
Atmel Sama5d3 Series

The Definitive Guide to ARM® Cortex®-M0 and Cortex-M0+ Processors
BeagleBone for Secret Agents
Embedded Linux System Development
Tools and Techniques for Engineering Wizardry
Embedded Linux Primer
Linux Device Drivers Development
The Truth about Dwayne Johnson's Life and Business Success Revealed
Learning Embedded Linux Using the Yocto Project
Fundamentals and Techniques, Second Edition
Embedded C Programming
The Linux Kernel Module Programming Guide
Advances in Information and Communication
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ARM Assembly Language
Embedded Systems Security
Linux Device Drivers
Proceedings of the 2020 Future of Information and Communication Conference (FICC), Volume 1
Training Handouts
Develop customized drivers for embedded Linux
Mastering Embedded Linux Programming
Develop custom drivers for your embedded Linux applications
GNU/Linux Rapid Embedded Programming
Practical Methods for Safe and Secure Software and Systems Development
Practical Labs
Scientific Methods and Current Practice
Real-Time Embedded Multithreading Using ThreadX
The Definitive Guide to ARM® Cortex®-M3 and Cortex®-M4 Processors
Dwayne Johnson
The Engineering of Reliable Embedded Systems (LPC1769)
Advanced Black Magic
Early Warning for Geological Disasters
Application Development with Qt Creator
The Definitive Guide to the ARM Cortex-M0
Linux Kernel and Driver Development - Practical Labs
Linux Device Drivers
Game Programming Using Qt: Beginner's Guide
Techniques and Applications of C and PIC MCUS
Write custom device drivers to support computer peripherals in Linux operating systems

EDDIE ALICE

The Definitive Guide to ARM® Cortex®-M0 and Cortex-M0+ Processors Packt Publishing Ltd
 This book provides a hands-on introductory course on concepts of C programming using a PIC® microcontroller and CCS C compiler. Through a project-based approach, this book provides an easy to understand method of learning the correct and efficient practices to program a PIC® microcontroller in C language. Principles of C programming are introduced gradually, building on skill sets and knowledge. Early chapters emphasize the understanding of C language through experience and exercises, while the latter half of the book covers the PIC® microcontroller, its peripherals, and how to use those peripherals from within C in great detail. This book demonstrates the programming methodology and tools used by most professionals in embedded design, and will enable you to apply your knowledge and programming skills for any real-life application. Providing a step-by-step guide to the subject matter, this book will encourage you to alter, expand, and customize code for use in your own projects. A complete introduction to C programming using PIC microcontrollers, with a focus on real-world applications, programming methodology and tools Each chapter includes C code project examples, tables, graphs, charts, references, photographs, schematic diagrams, flow charts and compiler compatibility notes to channel your knowledge into real-world examples Online materials include presentation slides, extended tests, exercises, quizzes and answers, real-world case studies, videos and weblinks

BeagleBone for Secret Agents Newnes

Using the training lecture materials from Bootlin, learn how to build an embedded Linux entirely from scratch, using the same tools and resources as the embedded Linux community. Make you own cross-compiling toolchain, compile and install your bootloader and Linux kernel, make a custom root filesystem, manage your storage in an efficient and reliable way, cross-compile extra open-source component together with your own applications, implement real-time requirements and quickly get a working prototype! To run the practical labs, you will need an affordable electronic board, and volume 2 - "Training labs".

Embedded Linux System Development Createspace Independent Publishing Platform

Leverage the power of Linux to develop captivating and powerful embedded Linux projects About This Book Explore the best practices for all embedded product development stages Learn about the compelling features offered by the Yocto Project, such as customization, virtualization, and many more Minimize project costs by using open source tools and programs Who This Book Is For If you are a developer who wants to build embedded systems using Linux, this book is for you. It is the ideal guide for you if you want to become proficient and broaden your knowledge. A basic understanding of C programming and experience with systems programming is needed. Experienced embedded Yocto developers will find new insight into working methodologies and ARM specific development competence. What You Will Learn Use the Yocto Project in the embedded Linux development process Get familiar with and customize the bootloader for a board Discover more

about real-time layer, security, virtualization, CGL, and LSB See development workflows for the U-Boot and the Linux kernel, including debugging and optimization Understand the open source licensing requirements and how to comply with them when cohabiting with proprietary programs Optimize your production systems by reducing the size of both the Linux kernel and root filesystems Understand device trees and make changes to accommodate new hardware on your device Design and write multi-threaded applications using POSIX threads Measure real-time latencies and tune the Linux kernel to minimize them In Detail Embedded Linux is a complete Linux distribution employed to operate embedded devices such as smartphones, tablets, PDAs, set-top boxes, and many more. An example of an embedded Linux distribution is Android, developed by Google. This learning path starts with the module Learning Embedded Linux Using the Yocto Project. It introduces embedded Linux software and hardware architecture and presents information about the bootloader. You will go through Linux kernel features and source code and get an overview of the Yocto Project components available. The next module Embedded Linux Projects Using Yocto Project Cookbook takes you through the installation of a professional embedded Yocto setup, then advises you on best practices. Finally, it explains how to quickly get hands-on with the Freescale ARM ecosystem and community layer using the affordable and open source Wandboard embedded board. Moving ahead, the final module Mastering Embedded Linux Programming takes you through the product cycle and gives you an in-depth description of the components and options that are available at each stage. You will see how functions are split between processes and the usage of POSIX threads. By the end of this learning path, your capabilities will be enhanced to create robust and versatile embedded projects. This Learning Path combines some of the best that Packt has to offer in one complete, curated package. It includes content from the following Packt products: Learning Embedded Linux Using the Yocto Project by Alexandru Vaduva Embedded Linux Projects Using Yocto Project Cookbook by Alex Gonzalez Mastering Embedded Linux Programming by Chris Simmonds Style and approach This comprehensive, step-by-step, pragmatic guide enables you to build custom versions of Linux for new embedded systems with examples that are immediately applicable to your embedded developments. Practical examples provide an easy-to-follow way to learn Yocto project development using the best practices and working methodologies. Coupled with hints and best practices, this will help you understand embedded Linux better.

Tools and Techniques for Engineering Wizardry Packt Publishing Ltd

ASPLOS '17: Architectural Support for Programming Languages and Operating Systems Apr 08, 2017-Apr 12, 2017 Xi'an, China. You can view more information about this proceeding and all of ACM's other published conference proceedings from the ACM Digital Library: <http://www.acm.org/dl>.

Embedded Linux Primer Academic Press

A complete guide to designing and building fun games with Qt and Qt Quick 2 using associated toolsets About This Book Learn to create simple 2D to complex 3D graphics and games using all possible tools and widgets available for game development in Qt Understand technologies such as QML, Qt Quick, OpenGL, and Qt Creator, and learn the best practices to use them to design games

Learn Qt with the help of many sample games introduced step-by-step in each chapter Who This Book Is For If you want to create great graphical user interfaces and astonishing games with Qt, this book is ideal for you. Any previous knowledge of Qt is not required, however knowledge of C++ is mandatory. What You Will Learn Install Qt on your system Understand the basic concepts of every Qt game and application Develop 2D object-oriented graphics using Qt Graphics View Build multiplayer games or add a chat function to your games with Qt's Network module Script your game with Qt Script Program resolution-independent and fluid UI using QML and Qt Quick Control your game flow as per the sensors of a mobile device See how to test and debug your game easily with Qt Creator and Qt Test In Detail Qt is the leading cross-platform toolkit for all significant desktop, mobile, and embedded platforms and is becoming more popular by the day, especially on mobile and embedded devices. Despite its simplicity, it's a powerful tool that perfectly fits game developers' needs. Using Qt and Qt Quick, it is easy to build fun games or shiny user interfaces. You only need to create your game once and deploy it on all major platforms like iOS, Android, and WinRT without changing a single source file. The book begins with a brief introduction to creating an application and preparing a working environment for both desktop and mobile platforms. It then dives deeper into the basics of creating graphical interfaces and Qt core concepts of data processing and display before you try creating a game. As you progress through the chapters, you'll learn to enrich your games by implementing network connectivity and employing scripting. We then delve into Qt Quick, OpenGL, and various other tools to add game logic, design animation, add game physics, and build astonishing UI for the games. Towards the final chapters, you'll learn to exploit mobile device features such as accelerators and sensors to build engaging user experiences. If you are planning to learn about Qt and its associated toolsets to build apps and games, this book is a must have. Style and approach This is an easy-to-follow, example-based, comprehensive introduction to all the major features in Qt. The content of each chapter is explained and organized around one or multiple simple game examples to learn Qt in a fun way.

Linux Device Drivers Development Learning Embedded Linux Using the Yocto Project Learn to develop customized device drivers for your embedded Linux system About This Book Learn to develop customized Linux device drivers Learn the core concepts of device drivers such as memory management, kernel caching, advanced IRQ management, and so on. Practical experience on the embedded side of Linux Who This Book Is For This book will help anyone who wants to get started with developing their own Linux device drivers for embedded systems. Embedded Linux users will benefit highly from this book. This book covers all about device driver development, from char drivers to network device drivers to memory management. What You Will Learn Use kernel facilities to develop powerful drivers Develop drivers for widely used I2C and SPI devices and use the regmap API Write and support devicetree from within your drivers Program advanced drivers for network and frame buffer devices Delve into the Linux irqdomain API and write interrupt controller drivers Enhance your skills with regulator and PWM frameworks Develop measurement system drivers with IIO framework Get the best from memory management and the DMA subsystem Access and manage GPIO subsystems and develop GPIO controller drivers In Detail Linux kernel is a complex, portable, modular and widely used piece of software, running on around 80% of servers and embedded systems in more than half of devices throughout the World. Device drivers play a

critical role in how well a Linux system performs. As Linux has turned out to be one of the most popular operating systems used, the interest in developing proprietary device drivers is also increasing steadily. This book will initially help you understand the basics of drivers as well as prepare for the long journey through the Linux Kernel. This book then covers drivers development based on various Linux subsystems such as memory management, PWM, RTC, IIO, IRQ management, and so on. The book also offers a practical approach on direct memory access and network device drivers. By the end of this book, you will be comfortable with the concept of device driver development and will be in a position to write any device driver from scratch using the latest kernel version (v4.13 at the time of writing this book). Style and approach A set of engaging examples to develop Linux device drivers

The Truth about Dwayne Johnson's Life and Business Success Revealed Oreilly & Associates Incorporated

Hardware/software co-verification is how to make sure that embedded system software works correctly with the hardware, and that the hardware has been properly designed to run the software successfully -before large sums are spent on prototypes or manufacturing. This is the first book to apply this verification technique to the rapidly growing field of embedded systems-on-a-chip(SoC). As traditional embedded system design evolves into single-chip design, embedded engineers must be armed with the necessary information to make educated decisions about which tools and methodology to deploy. SoC verification requires a mix of expertise from the disciplines of microprocessor and computer architecture, logic design and simulation, and C and Assembly language embedded software. Until now, the relevant information on how it all fits together has not been available. Andrews, a recognized expert, provides in-depth information about how co-verification really works, how to be successful using it, and pitfalls to avoid. He illustrates these concepts using concrete examples with the ARM core - a technology that has the dominant market share in embedded system product design. The companion CD-ROM contains all source code used in the design examples, a searchable e-book version, and useful design tools. * The only book on verification for systems-on-a-chip (SoC) on the market * Will save engineers and their companies time and money by showing them how to speed up the testing process, while still avoiding costly mistakes * Design examples use the ARM core, the dominant technology in SoC, and all the source code is included on the accompanying CD-Rom, so engineers can easily use it in their own designs [Learning Embedded Linux Using the Yocto Project Lulu.com](http://Lulu.com)

This book presents high-quality research on the concepts and developments in the field of information and communication technologies, and their applications. It features 134 rigorously selected papers (including 10 poster papers) from the Future of Information and Communication Conference 2020 (FICC 2020), held in San Francisco, USA, from March 5 to 6, 2020, addressing state-of-the-art intelligent methods and techniques for solving real-world problems along with a vision of future research Discussing various aspects of communication, data science, ambient intelligence, networking, computing, security and Internet of Things, the book offers researchers, scientists, industrial engineers and students valuable insights into the current research and next generation information science and communication technologies.

Fundamentals and Techniques, Second Edition Packt Publishing Ltd

High-Speed Signal Propagation: Advanced Black Magic brings together state-of-the-art techniques for building digital devices that can transmit faster and farther than ever before. Dr. Howard Johnson presents brand-new examples and design guidance, and a complete, unified theory of signal propagation for all metallic media. Coverage includes: understanding signal impairments; managing speed/distance tradeoffs; differential signaling; inter-cabinet connections; clock distribution; simulation, and much more.

Embedded C Programming Elsevier

Master the art of developing customized device drivers for your embedded Linux systems Key Features Stay up to date with the Linux PCI, ASoC, and V4L2 subsystems and write device drivers for them Get to grips with the Linux kernel power management infrastructure Adopt a practical approach to customizing your Linux environment using best practices Book Description Linux is one of the fastest-growing operating systems around the world, and in the last few years, the Linux kernel has evolved significantly to support a wide variety of embedded devices with its improved subsystems and a range of new features. With this book, you'll find out how you can enhance your skills to write custom device drivers for your Linux operating system. Mastering Linux Device Driver Development provides complete coverage of kernel topics, including video and audio frameworks, that usually go unaddressed. You'll work with some of the most complex and impactful Linux kernel frameworks, such as PCI, ALSA for SoC, and Video4Linux2, and discover expert tips and best practices along the way. In addition to this, you'll understand how to make the most of frameworks such as NVMEM and Watchdog. Once you've got to grips with Linux kernel helpers, you'll advance to working with special device types such as Multi-Function Devices (MFD) followed by video and audio device drivers. By the end of this book, you'll be able to write feature-rich device drivers and integrate them with some of the most complex Linux kernel frameworks, including V4L2 and ALSA for SoC. What you will learn Explore and adopt Linux kernel helpers for locking, work deferral, and interrupt management Understand the Regmap subsystem to manage memory accesses and work with the IRQ subsystem Get to grips with the PCI subsystem and write reliable drivers for PCI devices Write full multimedia device drivers using ALSA SoC and the V4L2 framework Build power-aware device drivers using the kernel power management framework Find out how to get the most out of miscellaneous kernel subsystems such as NVMEM and Watchdog Who this book is for This book is for embedded developers, Linux system engineers, and system programmers who want to explore Linux kernel frameworks and subsystems. C programming skills and a basic understanding of driver development are necessary to get started with this book.

The Linux Kernel Module Programming Guide CreateSpace

This second edition of Real-Time Embedded Multithreading contains the fundamentals of developing real-time operating systems and multithreading with all the new functionality of ThreadX Version 5. ThreadX has been deployed in approximately 500 million devices worldwide. General concepts and terminology are detailed along with problem solving of com

Advances in Information and Communication Packt Publishing Ltd

Front Cover; Dedication; Embedded Systems Security: Practical Methods for Safe and Secure Software and Systems Development; Copyright; Contents; Foreword; Preface; About this Book; Audience; Organization; Approach; Acknowledgements; Chapter 1 -- Introduction to Embedded

Systems Security; 1.1What is Security?; 1.2What is an Embedded System?; 1.3Embedded Security Trends; 1.4Security Policies; 1.5Security Threats; 1.6Wrap-up; 1.7Key Points; 1.8 Bibliography and Notes; Chapter 2 -- Systems Software Considerations; 2.1The Role of the Operating System; 2.2Multiple Independent Levels of Security.

Fundamentals and Techniques, Second Edition Createspace Independent Publishing Platform

The past years have seen new technologies that could be utilized for early warning and real-time loss estimation. They include self-organizing sensor networks, new satellite imagery with high resolution, multi-sensor observational capacities, and crowd sourcing. From this and improved physical models, data processing and communication methodologies a significant step towards better early warning technologies has been achieved by research. At the same time, early warning systems became part of the disaster management practice for instance in Japan and Indonesia. This book marks the important point where: Research activities continue to improve early warning Experience with applications is expanding At this critical point in development of early warning for geological disasters it is timely to provide a volume that documents the state-of-the-art, provides an overview on recent developments and serves as knowledge resource for researcher and practitioners.

ARM Assembly Language Packt Publishing Ltd

Linux Kernel Module Programming Guide is for people who want to write kernel modules. It takes a hands-on approach starting with writing a small "hello, world" program, and quickly moves from there. Far from a boring text on programming, Linux Kernel Module Programming Guide has a lively style that entertains while it educates. An excellent guide for anyone wishing to get started on kernel module programming. *** Money raised from the sale of this book supports the development of free software and documentation.

Embedded Systems Security Packt Pub Limited

This new resource provides all the information necessary to promote a salon effectively and inexpensively, for building and keeping a solid client base. With a wealth of simple and creative ways to attract clients and increase sales, 101 Salon Promotions relies on basic, easy-to-learn methods for building and maintaining a successful salon on a shoestring budget. Readers will learn how to capitalize on the weather, take advantage of holidays, network with other professionals, reward clients to ensure repeat business, and much more. Just some of what you will learn includes: -How to attract new clients with promotions relating to seasons, holidays, and special events -How to retain clients through referral discounts and clubs linked with services -How to develop and implement buyer incentive programs designed to increase retail product sales -How to increase revenue by forming clubs and hosting demonstrations that cater to special groups of clients

Linux Device Drivers Newnes

Written in a concise and easy-to-follow approach, this book will guide you to develop your first application with Qt with illustrated examples and screenshots.If you are a developer who is new to Qt and Qt Creator and is interested in harnessing the power of Qt for cross-platform development, this book is great for you. If you have basic experience programming in C++, you have what it takes to create great cross-platform applications using Qt and Qt Creator!

Proceedings of the 2020 Future of Information and Communication Conference (FICC),

Volume 1 Packt Publishing Ltd

This book contains the practical labs corresponding to the "Embedded Linux System Development: Training Handouts" book from Bootlin. Get your hands on an embedded board based on an ARM processor (the Atmel/Microchip SAMA5D3 Xplained board), and apply what you learned to: make your own cross-compiling toolchain, compile and install your bootloader and Linux kernel, make a custom root filesystem, manage your storage in an efficient and reliable way, cross-compile extra open-source component together with your own applications, implement real-time requirements so that you can quickly turn your ideas into a working prototype!

Training Handouts CRC Press

LINUX DRIVER DEVELOPMENT FOR EMBEDDED PROCESSORS - SECOND EDITION - The flexibility of Linux embedded, the availability of powerful, energy efficient processors designed for embedded computing and the low cost of new processors are encouraging many industrial companies to come up with new developments based on embedded processors. Current engineers have in their hands powerful tools for developing applications previously unimagined, but they need to understand the countless features that Linux offers today. This book will teach you how to develop device drivers for Device Tree Linux embedded systems. You will learn how to write different types of Linux drivers, as well as the appropriate APIs (Application Program Interfaces) and methods to interface with kernel and user spaces. This is a book is meant to be practical, but also provides an important theoretical base. More than twenty drivers are written and ported to three different processors. You can choose between NXP i.MX7D, Microchip SAMA5D2 and Broadcom BCM2837 processors to develop and test the drivers, whose implementation is described in detail in the practical lab sections of the book. Before you start reading, I encourage you to acquire any of these processor boards whenever you have access to some GPIOs, and at least one SPI and I2C controllers. The hardware configurations of the different evaluation boards used to develop the drivers are explained in detail throughout this

book; one of the boards used to implement the drivers is the famous Raspberry PI 3 Model B board. You will learn how to develop drivers, from the simplest ones that do not interact with any external hardware, to drivers that manage different kind of devices: accelerometers, DACs, ADCs, RGB LEDs, Multi-Display LED controllers, I/O expanders, and Buttons. You will also develop DMA drivers, drivers that manage interrupts, and drivers that write/read on the internal registers of the processor to control external devices. To ease the development of some of these drivers, you will use different types of Frameworks: Miscellaneous framework, LED framework, UIO framework, Input framework and the IIO industrial one. This second edition has been updated to the v4.9 LTS kernel. Recently, all the drivers have been ported to the new Microchip SAMA5D27-SOM1 (SAMA5D27 System On Module) using kernel 4.14 LTS and included in the GitHub repository of this book; these drivers have been tested in the ATSAMA5D27-SOM1-EK1 evaluation platform; the ATSAMA5D27-SOM1-EK1 practice lab settings are not described throughout the text of this book, but in a practice labs user guide that can be downloaded from the book's GitHub.

Prentice Hall Professional

This is the first edition of 'The Engineering of Reliable Embedded Systems': it is released here largely for historical reasons. (Please consider purchasing 'ERES2' instead.) [The second edition will be available for purchase here from June 2017.]

Develop customized drivers for embedded Linux John Wiley & Sons

Using the training lecture materials from Bootlin, learn how to make the Linux kernel support new hardware, both for driving new devices and for supporting a new board. You will get familiar with how Linux abstracts the hardware and how it uses buses to bind devices to drivers. This book also covers the infrastructure that Linux offers to support device driver development: managing memory, mapping registers, registering interrupt handlers, locking and debugging primitives. To run the practical labs, you will need an affordable electronic board, and the corresponding - "Training Labs" booklet.