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Built on your embedded system skills and will be able to create real-time systems using microcontrollers and FreeRTOS. What you will learn Understand when to use an RTOS for a project Explore RTOS concepts such as tasks, mutexes, semaphores, and queues Discover different microcontroller units (MCUs) and choose the best one for your project Evaluate and select the best IDE and middleware stack for your project Use professional-grade tools for analyzing and debugging your application Get FreeRTOS-based applications up and running on an STM32 board Who this book is for This book is for embedded engineers, students, or anyone interested in learning the complete RTOS feature set with embedded devices. A basic understanding of the C programming language and embedded systems or microcontrollers will be helpful.

Hands-On RTOS with Microcontrollers - Brian Amos - 2020-05-15
Build a strong foundation in designing and implementing real-time systems with the help of practical examples Key Features Get up and running with the fundamentals of RTOS and apply them on STM32 Enhance your programming skills to design and build real-world embedded systems Get to grips with advanced techniques for implementing embedded systems Book Description A real-time operating system (RTOS) is used to develop systems that respond to events within strict timelines. Real-time embedded systems have applications in various industries, from automotive and aerospace through to laboratory test equipment and consumer electronics. These systems provide consistent and reliable timing and are designed to run without intervention for years. This microcontrollers book starts by introducing you to the concept of RTOS and compares some other alternative methods for achieving real-time performance. Once you've understood the fundamentals, such as tasks, queues, mutexes, and semaphores, you'll learn what to look for when selecting a microcontroller and development environment. By working through examples that use an STM32F7 Nucleo board, the STM32CubeIDE, and SEGGER debug tools, including SEGGER J-Link, Ozone, and SystemView, you'll gain an understanding of preemptive scheduling policies and task communication. The book will then help you develop highly efficient low-level drivers and analyze their real-time performance and CPU utilization. Finally, you'll cover tips for troubleshooting and be able to take your new-found skills to the next level. By the end of this book, you'll have built on your embedded system skills and will be able to create real-time systems using microcontrollers and FreeRTOS.

ARM-Based Microcontroller Multitasking Projects - Dogan Ibrahim - 2020-05-14
Most microcontroller-based applications nowadays are large, complex, and may require several tasks to share the MCU in multitasking applications. Most modern high-speed microcontrollers support multitasking kernels with sophisticated scheduling algorithms so that many complex tasks can be executed on a priority basis. ARM-based Microcontroller Multitasking Projects: Using the Freertos Multitasking Kernel explains how to multitask ARM Cortex microcontrollers using the FreeRTOS multitasking kernel. The book describes in detail the features of multitasking operating systems such as scheduling, priorities, mailboxes, event flags, semaphores etc. before going onto present the highly popular FreeRTOS multitasking kernel. Practical working real-time projects using the highly popular Clicker 2 for STM32 development board (which can easily be transferred to other boards) together with FreeRTOS are an essential feature of this book. Projects include: LEDs flashing at different rates; Refreshing of 7-segment LEDs; Mobile robot where different sensors are controlled by different tasks; Multiple servo motors being controlled independently; Multitasking IoT project; Temperature controller with independent keyboard entry; Random number generator with 3 tasks: live, generator, display; home alarm system; car park management system, and many more. Explains the basic concepts of multitasking Demonstrates how to create small multitasking programs Explains how to install and use the FreeRTOS on an ARM Cortex processor Presents structured real-world projects that enables the reader to create their own.

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Microcontroller Multitasking Projects: Using the FreeRTOS Multitasking Kernel explains how to multitask ARM Cortex microcontrollers using the FreeRTOS multitasking kernel. The book describes in detail the features of multitasking operating systems such as scheduling, priorities, mailboxes, event flags, semaphores etc. before going onto present the highly popular FreeRTOS multitasking kernel. Practical working real-time projects using the highly popular Clicker 2 for STM32 development board (which can easily be transferred to other boards) together with FreeRTOS are an essential feature of this book. Projects include: LEDs flashing at different rates; Refreshing of 7-segment LEDs; Mobile robot where different sensors are controlled by different tasks; Multiple servo motors being controlled independently; Multitasking IoT project; Temperature controller with independent keyboard entry; Random number generator with 3 tasks: live, generator, display; home alarm system; car park management system, and many more. Explains the basic concepts of multitasking Demonstrates how to create small multitasking programs Explains how to install and use the FreeRTOS on an ARM Cortex processor Presents structured real-world projects that enables the reader to create their own.

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Distributed Computer and Communication Networks: Control, Computation, Communications - Vladimir
This book describes an extension of the user behaviour simulation (UBS) of an existing tool for automatic usability evaluation (AUE). This extension is based upon a user study with sociological methods for the execution of the study and the analysis of the collected data. A comparison of the resulting UBS with former UBSs, as well as the empirical data, shows that the new simulation approach outperforms the former simulation. The improvement affects the prediction of dialogue metrics that are related to dialogue efficiency and dialogue effectiveness. Furthermore, the book describes a parameter-based data model, as well as a related framework. Both are used to uniformly describe multimodal human-computer interactions and to provide such descriptions for usability evaluations. Finally, the book proposes a new two-stage method for the evaluation of UBSs. The method is based on the computation of a distance measures between two dialogue corpora and the pair-wise comparison of distances among several dialogue corpora.

Simulation-Based Usability Evaluation of Spoken and Multimodal Dialogue Systems - Stefan Hillmann - 2017-11-23

This book describes an extension of the user behaviour simulation (UBS) of an existing tool for automatic usability evaluation (AUE). This extension is based upon a user study with sociological methods for the execution of the study and the analysis of the collected data. A comparison of the resulting UBS with former UBSs, as well as the empirical data, shows that the new simulation approach outperforms the former simulation. The improvement affects the prediction of dialogue metrics that are related to dialogue efficiency and dialogue effectiveness. Furthermore, the book describes a parameter-based data model, as well as a related framework. Both are used to uniformly describe multimodal human-computer interactions and to provide such descriptions for usability evaluations. Finally, the book proposes a new two-stage method for the evaluation of UBSs. The method is based on the computation of a distance measures between two dialogue corpora and the pair-wise comparison of distances among several dialogue corpora.
delivery in order to increase productivity and reduce delivery time. What You Will Learn Take advantage of a
IBM z/OS Mainframe Security and Audit Management Using the IBM Security zSecure Suite - Axel Buecker - 2011-08-18
Every organization has a core set of mission-critical data that must be protected. Security lapses and failures are
not simply disruptions—they can be catastrophic events, and the consequences can be felt across the entire
organization. As a result, security administrators face serious challenges in protecting the company’s sensitive
data. IT staff are challenged to provide detailed audit and controls documentation at a time when they are already
facing increasing pressures on their time, due to events such as mergers, reorganizations, and other changes.
Many organizations do not have enough experienced mainframe security administrators to meet these objectives,
and expanding employee skillsets with low-level mainframe security technologies can be time-consuming. The
IBM® Security zSecure suite consists of multiple components designed to help you administer your mainframe
security server, monitor for threats, audit usage and configurations, and enforce policy compliance.
Administration, provisioning, and management components can significantly reduce administration, contributing
to improved productivity, faster response time, and reduced training time needed for new administrators. This
IBM Redbooks® publication is a valuable resource for security officers, administrators, and architects who wish
to better understand their mainframe security solutions.


Learning Continuous Integration with Jenkins - Nikhil Pathania - 2016-05-31
A beginner’s guide to implementing Continuous Integration and Continuous Delivery using Jenkins About This
Book Speed up and increase software productivity and software delivery using Jenkins Automate your build,
integration, release, and deployment processes with Jenkins—and learn how continuous integration (CI) can save
you time and money Explore the power of continuous delivery using Jenkins through powerful real-life examples
Who This Book Is For This book is for anyone who wants to exploit the power of Jenkins. This book serves as a
great book’s wealth of best practices and real-world tips, you’ll discover how easy it is to implement a CI service with
delivery. Next, you’ll be introduced to continuous deployment and learn to achieve it using Jenkins. Through this
book’s wealth of best practices and real-world tips, you’ll discover how easy it is to implement a CI service with
Jenkins. Style and approach This is a step-by-step guide to setting up a CI and continuous delivery system loaded
with hands-on examples

Estimating Spoken Dialog System Quality with User Models - Klaus-Peter Engelbrecht - 2012-08-04
Spoken dialog systems have the potential to offer highly intuitive user interfaces, as they allow systems to be
to control using natural language. However, the complexity inherent in natural language dialogues means that
careful testing of the systems must be carried out from the very beginning of the design process. This book
examines how user models can be used to support such early evaluations in two ways: by running simulations of
dialogs, and by estimating the quality judgments of users. First, a design environment supporting the creation of
dialog flows, the simulation of dialogs, and the analysis of the simulated data is proposed. How the quality of user
simulations may be quantified with respect to their suitability for both formative and summative evaluation is then
discussed. The remainder of the book is dedicated to the problem of predicting quality judgments of users based on
interaction data. New modeling approaches are presented, which process the dialogues as sequences, and which
allow knowledge about the judgment behavior of users to be incorporated into predictions. All proposed methods
are validated with example evaluation studies.

Estimating Continuous Integration with Jenkins - Nikhil Pathania - 2016-05-31
A beginner’s guide to implementing Continuous Integration and Continuous Delivery using Jenkins About This
Book Speed up and increase software productivity and software delivery using Jenkins Automate your build,
integration, release, and deployment processes with Jenkins—and learn how continuous integration (CI) can save
you time and money Explore the power of continuous delivery using Jenkins through powerful real-life examples
Who This Book Is For This book is for anyone who wants to exploit the power of Jenkins. This book serves as a
great book’s wealth of best practices and real-world tips, you’ll discover how easy it is to implement a CI service with
Jenkins. Style and approach This is a step-by-step guide to setting up a CI and continuous delivery system loaded
with hands-on examples

Advanced Programming with STM32 Microcontrollers - Majid Pakdel - 2020-12-07
Advanced Programming with STM32 Microcontrollers - Majid Pakdel - 2020-12-07

Lean Six Sigma Approaches in Manufacturing, Services, and Production - Erdem Gerard Tetteh - 2014-11-30
"This book presents emerging research-based trends in the area of global quality lean six sigma networks and
analysis through an interdisciplinary approach focusing on research, cases, and emerging technologies" - Provided
by publisher.
Introduction to Electric Circuits - Richard C. Dorf - 1998-09-07

Instead of just detailing the various types of electric circuits, Introduction to Electric Circuits, Fourth Edition actually gets students involved in the design process. It clearly demonstrates how the analysis and design of electric circuits has become an integral facet of an engineer's ability to design complex electronic systems as well as typical consumer products. Students are presented with a unique yet simple step-by-step design methodology in Chapter 1 that is used to solve The Design Challenge posed at the beginning of each chapter. By applying this methodology to realistic problems like a printer driver and cable, students will develop the critical skills required to apply problem-solving skills throughout their career. The design methodology emphasized in Chapter 1: Problem State the problem. Situation Describe the situation and the assumptions. Goal State the goals and requirements. Verify Verify that the proposed solution is indeed correct. Act Act on the plan. Plan Generate a Plan to obtain a solution of the problem. Solution Communicate the solution. Students will find the presentation greatly enhanced by a number of computer applications that can be used at the readers discretion. Students will find several examples that illustrate the use of MATLAB to solve problems involving electric circuits. The text explains how this powerful program is used by engineers in the field. A new appendix is also included that provides an introduction to MicroSim Corporation's DesignLab(TM) and PSpice(r). Students can use the resources of the Interactive Circuits from Electronics Workbench CD-ROM to view, simulate, and change circuit parameters of the Design Challenges in each chapter. Further, the demo version of Electronics Workbench(r) allows the user to build and simulate all circuits in the text!

Mastering Windows 7 Deployment - Aidan Finn - 2011-03-10

Get professional-level instruction on Windows 7 deployment tools Enterprise-level operating system deployment is challenging and requires knowledge of specific tools. It is expected that Windows 7 will be extensively deployed in businesses worldwide. This comprehensive Sybex guide provides thorough coverage of the Microsoft deployment tools that were specifically created for Windows 7, preparing system administrators, MIS professionals, and corporate programmers to tackle the task effectively. Companies worldwide are expected to deploy Windows 7 as their enterprise operating system; system administrators and IT professionals need comprehensive instruction on Microsoft's deployment tools This complete guide provides clear, step-by-step instruction on planning, installing, configuring, deploying, and troubleshooting deployment methods for each tool Covers the Microsoft Assessment and Planning (MAP) Toolkit, Application Compatibility Toolkit (ACT), Windows PE, Windows Automated Installation Kit (WAIK), Windows System Image Manager (WSIM), Easy Transfer, User State Migration Toolkit (USMT), Windows Deployment Services, Microsoft Deployment Toolkit 2010, System Center Configuration Manager, Key Management Service, and Volume Activation Management Tool (VAMT) Illustrated with plenty of real-world scenarios, Mastering Windows Deployment provides the hands-on instruction you need to fully understand and use each deployment technology.

Automatic Irrigation Control System - Stephen Kipkebut - 2015-01-09

Bachelor Thesis from the year 2014 in the subject Engineering - Power Engineering, The Technical University of Kenya, course: bachelor of philosophy in technology electrical and electronic engineering, language: English, abstract: This project is based on moisture sensor used to measure humidity content in the soil. The design portion involves mainly a global system for mobile communication and a control circuitry with a microcontroller. This project used some of the softwares like basic language for programming the application software to the microcontroller and visual basic for interfacing the hardware and mobile phone. Protel or workbench schematic software is used for designing the circuit diagram for this project and express prefabricated circuit board (PCB) software is used for designing. Since PCB making is a big process and involves a number of machineries which are expensive and was therefore outsourced. Using DTMF 8870 IC will act as an interface between the user and the system as it is a receiver which links the GSM network, the microcontroller pic16f873 contains the software which states the conditions of the system which can be displayed in a liquid crystal display and transmitted via mobile phone to the dual tone multiple frequency receiver which is part of the control system in the farm. New technologies help in increasing productivity with use of less manpower as well as conservation of water in the process.

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query and reporting tools that provide intuitive access to data supporting a spectrum of users from executives to process.

The Inter-Bank Bond Market in the People’s Republic of China - Asian Development Bank - 2020-08-01
The ASEAN+3 Bond Market Guide series provides country-specific information on the investment climate, rules, laws, opportunities, and characteristics of local bond markets in Asia and the Pacific. It aims to help bond market issuers, investors, and financial intermediaries understand the local context and encourage greater participation in the region’s rapidly developing bond markets. This edition focuses on the Inter-Bank Bond Market in the People’s Republic of China, which is one of the country’s most important bond markets and one of only two that are accessible to foreign investment.

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Machine Learning - R.S. Michalski - 2013-04-17
The ability to learn is one of the most fundamental attributes of intelligent behavior. Consequently, progress in the theory and computer modeling of learning processes is of great significance to fields concerned with understanding inelligence. Such fields include cognitive science, artificial intelligence, infor-mation science, pattern recognition, psychology, education, epistemology, philosophy, and related disciplines. The recent observance of the silver anniversary of artificial intelligence has been heralded by a surge of interest in machine learning—both in building models of human learning and in understanding how machines might be endowed with the ability to learn. This renewed interest has spawned many new research projects and resulted in an increase in related scientific activities. In the spring of 1980, the First Machine Learning Workshop was held at Carnegie-Mellon University in Pittsburgh. In the same year, three consecutive issues of the Inter national Journal of Policy Analysis and Information Systems were specially devoted to machine learning (No. 2, 3 and 4, 1980). In the spring of 1981, a special issue of the SIGART Newsletter No. 76 reviewed current research projects in the field. This book contains tutorial overviews and research papers representative of contemporary trends in the area of machine learning as viewed from an artificial intelligence perspective.

IBM DB2 Web Query for i: The Nuts and Bolts - Hernando Bedoya - 2017-05-11
Business Intelligence (BI) is a broad term that relates to applications that analyze data to understand and act on the key metrics that drive profitability in an enterprise. Key to analyzing that data is providing fast, easy access to it while delivering it in formats or tools that best fit the needs of the user. At the core of any BI solution are user "power users," from spreadsheet aficionados to the external Internet consumer. IBM® DB2® Web Query for i offers a set of modernized tools for a more robust, extensible, and productive reporting solution than the popular IBM Query for iSeries product (also commonly known as Query/400). IBM DB2 Web Query for i includes Query for iSeries technology to assist customers in their transition to DB2 Web Query. It offers a more modernized, Java-based solution for a more robust, extensible, and productive reporting solution. DB2 Web Query provides the ability to query or build reports against data that is stored in DB2 for i® (or Microsoft SQL Server) databases through browser-based user interface technologies: Build reports with ease through the web-based, ribbon-like InfoAssist tool that leverages a common look and feel that can extend the number of personnel that can generate their own reports. Simplify the management of reports by significantly reducing the number of report definitions that are required through the use of parameter driven reports. Deliver data to users in many different formats, including directly into spreadsheets, or in boardroom-quality PDF format, or viewed from the browser in HTML.

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Predicting User Performance and Errors - Marc Halbrügge - 2017-07-20

This book proposes a combination of cognitive modeling with model-based user interface development to tackle the problem of maintaining the usability of applications that target several device types at once (e.g., desktop PC, smartphone, and TV). Model-based applications provide interesting meta-information about the elements of the user interface (UI) that are accessible through computational introspection. Cognitive user models can capitalize on this meta-information to provide improved predictions of the interaction behavior of future human users of applications under development. In order to achieve this, the book develops an extended model of sequential action control based on the Memory for Goals theory and it is confirmed in different behavioral domains and experimental paradigms. This new model of user cognition and behavior is implemented using the MeMo workbench and integrated with the model-based application framework MASP in order to provide automated usability predictions from early software development stages on. Finally, the validity of the resulting integrated system is confirmed by empirical data from a new application, eliciting unexpected behavioral patterns.

Discretion and the Quest for Controlled Freedom - Tony Evans - 2019-08-21

Looking at discretion broadly as the exercise of controlled freedom, this edited volume introduces insights from a range of social sciences perspectives. Traditionally, discussions of discretion have drawn on legal notions of the appropriate exercise of legitimate authority specified by legislators. However, empirical and theoretical studies in the social sciences have extended our understanding of discretion, moving us beyond a narrow legal view. Contributors from a range of disciplines explore the idea of discretion and related notions of freedom and control across social and political practices and in different contexts. As this complex and important topic is discussed and examined, both total control and unconstrained freedom appear to be illusions.


Written by the founder and executive director of the Quality Assurance Institute, which sponsors the most widely accepted certification program for software testing, this book provides interesting meta-information about the elements of the user interface (UI) that are accessible through computational introspection. Cognitive user models can capitalize on this meta-information to provide improved predictions of the interaction behavior of future human users of applications under development. In order to achieve this, the book develops an extended model of sequential action control based on the Memory for Goals theory and it is confirmed in different behavioral domains and experimental paradigms. This new model of user cognition and behavior is implemented using the MeMo workbench and integrated with the model-based application framework MASP in order to provide automated usability predictions from early software development stages on. Finally, the validity of the resulting integrated system is confirmed by empirical data from a new application, eliciting unexpected behavioral patterns.


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Electricity Experiments You Can Do At Home - Stan Gibilisco - 2010-07-06

Amp up your understanding of electricity and magnetism with DOZENS OF DO-IT-YOURSELF EXPERIMENTS Electricity Experiments You Can Do At Home is a hands-on guide that helps you master the principles of electrical currents and magnetism. Each of the book's three sections—direct current, alternating current, and magnetism—begins with step-by-step instructions for setting up your lab for the experiments that follow. Using inexpensive, easy-to-find parts, the experiments progress from basic to more complex and will spark ideas and encourage inventiveness. Expect unexpected results when you experiment with: Diode-based voltage reducer Compass-based galvanometer Photovoltaic illuminometer Utility bulb saver Ripple filter Xener-diode voltage regulator AC spectrum monitor Electricity Experiments You Can Do At Home helps you to: Solve circuit problems in electricity Build practical and interesting electrical and magnetic devices Get ideas for science-fair projects Prepare for advanced courses in electricity and electronics Learn the basics of laboratory practice

The Definitive Guide to ARM® Cortex®-M3 and Cortex®-M4 Processors - Joseph Yiu - 2013-10-06

This new edition has been fully revised and updated to include extensive information on the ARM Cortex-M4 processor, providing a complete up-to-date guide to both Cortex-M3 and Cortex-M4 processors, and which enables migration from various processor architectures to the exciting world of the Cortex-M3 and M4. This book presents the background of the ARM architecture and outlines the features of the processors such as the instruction set, interrupt-handling and also demonstrates how to program and utilize the advanced features available such as the Memory Protection Unit (MPU). Chapters on getting started with IAR, Keil, gcc and CooCox CoIDE tools help beginners develop program codes. Coverage also includes the important areas of software development such as using the low power features, handling information input/output, mixed language projects with assembly and C, and other advanced topics. Two new chapters on DSP features and CMSIS-DSP software libraries, covering DSP fundamentals and how to write DSP software for the Cortex-M4 processor, including examples of using the CMSIS-DSP library, as well as useful information about the DSP capability of the Cortex-M4 processor A new chapter on the Cortex-M4 floating point unit and how to use it A new chapter on using embedded OS (based on CMSIS-RTOS), as well as details of processor features to support OS operations Various debugging techniques as well as a troubleshooting guide in the appendix topics on software porting from other architectures A full range of easy-to-understand examples, diagrams and quick reference appendices

Strategic Project Management Made Simple - Terry Schmidt - 2009-02-09

When Fortune Magazine estimated that 70% of all strategies fail, it also noted that most of these strategies were basically sound, but could not be executed. The central premise of Strategic Project Management Made Simple is that most projects and strategies never get off the ground because of adhoc, haphazard, and obsolete methods used to turn their ideas into coherent and actionable plans. Strategic Project Management Made Simple is the first book to couple a step-by-step process with an interactive thinking tool that takes a strategic approach to designing projects and action initiatives. Strategic Project Management Made Simple builds a solid platform upon which critical questions that are vital for teams to intelligently answer in order to create their own strong, strategic foundation. These questions are: 1. What are we trying to accomplish and why? 2. How do we measure success? 3. What other conditions must exist? 4. How do we get there? This fresh approach begins with clearly understanding the what and why of a project - comprehending the bigger picture goals that are often given only lip service or cursory reviews. The second and third questions clarify success measures and identify the risky assumptions that can later cause pain if not spotted early. The how questions - what are the activities, budgets, and schedules - comes last in our four-question system. By contrast, most project approaches prematurely concentrate on the how without first adequately addressing the three other questions. These four questions guide readers into fleshing out a simple, yet sophisticated, mental workbench called "the Logical Framework" - a Systems Thinking paradigm that lays out one’s own project strategy in an easily accessible, interactive 4x4 matrix. The inclusion of memorable features and concepts (four critical questions, LogFrame matrix, If-then thinking, and Implementation Equation) make this book unique.

Bioinformatics Basics - Lukas K. Buehler - 2005-06-23

Every researcher in genomics and proteomics now has access to public domain databases containing literally billions of data entries. However, without the right analytical tools, and an understanding of the biological
Defines the concepts and terminology related to prototyping in order to arrive at a common conceptual framework. Includes guidelines for the application of prototyping, and discussion of CASE technology. For professionals and academics invo.

**Prototyping** - Roland Vonk - 1990

Clariifies the prototyping concept by discussing the major facets of this approach to requirements definition. Defines the concepts and terminology related to prototyping in order to arrive at a common conceptual framework. Includes guidelines for the application of prototyping, and discussion of CASE technology. For professionals and academics invo.


Using FreeRTOS and libopencm3 instead of the Arduino software environment, this book will help you develop multi-tasking applications that go beyond Arduino norms. In addition to the usual peripherals found in the typical Arduino device, the STM32 device includes a USB controller, RTC (Real Time Clock), DMA (Direct Memory Access controller), CAN bus and more. Each chapter contains clear explanations of the STM32 hardware capabilities to help get you started with the device, including GPIO and several other ST Microelectronics peripherals like USB and CAN bus controller: You'll learn how to download and set up the libopencm3 + FreeRTOS development environment, using GCC. With everything set up, you'll leverage FreeRTOS to create tasks, queues, and mutexes. You'll also learn to work with the I2C bus to add GPIO using the PCF8574 chip. And how to create PWM output for RC control using hardware timers. You'll be introduced to new concepts that are necessary to master the STM32, such as how to extend code with GCC overlays using an external Winbond W25Q32 flash chip. Your knowledge is tested at the end of each chapter with exercises. Upon completing this book, you'll be ready to work with any of the devices in the STM32 family. Beginning STM32 provides the professional, student, and hobbyist a way to learn about ARM without costing an arm! What You'll Learn Initialize and use the libopencm3 drivers and handle interrupts Use DMA to drive a SPI based OLED displaying an analog meter Read PWM from an RC control using hardware timers Who This Book Is For Experienced embedded engineers, students, hobbyists and makers wishing to explore the ARM architecture, going beyond Arduino limits.


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Agile software development approaches have had significant impact on industrial software development practices. Today, agile software development has penetrated to most IT companies across the globe, with an intention to increase quality, productivity, and profitability. Comprehensive knowledge is needed to understand the architectural challenges involved in adopting and using agile approaches and industrial practices to deal with the development of large, architecturally challenging systems in an agile way. Agile Software Architecture focuses on gaps in the requirements of applying architecture-centric approaches and principles of agile software development and demystifies the agile architecture paradox. Readers will learn how agile and architectural cultures can co-exist and support each other according to the context. Moreover, this book will also provide useful
incorporate architecturally sound practices in agile methods. Presents a consolidated view of the state-of-art and state-of-practice as well as the newest research findings. Identifies gaps in the requirements of applying architecture-centric approaches and principles of agile software development and demystifies the agile architecture paradox. Explains whether or not and how agile and architectural cultures can co-exist and support each other depending upon the context. Provides useful leads for future research in both architecture and agile to bridge such gaps by developing appropriate approaches, which incorporate architecturally sound practices in agile methods.


Agile software development approaches have had significant impact on industrial software development practices. Today, programming and development is a world in which agile methods and tools are the norm. This book teaches end users how to start from the ground up with the M3, and explains step-by-step how to program and implement the processor in real-world designs. It teaches readers how to utilize the complete ARM Cortex-M3 processor. Easy-to-understand examples, diagrams, quick reference appendices, full instruction and Thumb-2 instruction sets are included. It teaches end users how to start from the ground up with the M3, and how to migrate from the ARM7.


This user's guide does far more than simply outline the ARM Cortex-M3 CPU features; it explains step-by-step and thumb instruction sets in order to obtain the best functionality, efficiency, and reusability. The author, an ARM engineer who helped develop the core, provides many examples and diagrams that aid understanding. Quick reference appendices make locating specific details a snap! Whole chapters are dedicated to: Debugging using the new CoreSight technology, Migrating effectively from the ARM7, The Memory Protection Unit Interfaces, Exceptions, Interrupts and much more! The only available guide to programming and using the groundbreaking ARM Cortex-M3 processor. Easy-to-understand examples, diagrams, quick reference appendices, full instruction, and Thumb-2 instruction sets are included. It teaches end users how to start from the ground up with the M3, and how to migrate from the ARM7.

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