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The User's Guide to Arduino Yún Development
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Using Web Technologies to Build Connected Devices
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Firewalls Don't Stop Dragons

A Practical Real-World Approach
What Every Superuser Should Know
GNU/Linux Rapid Embedded Programming
Linux Kernel Networking

KYLEIGH ASHTYN

The Car Hacker's Handbook Addison-Wesley Professional
Unlike some operating systems, Linux doesn't try to hide the important bits from you—it gives you full control of your computer. But to truly master Linux, you need to understand its internals, like how the system boots, how networking works, and what the kernel actually does. In this completely revised second edition of the perennial best seller How Linux Works, author Brian Ward makes the concepts behind Linux internals accessible to anyone curious about the inner workings of the operating system. Inside, you'll find the kind of knowledge that normally comes from years of experience doing things the hard way. You'll learn: –How Linux boots, from boot loaders to init implementations (systemd, Upstart, and System V) –How the kernel manages devices, device drivers, and processes –How networking, interfaces, firewalls, and servers work –How development

tools work and relate to shared libraries –How to write effective shell scripts You'll also explore the kernel and examine key system tasks inside user space, including system calls, input and output, and filesystems. With its combination of background, theory, real-world examples, and patient explanations, How Linux Works will teach you what you need to know to solve pesky problems and take control of your operating system. **Implementation and Theory** CRC Press Build Complete Embedded Linux Systems Quickly and Reliably Developers are increasingly integrating Linux into their embedded systems: It supports virtually all hardware architectures and many peripherals, scales well, offers full source code, and requires no royalties. The Yocto Project makes it much easier to customize Linux for embedded systems. If you're a developer with working knowledge of Linux, Embedded Linux Systems with the Yocto Project™ will help you make the most of it. An indispensable companion to the official documentation, this guide starts by offering a solid grounding in the embedded Linux landscape and the challenges of creating custom distributions for embedded systems. You'll master the Yocto Project's toolbox hands-on, by working through the entire development lifecycle with a variety of real-life examples that you can incorporate into your own projects. Author Rudolf Streif offers deep

insight into Yocto Project's build system and engine, and addresses advanced topics ranging from board support to compliance management. You'll learn how to Overcome key challenges of creating custom embedded distributions Jumpstart and iterate OS stack builds with the OpenEmbedded Build System Master build workflow, architecture, and the BitBake Build Engine Quickly troubleshoot build problems Customize new distros with built-in blueprints or from scratch Use BitBake recipes to create new software packages Build kernels, set configurations, and apply patches Support diverse CPU architectures and systems Create Board Support Packages (BSP) for hardware-specific adaptations Provide Application Development Toolkits (ADT) for round-trip development Remotely run and debug applications on actual hardware targets Ensure open-source license compliance Scale team-based projects with Toaster, Build History, Source Mirrors, and Autobuilder

Expanding Your Raspberry Pi "O'Reilly Media, Inc."

"As an author, editor, and publisher, I never paid much attention to the competition—except in a few cases. This is one of those cases. The UNIX System Administration Handbook is one of the few books we ever measured ourselves against." —Tim O'Reilly, founder of O'Reilly Media "This edition is for those whose systems live in the cloud or in virtualized

data centers; those whose administrative work largely takes the form of automation and configuration source code; those who collaborate closely with developers, network engineers, compliance officers, and all the other worker bees who inhabit the modern hive.” —Paul Vixie, Internet Hall of Fame-recognized innovator and founder of ISC and Farsight Security “This book is fun and functional as a desktop reference. If you use UNIX and Linux systems, you need this book in your short-reach library. It covers a bit of the systems’ history but doesn’t bloviate. It’s just straight-forward information delivered in a colorful and memorable fashion.” —Jason A. Nunnelley UNIX® and Linux® System Administration Handbook, Fifth Edition, is today’s definitive guide to installing, configuring, and maintaining any UNIX or Linux system, including systems that supply core Internet and cloud infrastructure. Updated for new distributions and cloud environments, this comprehensive guide covers best practices for every facet of system administration, including storage management, network design and administration, security, web hosting, automation, configuration management, performance analysis, virtualization, DNS, security, and the management of IT service organizations. The authors—world-class, hands-on technologists—offer indispensable new

coverage of cloud platforms, the DevOps philosophy, continuous deployment, containerization, monitoring, and many other essential topics. Whatever your role in running systems and networks built on UNIX or Linux, this conversational, well-written ¿guide will improve your efficiency and help solve your knottiest problems.
LPI Linux Essentials Study Guide Full Circle Magazine
Kismet is the industry standard for examining wireless network traffic, and is used by over 250,000 security professionals, wireless networking enthusiasts, and WarDriving hobbyists. Unlike other wireless networking books that have been published in recent years that geared towards Windows users, Kismet Hacking is geared to those individuals that use the Linux operating system. People who use Linux and want to use wireless tools need to use Kismet. Now with the introduction of Kismet NewCore, they have a book that will answer all their questions about using this great tool. This book continues in the successful vein of books for wireless users such as WarDriving: Drive, Detect Defend. *Wardrive Running Kismet from the BackTrack Live CD *Build and Integrate Drones with your Kismet Server *Map Your Data with GPSMap, KisMap, WiGLE and GpsDrive
Linux Smart Homes For Dummies Emereo Publishing
Deep learning networks are getting smaller. Much smaller. The Google

Assistant team can detect words with a model just 14 kilobytes in size—small enough to run on a microcontroller. With this practical book you'll enter the field of TinyML, where deep learning and embedded systems combine to make astounding things possible with tiny devices. Pete Warden and Daniel Situnayake explain how you can train models small enough to fit into any environment. Ideal for software and hardware developers who want to build embedded systems using machine learning, this guide walks you through creating a series of TinyML projects, step-by-step. No machine learning or microcontroller experience is necessary. Build a speech recognizer, a camera that detects people, and a magic wand that responds to gestures Work with Arduino and ultra-low-power microcontrollers Learn the essentials of ML and how to train your own models Train models to understand audio, image, and accelerometer data Explore TensorFlow Lite for Microcontrollers, Google's toolkit for TinyML Debug applications and provide safeguards for privacy and security Optimize latency, energy usage, and model and binary size *Linux Essentials* No Starch Press

Master the techniques needed to build great, efficient embedded devices on Linux About This Book 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 Who This Book Is For If you are an engineer who wishes to understand and use Linux in embedded devices, this book is for you. It is also for Linux developers and system programmers who are familiar with embedded systems and want to learn and program the best in class devices. It is appropriate for students studying embedded techniques, for developers implementing embedded Linux devices, and engineers supporting existing Linux devices. 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 In Detail 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. Style and approach This book is an easy-to-follow and pragmatic guide with in-depth analysis of the implementation of embedded devices. It

follows the life cycle of a project from inception through to completion, at each stage giving both the theory that underlies the topic and practical step-by-step walkthroughs of an example implementation.

BPF Performance Tools No Starch Press

Gain a deeper understanding of how Raspberry Pi works to get the results you want right in the palm of your hand. This book helps you understand the right connections and software to drive your Raspberry Pi into opening the worlds of programming, electronic experiments, system control, digital imaging, and the Internet of Things to you. You'll discover how to expand your Pi’s storage for bigger programs, use its onboard connections to interface with cameras and control devices, printers and scanners. You'll also see how to share information with Windows and Apple computers and mobile devices, and use it away from AC power. You’ll be able to turn any HDTV into a media player; stream and share files from desktop and mobile devices; use your Pi for image capture via camera or scanner; and more! Expanding Your Raspberry Pi is your guide to doing almost anything a bigger computer can do – if you’re ready for the challenge. What You'll Learn Connect, use, and manage mass storage devices for greater versatility Link with desktop, laptop, and mobile devices using the Pi’s built-in Wi-Fi and Bluetooth features Share resources from your Pi

with desktop and mobile devices Capture video and still photos with your Pi Who This Book Is For Network administrators: Connect Raspberry Pi devices to other devices on a wired or wireless network for media streaming, file serving, or print serving Teachers: Use Raspberry Pi to teach students how to connect different types of computers and operating systems with each other. IT workers: Use Raspberry Pi with your existing printers, scanners, webcams, and home network

Mastering OpenVPN John Wiley & Sons Provides a solid foundation for those considering a career in IT—covers the objectives of the new Linux Essentials Exam 010-160 v1.6 Linux is a secure, reliable, open source alternative to costly operating systems such as Microsoft Windows. As large organizations worldwide continue to add Linux servers, the need for IT professionals skilled in Linux continues to grow. The LPI Linux Essentials Study Guide is a valuable resource for anyone preparing to take the new Linux Essentials Exam—the entry-level certification from The Linux Professional Institute (LPI) which validates knowledge of Linux concepts and applications. Written by recognized experts on Linux and open source technologies, this accessible, user-friendly guide covers desktop skills, the command line, directories and files, networks, scripting, security, users and

permissions, and much more. Clear, concise chapters provide numerous hands-on tutorials, real-world examples, color illustrations, and practical end-of-chapter exercises and review questions. An ideal introduction for those new to Linux or considering a career in IT, this guide helps readers: Learn the operation and components of Linux desktops and servers Understand open source software, licensing, and applications Configure networks, security, cloud services, storage, and devices Create users and groups and set permissions and ownership Use the command line and build automation scripts LPI Linux Essentials Study Guide: Exam 010 v1.6 is perfect for anyone beginning a career in IT, newcomers to Linux, students in computer courses, and system administrators working with other operating systems wanting to learn more about Linux and other open source solutions.

Arduino Meets Linux
Walter de Gruyter GmbH & Co KG
Rely on this practical, end-to-end guide on cyber safety and online security written expressly for a non-technical audience. You will have just what you need to protect yourself—step by step, without judgment, and with as little jargon as possible. Just how secure is your computer right now? You probably don't really know. Computers and the Internet have revolutionized the modern world, but if you're like

most people, you have no clue how these things work and don't know the real threats. Protecting your computer is like defending a medieval castle. While moats, walls, drawbridges, and castle guards can be effective, you'd go broke trying to build something dragon-proof. This book is not about protecting yourself from a targeted attack by the NSA; it's about armoring yourself against common hackers and mass surveillance. There are dozens of no-brainer things we all should be doing to protect our computers and safeguard our data—just like wearing a seat belt, installing smoke alarms, and putting on sunscreen. Author Carey Parker has structured this book to give you maximum benefit with minimum effort. If you just want to know what to do, every chapter has a complete checklist with step-by-step instructions and pictures. The book contains more than 150 tips to make you and your family safer. It includes: Added steps for Windows 10 (Spring 2018) and Mac OS X High Sierra Expanded coverage on mobile device safety Expanded coverage on safety for kids online More than 150 tips with complete step-by-step instructions and pictures What You'll Learn Solve your password problems once and for all Browse the web safely and with confidence Block online tracking and dangerous ads Choose the right antivirus software for you Send files and messages securely Set up secure home networking Conduct

secure shopping and banking online Lock down social media accounts Create automated backups of all your devices Manage your home computers Use your smartphone and tablet safely Safeguard your kids online And more! Who This Book Is For Those who use computers and mobile devices, but don’t really know (or frankly care) how they work. This book is for people who just want to know what they need to do to protect themselves—step by step, without judgment, and with as little jargon as possible.

THE INDEPENDENT MAGAZINE FOR THE UBUNTU LINUX COMMUNITY Apress

How can we build bridges from the digital world of the Internet to the analog world that surrounds us? By bringing accessibility to embedded components such as sensors and microcontrollers, JavaScript and Node.js might shape the world of physical computing as they did for web browsers. This practical guide shows hardware and software engineers, makers, and web developers how to talk in JavaScript with a variety of hardware platforms. Authors Patrick Mulder and Kelsey Breseman also delve into the basics of microcontrollers, single-board computers, and other hardware components. Use JavaScript to program microcontrollers with Arduino and Espruino Prototype IoT devices with the Tessel 2 development platform Learn about electronic input and output components,

including sensors Connect microcontrollers to the Internet with the Particle Photon toolchain Run Node.js on single-board computers such as Raspberry Pi and Intel Edison Talk to embedded devices with Node.js libraries such as Johnny-Five, and remotely control the devices with Bluetooth Use MQTT as a message broker to connect devices across networks Explore ways to use robots as building blocks for shared experiences

A Complete Introduction Kismet Hacking

The following list describes what you can get from this book: Information that lets you get set up to develop using the Yocto Project. Information to help developers who are new to the open source environment and to the distributed revision control system Git, which the Yocto Project uses. An understanding of common end-to-end development models and tasks. Information about common development tasks generally used during image development for embedded devices. Information on using the Yocto Project integration of the QuickEMUlator (QEMU), which lets you simulate running on hardware an image you have built using the OpenEmbedded build system. Many references to other sources of related information.

Cross-Compiler 28 Success Secrets - 28 Most Asked Questions on Cross-Compiler - What You Need to Know Packt Publishing

Ltd
This month: * Command & Conquer * How-To : Python, Establish An OpenVPN Connection, and Put Ubuntu On A Mac. * Graphics : Blender and Inkscape. * Review: Arduino Starter Kit * Security Q&A * What Is: CryptoCurrency * NEW! - Open Source Design plus: Q&A, Linux Labs, Ask The New Guy, Ubuntu Games, and another competition!

Embedded Linux Primer Createspace Independent Publishing Platform
Modern cars are more computerized than ever. Infotainment and navigation systems, Wi-Fi, automatic software updates, and other innovations aim to make driving more convenient. But vehicle technologies haven't kept pace with today's more hostile security environment, leaving millions vulnerable to attack. The Car Hacker's Handbook will give you a deeper understanding of the computer systems and embedded software in modern vehicles. It begins by examining vulnerabilities and providing detailed explanations of communications over the CAN bus and between devices and systems. Then, once you have an understanding of a vehicle's communication network, you'll learn how to intercept data and perform specific hacks to track vehicles, unlock doors, glitch engines, flood communication, and more. With a focus on low-cost, open source hacking tools such as Metasploit, Wireshark, Kayak, can-utils, and

ChipWhisperer, The Car Hacker’s Handbook will show you how to: –Build an accurate threat model for your vehicle –Reverse engineer the CAN bus to fake engine signals –Exploit vulnerabilities in diagnostic and data-logging systems –Hack the ECU and other firmware and embedded systems –Feed exploits through infotainment and vehicle-to-vehicle communication systems –Override factory settings with performance-tuning techniques –Build physical and virtual test benches to try out exploits safely If you’re curious about automotive security and have the urge to hack a two-ton computer, make The Car Hacker’s Handbook your first stop.

Node.js for Embedded Systems Springer

Build the next generation of connected projects. The Yún is one of the most powerful and flexible hardware development boards in the Arduino range. It combines the ease-of-use of the Arduino platform, with the power of a 400 MHz Atheros AR9331 Wi-Fi system-on-chip (WiSOC) that runs Linux. But if you are not experienced and confident in working with Linux-based operating systems, it may be difficult for you to use the Yún to its full potential. Bob Hammell is the author of popular Arduino learning resources, such as Connecting Arduino: Programming and Networking with the Ethernet Shield. In this book, he guides you through all of the Arduino Yún's features and explains how to make use of this unique board.

Using interesting and fun examples, in Arduino Meets Linux: The User's Guide to Arduino Yún Development you can learn how to: Connect your Arduino Yún to your network, using built-in support for Wi-Fi and Ethernet; Work with OpenWrt-Yun Linux through the command line; Use the Bridge Library to communicate and share data between both of the Yún's chips; Write Python and shell scripts to automate tasks and use the power of the AR9331 in your Arduino projects; Work with Temboo and third-party APIs to access popular web services; Host your own websites and application programming interfaces (APIs) on the Yún; Use USB devices, such as audio interfaces and gamepads from Microsoft Xbox 360(R) and Sony PlayStation(R) games consoles; Build Arduino projects that act as a keyboard or mouse when you plug your Yún into a PC or Mac; Add voice recognition and speech to your Arduino projects; Download source code, view demo videos, and access extra projects from the book's companion website, ArduinoMeetsLinux.com; And much, much more. Whether you are an experienced Linux developer looking for specific details on using the Arduino Yún or a beginner who has never used Linux before, you can find all of the key information that you need in this book. With the Arduino Yún, you can take your Arduino projects to the next level. This book shows you how.

Linux Networking Cookbook Apress
In Linux Unwired, you'll learn the basics of wireless computing, from the reasons why you'd want to go wireless in the first place, to setting up your wireless network or accessing wireless data services on the road. The book provides a complete introduction to all the wireless technologies supported by Linux. You'll learn how to install and configure a variety of wireless technologies to fit different scenarios, including an office or home network and for use on the road. You'll also learn how to get Wi-Fi running on a laptop, how to use Linux to create your own access point, and how to deal with cellular networks, Bluetooth, and Infrared. Other topics covered in the book include: Connecting to wireless hotspots Cellular data plans you can use with Linux Wireless security, including WPA and 802.1x Finding and mapping Wi-Fi networks with kismet and gpsd Connecting Linux to your Palm or Pocket PC Sending text messages and faxes from Linux through your cellular phone Linux Unwired is a one-stop wireless information source for on-the-go Linux users. Whether you're considering Wi-Fi as a supplement or alternative to cable and DSL, using Bluetooth to network devices in your home or office, or want to use cellular data plans for access to data nearly everywhere, this book will show you the full-spectrum view of wireless capabilities of Linux, and

how to take advantage of them.
Kismet Hacking John Wiley & Sons
How can we build bridges from the digital world of the Internet to the analog world that surrounds us? By bringing accessibility to embedded components such as sensors and microcontrollers, JavaScript and Node.js might shape the world of physical computing as they did for web browsers. This practical guide shows hardware and software engineers, makers, and web developers how to talk in JavaScript with a variety of hardware platforms. Authors Patrick Mulder and Kelsey Breseman also delve into the basics of microcontrollers, single-board computers, and other hardware components. Use JavaScript to program microcontrollers with Arduino and Espruino Prototype IoT devices with the Tessel 2 development platform Learn about electronic input and output components, including sensors Connect microcontrollers to the Internet with the Particle Photon toolchain Run Node.js on single-board computers such as Raspberry Pi and Intel Edison Talk to embedded devices with Node.js libraries such as Johnny-Five, and remotely control the devices with Bluetooth Use MQTT as a message broker to connect devices across networks Explore ways to use robots as building blocks for shared experiences
The User's Guide to Arduino Yún Development "O'Reilly Media, Inc."

Software Defined Networks: A Comprehensive Approach, Second Edition provides in-depth coverage of the technologies collectively known as Software Defined Networking (SDN). The book shows how to explain to business decision-makers the benefits and risks in shifting parts of a network to the SDN model, when to integrate SDN technologies in a network, and how to develop or acquire SDN applications. In addition, the book emphasizes the parts of the technology that encourage opening up the network, providing treatment for alternative approaches to SDN that expand the definition of SDN as networking vendors adopt traits of SDN to their existing solutions. Since the first edition was published, the SDN market has matured, and is being gradually integrated and morphed into something more compatible with mainstream networking vendors. This book reflects these changes, with coverage of the OpenDaylight controller and its support for multiple southbound protocols, the Inclusion of NETCONF in discussions on controllers and devices, expanded coverage of NFV, and updated coverage of the latest approved version (1.5.1) of the OpenFlow specification. Contains expanded coverage of controllers Includes a new chapter on NETCONF and SDN Presents expanded coverage of SDN in optical networks Provides support materials for use in computer networking

courses
"O'Reilly Media, Inc."
State-of-the-art, flat structures called metasurfaces can filter and steer light and sound, render an object completely invisible to electromagnetic waves, and much more. They can deliver automation, remote operation, and advanced performance to a wide variety of existing systems, with applications in communications, medical imaging, sensing, and security. However, for non-specialists, individual metasurfaces are currently restricted to limited reusability and accessibility. This book brings together various scientific disciplines with the aim of outlining a programmable ‘plug-and-play’ metasurface. The book focuses on a recently proposed platform – known as the HyperSurface – that provides many electromagnetic functions of metasurfaces in a single structure, which can be controlled and reconfigured by software. This revolutionary approach paves the way for new opportunities in wireless communications and programmable wireless environments: HyperSurfaces could link networks with objects and physical environments and create smarter systems that are far more responsive to user demands. Walls that absorb radiation or block digital eavesdropping, and wireless, long-distance charging of devices are among the many possibilities. The book aspires to provide the foundational knowledge for creating an

Internet of Materials, enabling smart environments at any scale – from indoor wireless communications to medical imaging equipment. Although the set of disciplines involved covers a considerable span, we hope that the material will benefit experts and students alike.

First International ICST Conference, AFRICOM 2009, Maputo, Mozambique, December 3-4, 2009, Proceedings

Pearson Education

Linux Kernel Networking takes you on a guided in-depth tour of the current Linux networking implementation and the theory behind it. Linux kernel networking is a complex topic, so the book won't burden you with topics not directly related to networking. This book will also not overload you with cumbersome line-by-line code walkthroughs not directly related to what you're searching for; you'll find just what you need, with in-depth explanations in each chapter and a quick reference at the end of each chapter. Linux Kernel Networking is the only up-to-date reference guide to understanding how networking is implemented, and it will be indispensable in years to come since so many devices now use Linux or operating systems based on Linux, like Android, and since Linux is so prevalent in the data center arena, including Linux-based virtualization technologies like Xen and KVM.

EMMC2

Springer

Presents an introduction to the open-source electronics prototyping

platform.

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