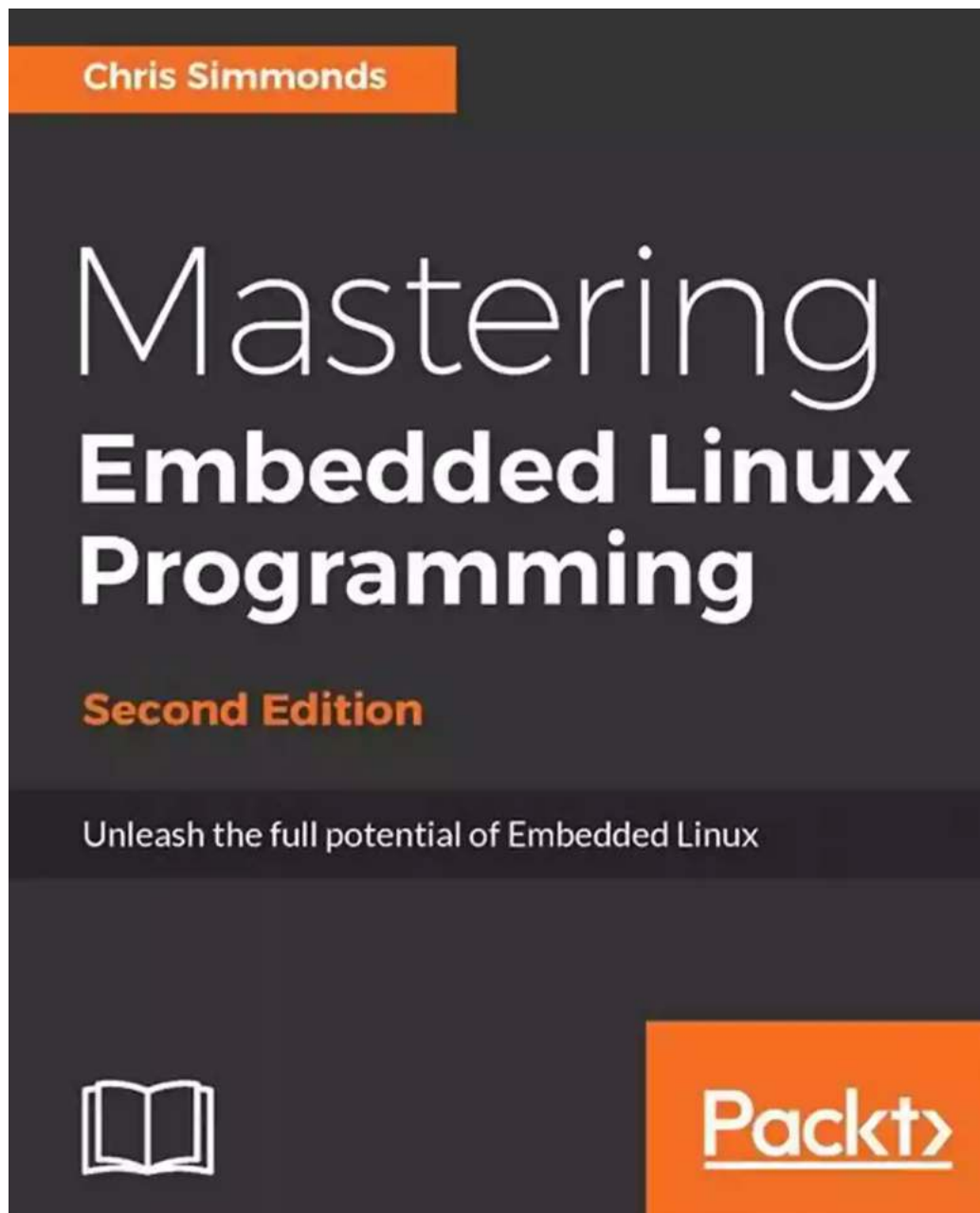# Mastering Embedded Linux Programming Second Edition: A Comprehensive Guide for Success

Are you interested in delving into the fascinating world of embedded systems and Linux programming? Look no further! The second edition of "Mastering

Embedded Linux Programming" provides a comprehensive and practical guide to help you achieve mastery in this exciting field.

Why Embedded Linux Programming Matters

Embedded systems are all around us, from our smartphones and smartwatches to our cars and home appliances. These systems rely on low-power and resource-constrained hardware, making them perfect for running embedded Linux, a specialized version of the popular operating system.
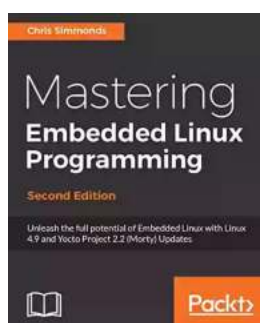
Mastering Embedded Linux Programming - Second Edition: Unleash the full potential of Embedded Linux with Linux 4.9 and Yocto Project 2.2 (Morty) Updates by Chris Simmonds(Kindle Edition)

★★★★☆ 4.4 out of 5

Language	: English
File size	: 6961 KB
Text-to-Speech	: Enabled
Screen Reader	: Supported
Enhanced typesetting	: Enabled
Print length	: 983 pages

DOWNLOAD E-BOOK

As an embedded Linux developer, you'll gain the ability to create efficient, scalable, and secure embedded systems that power a wide range of applications. Whether you're working on IoT devices, industrial machinery, or medical equipment, mastering embedded Linux programming is a valuable skill that will open up endless opportunities for you in the tech industry.

The Second Edition: What's New?

The second edition of "Mastering Embedded Linux Programming" is packed with updated content, new examples, and hands-on exercises designed to enhance your learning experience. This edition covers the latest embedded Linux kernels, introduces new tools and techniques, and provides in-depth insights into advanced topics such as kernel debugging and device driver development.

Key Features

- Comprehensive coverage of embedded Linux programming from basics to advanced concepts

- Clear explanations, code examples, and practical exercises to reinforce your understanding

- Detailed insights into Linux kernel internals and device driver development

- Guidance on building and customizing Linux-based embedded systems

- Best practices for debugging and optimizing your embedded Linux applications

- Real-world case studies to showcase the application of embedded Linux programming

Who Should Read This Book?

This book is suitable for both beginner and experienced programmers who wish to deepen their understanding of embedded Linux development. Whether you're a software engineer, an embedded systems designer, or an enthusiast passionate about tinkering with electronic devices, "Mastering Embedded Linux Programming" is a must-have resource.

Topics Covered

The book covers a wide range of topics, including:

- to embedded systems and Linux architecture

- Building and configuring an embedded Linux system

- Working with Linux kernel modules and device drivers

- Memory management and process scheduling in Linux

- Interfacing with hardware components and managing input/output operations

- Networking and communication protocols in embedded systems

- Embedded system security and software testing

Benefits of Mastering Embedded Linux Programming

Mastering embedded Linux programming opens up a world of opportunities for your career:

- Become a sought-after professional in the fast-growing field of embedded systems

- Develop your own IoT projects and prototypes using embedded Linux

- Contribute to open-source projects and collaborate with a thriving community

- Unlock high-paying job opportunities in industries like automotive, aerospace, and healthcare

- Create innovative and scalable solutions for various embedded applications

With the second edition of "Mastering Embedded Linux Programming," you'll gain the knowledge and skills necessary to excel in embedded systems development. Whether you're a beginner or an experienced programmer, this comprehensive guide will empower you to build powerful, reliable, and secure embedded Linux systems that drive the future of technology.

Get your copy of "Mastering Embedded Linux Programming Second Edition" today and embark on an exciting journey towards mastering embedded Linux programming!
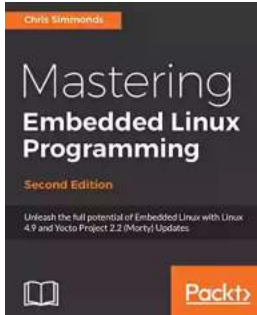
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Key Features

- Discover how to build and configure reliable embedded Linux devices

- This book has been updated to include Linux 4.9 and Yocto Project 2.2 (Morty)

- This comprehensive guide covers the remote update of devices in the field and power management

Book Description

Embedded Linux runs many of the devices we use every day, from smart TVs to WiFi routers, test equipment to industrial controllers - all of them have Linux at their heart. Linux is a core technology in the implementation of the inter-connected world of the Internet of Things.

The comprehensive guide shows you the technologies and techniques required to build Linux into embedded systems. You will begin by learning about the fundamental elements that underpin all embedded Linux projects: the toolchain, the bootloader, the kernel, and the root filesystem. You'll see how to create each of these elements from scratch, and how to automate the process using Buildroot and the Yocto Project.

Moving on, you'll find out how to implement an effective storage strategy for flash memory chips, and how to install updates to the device remotely once it is deployed. You'll also get to know the key aspects of writing code for embedded Linux, such as how to access hardware from applications, the implications of writing multi-threaded code, and techniques to manage memory in an efficient way. The final chapters show you how to debug your code, both in applications and in the Linux kernel, and how to profile the system so that you can look out for performance bottlenecks.

By the end of the book, you will have a complete overview of the steps required to create a successful embedded Linux system.

What you will learn

- Evaluate the Board Support Packages offered by most manufacturers of a system on chip or embedded module

- Use Buildroot and the Yocto Project to create embedded Linux systems quickly and efficiently

- Update IoT devices in the field without compromising security

- Reduce the power budget of devices to make batteries last longer

- Interact with the hardware without having to write kernel device drivers

- Debug devices remotely using GDB, and see how to measure the performance of the systems using powerful tools such as perk, ftrace, and valgrind

- Find out how to configure Linux as a real-time operating system

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