless communication circuits, radio and TV broadcasting transmitters, radars, wireless energy transfer, and industrial processes. Through a combination of theory and practice, RF Power Amplifiers, Second Edition provides a solid understanding of the key concepts, the principle of operation, synthesis, analysis, and design of RF power amplifiers. This extensive update boasts: up to date end of chapter summaries; review questions and problems; an expansion on key concepts; new examples related to real-world applications illustrating key concepts and brand new chapters covering 'hot topics' such as RF LC oscillators and dynamic power supplies. Carefully edited for superior readability, this work remains an essential reference for research & development staff and design engineers. Senior level undergraduate and graduate electrical engineering students will also find it an invaluable resource with its practical examples & summaries, review questions and end of chapter problems. Key features: • A fully revised solutions manual is now hosted on a companion website alongside new simulations. • Extended

treatment of a broad range of topologies of RF power amplifiers. • In-depth treatment of state-of-the art of modern transmitters and a new chapter on oscillators. • Includes problem-solving methodology, step-by-step derivations and closed-form design equations with illustrations.

Mike Meyers' CompTIA Network+ Certification Passport, Sixth Edition (Exam N10-007) - Mike Meyers 2018-07-27

Up-to-date, focused coverage of every topic on the CompTIA Network+ exam N10-007 Get on the fast track to becoming CompTIA Network+ certified with this affordable, portable study tool. Inside, certification training experts guide you through the official N10-007 exam objectives in the order that CompTIA presents them, providing a concise review of each and every exam topic. With an intensive focus only on what you need to know to pass the CompTIA Network+ Exam N10-007, this certification passport is your ticket to success on exam day. Inside: • Itineraries—List of official exam objectives covered • ETAs—Amount of time needed to review each exam objective • Travel Advisories—Expert advice on critical topics • Local Lingo—Concise definitions of key terms and concepts • Travel Assistance—Recommended resources for more information • Exam Tips—Common exam pitfalls and solutions • Connecting Flights—References to sections of the book that cover related concepts • Checkpoints—End-of-chapter questions, answers, and explanations • Career Flight Path—Information on the exam and possible next steps Online content includes: • 200 practice exam questions in the Total Tester exam engine

The Zynq Book Tutorials for Zybo and Zedboard - Louise H Crockett 2015-08-12

This book comprises a set of five tutorials, and provides a practical introduction to working with Zynq-7000 All Programmable System on Chip, the family of devices from Xilinx that combines an application-grade ARM Cortex-A9 processor with traditional FPGA logic fabric. It is a companion text for 'The Zynq Book' (ISBN-13: 978-0992978709). The tutorials target two popular Zynq development boards: the ZedBoard, and the lower cost Zybo. Working through, the reader will take first

steps with the Vivado integrated development environment and Software Developers Kit (SDK), and be introduced to the methodology of developing embedded systems based on Zynq. Different methods of creating Intellectual Property (IP) cores are demonstrated, including the use of Vivado High Level Synthesis (HLS), and these IPs are later combined to form a complete audio-based embedded system. These tutorials are set at the introductory level, and are suitable for undergraduate / postgraduate teaching, as well as self-learning by researchers, professional engineers, and hobbyists. Example and support files can be downloaded from the book's companion website.

Fundamentals of Digital Logic with Verilog Design - Stephen Brown
2013-03-15

Fundamentals of Digital Logic With Verilog Design teaches the basic design techniques for logic circuits. It emphasizes the synthesis of circuits and explains how circuits are implemented in real chips. Fundamental concepts are illustrated by using small examples. Use of CAD software is well integrated into the book. A CD-ROM that contains Altera's Quartus CAD software comes free with every copy of the text. The CAD software provides automatic mapping of a design written in Verilog into Field Programmable Gate Arrays (FPGAs) and Complex Programmable Logic Devices (CPLDs). Students will be able to try, firsthand, the book's Verilog examples (over 140) and homework problems. Engineers use Quartus CAD for designing, simulating, testing and implementing logic circuits. The version included with this text supports all major features of the commercial product and comes with a compiler for the IEEE standard Verilog language. Students will be able to: enter a design into the CAD system compile the design into a selected device simulate the functionality and timing of the resulting circuit implement the designs in actual devices (using the school's laboratory facilities) Verilog is a complex language, so it is introduced gradually in the book. Each Verilog feature is presented as it becomes pertinent for the circuits being discussed. To teach the student to use the Quartus CAD, the book includes three tutorials.

Exploring Zynq Mpsoc - CROCKETT H. DAVID LOUISE (NORTHCOTE.

CRAIG, RAMSAY.) 2019-04-11

This book introduces the Zynq MPSoC (Multi-Processor System-on-Chip), an embedded device from Xilinx. The Zynq MPSoC combines a sophisticated processing system that includes ARM Cortex-A53 applications and ARM Cortex-R5 real-time processors, with FPGA programmable logic. As well as guiding the reader through the architecture of the device, design tools and methods are also covered in detail: both the conventional hardware/software co-design approach, and the newer software-defined methodology using Xilinx's SDx development environment. Featured aspects of Zynq MPSoC design include hardware and software development, multiprocessing, safety, security and platform management, and system booting. There are also special features on PYNQ, the Python-based framework for Zynq devices, and machine learning applications. This book should serve as a useful guide for those working with Zynq MPSoC, and equally as a reference for technical managers wishing to gain familiarity with the device and its associated design methodologies.

A Hands-On Guide to Designing Embedded Systems - Adam Taylor
2021-10-31

This practical resource introduces readers to the design of field programmable gate array systems (FPGAs). Techniques and principles that can be applied by the engineer to understand challenges before starting a project are presented. The book provides a framework from which to work and approach development of embedded systems that will give readers a better understanding of the issues at hand and can develop solution which presents lower technical and programmatic risk and a faster time to market. Programmatic and system considerations are introduced, providing an overview of the engineering life cycle when developing an electronic solution from concept to completion. Hardware design architecture is discussed to help develop an architecture to meet the requirements placed upon it, and the trade-offs required to achieve the budget. The FPGA development lifecycle and the inputs and outputs from each stage, including design, test benches, synthesis, mapping, place and route and power estimation, are also presented. Finally, the

importance of reliability, why it needs to be considered, the current standards that exist, and the impact of not considering this is explained. Written by experts in the field, this is the first book by “engineers in the trenches” that presents FPGA design on a practical level.

The Fluxgate Magnetometer - Fritz Primdahl 1979

Electronic Systems and Applications - R. P Agarwal 1994

Memory Systems - Bruce Jacob 2010-07-28

Is your memory hierarchy stopping your microprocessor from performing at the high level it should be? *Memory Systems: Cache, DRAM, Disk* shows you how to resolve this problem. The book tells you everything you need to know about the logical design and operation, physical design and operation, performance characteristics and resulting design trade-offs, and the energy consumption of modern memory hierarchies. You learn how to tackle the challenging optimization problems that result from the side-effects that can appear at any point in the entire hierarchy. As a result you will be able to design and emulate the entire memory hierarchy. Understand all levels of the system hierarchy -Xcache, DRAM, and disk. Evaluate the system-level effects of all design choices. Model performance and energy consumption for each component in the memory hierarchy.

Designing with Xilinx® FPGAs - Sanjay Churiwala 2016-10-20

This book helps readers to implement their designs on Xilinx® FPGAs. The authors demonstrate how to get the greatest impact from using the Vivado® Design Suite, which delivers a SoC-strength, IP-centric and system-centric, next generation development environment that has been built from the ground up to address the productivity bottlenecks in system-level integration and implementation. This book is a hands-on guide for both users who are new to FPGA designs, as well as those currently using the legacy Xilinx tool set (ISE) but are now moving to Vivado. Throughout the presentation, the authors focus on key concepts, major mechanisms for design entry, and methods to realize the most efficient implementation of the target design, with the least number of

iterations.

FPGA-based System Design - Wayne Wolf 2004

- Learn the 'whys and hows' of digital system design with FPGAs from this thorough treatment.
- Up-to-date information and comparison of different modern FPGA devices.
- IEEE Fellow Wayne Wolf brings all related aspects of VLSI to FPGA system design in this thorough introduction.

Embedded Systems Design with Platform FPGAs - Ronald Sass 2010-09-10

Embedded Systems Design with Platform FPGAs introduces professional engineers and students alike to system development using Platform FPGAs. The focus is on embedded systems but it also serves as a general guide to building custom computing systems. The text describes the fundamental technology in terms of hardware, software, and a set of principles to guide the development of Platform FPGA systems. The goal is to show how to systematically and creatively apply these principles to the construction of application-specific embedded system architectures. There is a strong focus on using free and open source software to increase productivity. Each chapter is organized into two parts. The white pages describe concepts, principles, and general knowledge. The gray pages provide a technical rendition of the main issues of the chapter and show the concepts applied in practice. This includes step-by-step details for a specific development board and tool chain so that the reader can carry out the same steps on their own. Rather than try to demonstrate the concepts on a broad set of tools and boards, the text uses a single set of tools (Xilinx Platform Studio, Linux, and GNU) throughout and uses a single developer board (Xilinx ML-510) for the examples. Explains how to use the Platform FPGA to meet complex design requirements and improve product performance Presents both fundamental concepts together with pragmatic, step-by-step instructions for building a system on a Platform FPGA Includes detailed case studies, extended real-world examples, and lab exercises

Project Oberon - Niklaus Wirth 1992

Project Oberon contains a definition of the Oberon Language and

describes its relation to Modula-2 and the software tools developed with the system. This definitive, first-hand account of the design, development, and implementation of Oberon completes the Oberon trilogy.

Analog Interfacing to Embedded Microprocessor Systems - Stuart

Ball 2004

System Design; Digital to Analog Converters; Sensors; Time-Based Measurements; Output Control Methods; Solenoids, Relays, and Other Analog Outputs; Motors; EMI; High Precision Applications; Standard Interfaces.