

Raspberry Pi Handbuch Fur Einsteiger Linux Python

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Raspberry Pi Assembly Language Programming - Stephen Smith 2019-10-23

Gain all the skills required to dive into the fundamentals of the Raspberry Pi hardware architecture and how data is stored in the Pi's memory. This book provides you with working starting points for your own projects while you develop a working knowledge of Assembly language programming on the Raspberry Pi. You'll learn how to interface to the Pi's hardware including accessing the GPIO ports. The book will cover the basics of code optimization as well as how to inter-operate with C and Python code, so you'll develop enough background to use the official ARM reference documentation for further projects. With Raspberry Pi Assembly Language Programming as your guide you'll study how to read and reverse engineer machine code and then then apply those new skills to study code examples and take control of your Pi's hardware and software both. What You'll Learn Program basic ARM 32-Bit Assembly Language Interface with the various hardware devices on the Raspberry Pi Comprehend code containing Assembly language Use the official ARM reference documentation Who This Book Is For Coders who have already learned to program in a higher-level language like Python, Java, C#, or C and now wish to learn Assembly programming.

Concurrency in C# Cookbook - Stephen Cleary 2014-05-15

If you're one of the many developers uncertain about concurrent and multithreaded development, this practical cookbook will change your mind. With more than 75 code-rich recipes, author Stephen Cleary demonstrates parallel processing and asynchronous programming techniques, using libraries and language features in .NET 4.5 and C# 5.0. Concurrency is becoming more common in responsive and scalable application development, but it's been extremely difficult to code. The detailed solutions in this cookbook show you how modern tools raise the level of abstraction, making concurrency much easier than before. Complete with ready-to-use code and discussions about how and why the solution works, you get recipes for using: async and await for asynchronous operations Parallel programming with the Task Parallel Library The TPL Dataflow library for creating dataflow pipelines Capabilities that Reactive Extensions build on top of LINQ Unit testing with concurrent code Interop scenarios for combining concurrent approaches Immutable, threadsafe, and producer/consumer collections Cancellation support in your concurrent code Asynchronous-friendly Object-Oriented Programming Thread synchronization for accessing data

Automate the Boring Stuff with Python, 2nd Edition - Al Sweigart 2019-11-12

The second edition of this best-selling Python book (over 500,000 copies sold!) uses Python 3 to teach even the technically uninclined how to write programs that do in minutes what would take hours to do by hand. There is no prior programming experience required and the book is loved by liberal arts majors and geeks alike. If you've ever spent hours renaming files or updating hundreds of spreadsheet cells, you know how tedious tasks like these can be. But what if you could have your computer do them for you? In this fully revised second edition of the best-selling classic Automate the Boring Stuff with Python, you'll learn how to use Python to write programs that do in minutes what would take you hours to do by hand--no prior programming experience required. You'll learn the basics of Python and explore Python's rich library of modules for performing specific tasks, like scraping data off websites, reading PDF and Word documents, and automating clicking and typing tasks. The second edition of this international fan favorite includes a brand-new chapter on input validation, as well as tutorials on automating Gmail and Google Sheets, plus tips on automatically updating CSV files. You'll learn how to create programs that effortlessly perform useful feats of automation to:

- Search for text in a file or across multiple files
- Create, update, move, and rename files and folders
- Search the Web and download online content
- Update and format data in Excel spreadsheets

of any size • Split, merge, watermark, and encrypt PDFs • Send email responses and text notifications • Fill out online forms Step-by-step instructions walk you through each program, and updated practice projects at the end of each chapter challenge you to improve those programs and use your newfound skills to automate similar tasks. Don't spend your time doing work a well-trained monkey could do. Even if you've never written a line of code, you can make your computer do the grunt work. Learn how in Automate the Boring Stuff with Python, 2nd Edition.

A Tour of C++ - Bjarne Stroustrup 2014-09-13

The C++11 standard allows programmers to express ideas more clearly, simply, and directly, and to write faster, more efficient code. Bjarne Stroustrup, the designer and original implementer of C++, thoroughly covers the details of this language and its use in his definitive reference, The C++ Programming Language, Fourth Edition. In A Tour of C++ , Stroustrup excerpts the overview chapters from that complete reference, expanding and enhancing them to give an experienced programmer--in just a few hours--a clear idea of what constitutes modern C++. In this concise, self-contained guide, Stroustrup covers most major language features and the major standard-library components--not, of course, in great depth, but to a level that gives programmers a meaningful overview of the language, some key examples, and practical help in getting started. Stroustrup presents the C++ features in the context of the programming styles they support, such as object-oriented and generic programming. His tour is remarkably comprehensive. Coverage begins with the basics, then ranges widely through more advanced topics, including many that are new in C++11, such as move semantics, uniform initialization, lambda expressions, improved containers, random numbers, and concurrency. The tour ends with a discussion of the design and evolution of C++ and the extensions added for C++11. This guide does not aim to teach you how to program (see Stroustrup's Programming: Principles and Practice Using C++ for that); nor will it be the only resource you'll need for C++ mastery (see Stroustrup's The C++ Programming Language, Fourth Edition, for that). If, however, you are a C or C++ programmer wanting greater familiarity with the current C++ language, or a programmer versed in another language wishing to gain an accurate picture of the nature and benefits of modern C++, you can't find a shorter or simpler introduction than this tour provides.

SQL Pocket Guide - Jonathan Gennick 2004

This pocket guide presents the most crucial information about SQL in a compact and easily accessible format, covering the four commonly used SQL variants--Oracle, IBM DB2, Microsoft SQL Server, and MySQL. Topics include: Data manipulation statements (SELECT, DELETE, INSERT, UPDATE, MERGE) and transaction control statements (START TRANSACTION, SAVEPOINT, COMMIT, ROLLBACK). Common SQL functions (date, numeric, math, trigonometric, string, conversion, aggregate) Such topics as literals, NULLs, CASE expressions, datatype conversion, regular expressions, grouping and summarizing data, joining tables, and writing queries (hierarchical, recursive, union, flashback) and subqueries. Instead of presenting complex and confusing syntax diagrams, the book teaches by example, showing the SQL statements and options that readers are most like to use. All example data is available on the O'Reilly web site. "If you need fast, accurate SQL information, with examples for multiple database engines, be sure to check out this book."--Chris Kempster, Senior DBA and author of SQL Server 2000 for the Oracle DBA, www.chriskempster.com

Getting Started with Sensors - Kimmo Karvinen 2014-08-14

To build electronic projects that can sense the physical world, you need to build circuits based around sensors: electronic components that react to physical phenomena by sending an electrical signal. Even with only basic electronic components, you can build useful and educational sensor projects. But if you incorporate Arduino or Raspberry Pi into your

project, you can build much more sophisticated projects that can react in interesting ways and even connect to the Internet. This book starts by teaching you the basic electronic circuits to read and react to a sensor. It then goes on to show how to use Arduino to develop sensor systems, and wraps up by teaching you how to build sensor projects with the Linux-powered Raspberry Pi.

Raspberry Pi - Das Handbuch - Klaus Dembowski 2013-08-13

Das Buch befasst sich sachlich und praxisorientiert mit dem Raspberry Pi. Zunächst ist es wichtig, dass der Leser schnell zu einem Erfolgserlebnis kommt. Deshalb wird das System gleich im ersten Kapitel (Schnellstart) in Betrieb gesetzt, um damit eine definitiv funktionierende Grundlage zu schaffen, auf die auch in Problemsituationen zurückgegriffen werden kann. Damit ist das Buch sowohl für Einsteiger in die Raspberry Pi-Thematik geeignet, als auch für Anwender, die bereits über Erfahrungen aus dem Linux-Bereich oder dem Umfeld der Mikrocontrollerprogrammierung oder der Hardware-Entwicklung verfügen und deshalb vorwiegend an den Besonderheiten und dem Zusammenspiel der verschiedenen Komponenten des Raspberry Pi interessiert sind. Der Schwerpunkt des Buches liegt darin, die Funktion der Hardware, insbesondere der Schnittstellen (LAN, WLAN, GPIO, SPI, I2C), transparent zu machen, um mit anderen Geräten oder eigener Elektronik Daten austauschen zu können. Dabei werden explizit die besonderen Eigenschaften des Raspberry Pi und seine gegenüber anderen Architekturen (x86, ARMv8) limitierten Ressourcen berücksichtigt, damit optimale und zudem kostengünstige Ergebnisse zu erzielen sind.

Get Started with MicroPython on Raspberry Pi Pico - Gareth Halfacree 2021

Raspberry Pi Handbuch für Einsteiger - Michael Bonacina 2018

Raspberry Pi User Guide - Gareth Halfacree 2012-08-30

Make the most out of the world's first truly compact computer It's the size of a credit card, it can be charged like a smartphone, it runs on open-source Linux, and it holds the promise of bringing programming and playing to millions at low cost. And now you can learn how to use this amazing computer from its co-creator, Eben Upton, in Raspberry Pi User Guide. Cowritten with Gareth Halfacree, this guide gets you up and running on Raspberry Pi, whether you're an educator, hacker, hobbyist, or kid. Learn how to connect your Pi to other hardware, install software, write basic programs, and set it up to run robots, multimedia centers, and more. Gets you up and running on Raspberry Pi, a high-tech computer the size of a credit card Helps educators teach students how to program Covers connecting Raspberry Pi to other hardware, such as monitors and keyboards, how to install software, and how to configure Raspberry Pi Shows you how to set up Raspberry Pi as a simple productivity computer, write basic programs in Python, connect to servos and sensors, and drive a robot or multimedia center Adults, kids, and devoted hardware hackers, now that you've got a Raspberry Pi, get the very most out of it with Raspberry Pi User Guide.

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. 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.

Raspberry Pi Manual for Beginners Step-by-Step Guide to the first Raspberry Pi Project - Axel Mammitzsch 2020-01-15

In this Raspberry Pi manual you will learn how to install and configure a Raspberry Pi and much more. First we will discuss the history and background of the Raspberry Pi. Then we will go through all currently available models, technical data, interfaces, interesting software, hardware projects and available operating systems. With this Raspberry Pi beginners guide you will build or expand your knowledge. If your goal is to use the Raspberry Pi to implement projects for your everyday or professional life, then this manual is perfect for you. After completing this manual, you have learned so much about the Raspberry Pi, that you can setup a Raspberry Pi independently and become creative with your own projects.

The Official Raspberry Pi Handbook 2021 - Lou Hattersley 2020

The Official Raspberry Pi Camera Guide - 2020-04-30

Python Pocket Reference - Mark Lutz 2014-01-22

Updated for both Python 3.4 and 2.7, this convenient pocket guide is the perfect on-the-job quick reference. You'll find concise, need-to-know information on Python types and statements, special method names, built-in functions and exceptions, commonly used standard library modules, and other prominent Python tools. The handy index lets you pinpoint exactly what you need. Written by Mark Lutz—widely recognized as the world's leading Python trainer—Python Pocket Reference is an ideal companion to O'Reilly's classic Python tutorials, Learning Python and Programming Python, also written by Mark. This fifth edition covers: Built-in object types, including numbers, lists, dictionaries, and more Statements and syntax for creating and processing objects Functions and modules for structuring and reusing code Python's object-oriented programming tools Built-in functions, exceptions, and attributes Special operator overloading methods Widely used standard library modules and extensions Command-line options and development tools Python idioms and hints The Python SQL Database API

Die elektronische Welt mit Raspberry Pi entdecken : [mit dem Raspberry Pi messen, steuern und spielen ; den Raspberry Pi clever erweitern ; mit Python und C den Raspberry Pi programmieren] - Erik Bartmann 2013

Der preiswerte Single-Board-Computer Raspberry Pi hat innerhalb kürzester Zeit die Herzen der Bastler und IT-Tufter erobert. Das Board verfügt über zahlreiche Anschlussmöglichkeiten, die einem groen PC in nichts nachstehen. Dass Linux als Betriebssystem gewählt wurde, trägt sicherlich zur groen Beliebtheit dieses kleinen Technikwunders bei und erlaubt zahlreiche Anwendungsmöglichkeiten, die zuvor mit einem Mikrocontroller nicht möglich waren. Elektronisches Grundwissen, wann man es braucht. Der Erfolgsautor Erik Bartmann verbindet auch in seinem neuesten Buch Die elektronische Welt mit Raspberry Pi entdecken die faszinierende Mikrocontroller-Welt mit elektronischen Grundlagenthemen. So lernt der Leser quasi spielerisch die physikalischen Grundlagen der Elektronik - und zwar genau an der Stelle, an der er sie braucht. Fünf Bücher in einem groen Werk. Der Autor hat gleich fünf Bücher in einem geschrieben: Es ist eine ausführliche Einführung in den Single-Board-Computer Raspberry Pi mit allen denkbaren Anschluss- und Erweiterungsmöglichkeiten; es ist gleichzeitig eine Einführung in die Elektronikgrundlagen. Um den Raspberry Pi selbst programmieren zu können, führt der Autor den Leser direkt in zwei Programmiersprachen ein: in Python und in C. Dabei setzt er keine Programmierkenntnisse voraus, sondern führt strukturiert in die Welt der Programmgebefehle ein, und zwar von der geeignete Programmierungsumgebung über die Verwendung von Modulen bis hin zu eigenen, auf dem Raspberry Pi lauffahigen Programmen. Und wer noch

nicht so firm in Linux ist, bekommt vom Autor eine Einführung in das Betriebssystem spendiert. Das Herz des Buches sind jedoch die fast 30 Elektronikprojekte, die der Autor mit zahlreichen vierfarbigen Abbildungen und Fotos, Schaltplänen und unzähligen wertvollen Insider-Tipps detailliert darstellt. Den Raspberry Pi erweitern. Zahlreiche Erweiterungs-Boards sind mittlerweile auf dem Markt, um die Funktions- und Leistungsmöglichkeiten des Raspberry Pis zu erweitern. Der Autor zeigt dabei das Zusammenspiel vom Raspberry Pi mit dem Gertboard, dem PiFace-Board, dem Quick2Wire-Board, dem AlaMode-Board, dem Pi Cobbler-Board und dem Prototyping-Board auf. Wie Raspberry Pi mit dem Arduino-Mikrocontroller zusammen arbeiten kann, wird ebenso ausführlich dargestellt wie das Erstellen eines eigenen Simple-Boards, um noch mehr Leistung und Möglichkeiten aus dem Raspberry Pi herauszuholen. Server-Anwendungen für den Raspberry Pi. Mit einem Raspberry Pi und einer alten Festplatte kann man sich für kleines Geld einen voll funktionsfähigen Musik- oder Fileserver bauen. Wie Samba und die Web-Serversoftware Apache auf dem Raspberry Pi lauffähig gemacht wird, damit man sich den Single-Board-Computer zu einem Server oder Multimedia-Center ausbauen kann, stellt der Autor detailliert und umfassend dar. Langlebiges Raspberry-Pi-Nachschlagewerk in Farbe. Die elektronische Welt mit Raspberry Pi entdecken ist komplett vierfarbig. Zahlreiche Farbfotos, farbige Abbildungen und farblich hervorgehobener Code machen das Lesen zu einem Augenschmaus. Detailfotos von Bauteilen helfen dir beim eigenen Zusammenbau ebenso wie farbige Schaltpläne. Noch nie war es so reizvoll, Elektronik zu verstehen - und anzuwenden.

Raspberry Pi Cookbook - Simon Monk 2013-12-10

The world of Raspberry Pi is evolving quickly, with many new interface boards and software libraries becoming available all the time. In this cookbook, prolific hacker and author Simon Monk provides more than 200 practical recipes for running this tiny low-cost computer with Linux, programming it with Python, and hooking up sensors, motors, and other hardware—including Arduino. Make sure to check out 10 of the over 60 video recipes for this book at: <http://razzpisampler.oreilly.com/> You can purchase all recipes at:

c't Daten schützen - So bleiben Ihre Daten im Netz sicher und privat - c't Redaktion 2020-07-17

Ob Website-Abrufe, Suchmaschinenanfragen oder Facebook-Tracking: Überall im Web hinterlassen Nutzer Spuren. Nicht nur die Werbeindustrie sondern auch Behörden sammeln diese Daten, werten sie aus und formen damit Profile. Hinzu kommt, dass Smartphones als Wanzen fungieren, Bewegungen aufzeichnen und Kommunikationsverhalten ausforschen. Datenkraken lauern überall; die Privatsphäre gerät im Internet zunehmend unter die Räder. Wehren Sie sich gegen das hinterlistige Tracking! Die c't-Redaktion liefert Ihnen im Sonderheft "Daten schützen" das nötige Rüstzeug. Sie erfahren, wie und wo US-Konzerne, allen voran Google, Ihre Daten absaugt und wie Sie dem begegnen. Eine umfangreiche Sammlung von Checklisten hilft Ihnen dabei, den Schutz Ihrer Privatsphäre deutlich zu verbessern. Dazu müssen Sie kein IT-Profi sein: Es genügt meist, an wenigen Stellschrauben in Standard-Software wie Webbrowser, E-Mail-Programm oder Messenger zu drehen. In einem weiteren Schwerpunkt des Sonderhefts gibt die c't-Redaktion Tipps, wie man Daten-Altlasten entsorgt, die sich über die Jahre vor allem in sozialen Netzwerken angesammelt haben. Das können unvorteilhafte Party-Fotos sein, aber auch Likes von politischen Positionen, die man heute nicht mehr teilt. Außerdem erfahren Sie, wie Gesichtserkennung funktioniert und wie Sie sich dagegen wehren. Wenn Sie nun noch ihre Daten und Kommunikation verschlüsseln, entziehen Sie sich der Beobachtung bereits wirksam. c't hilft Ihnen auch hierbei. Wir gehen noch einen Schritt weiter und laden Sie im Sonderheft dazu ein, die Spione zu enttarnen. Nutzen Sie dazu unser Projekt c't-Raspion. Mit der kleinen Hardware-Box analysieren Sie Traffic und entdecken ungewollten Abfluss von privaten Daten, beispielsweise von smarten TV-Geräten oder billigen IP-Kameras. Als Käufer des Sonderhefts erhalten Sie ein Hardware-Set für den c't-Raspion in unserem Shop zum reduzierten Preis.

Create Graphical User Interfaces with Python - Laura Sach 2020-10-26

Raspberry Pi Projects for the Evil Genius - Donald Norris 2013-09-05

A dozen fiendishly fun projects for the Raspberry Pi! This wickedly inventive guide shows you how to create all kinds of entertaining and practical projects with Raspberry Pi operating system and programming environment. In Raspberry Pi Projects for the Evil Genius, you'll learn

how to build a Bluetooth-controlled robot, a weather station, home automation and security controllers, a universal remote, and even a minimalist website. You'll also find out how to establish communication between Android devices and the RasPi. Each fun, inexpensive Evil Genius project includes a detailed list of materials, sources for parts, schematics, and lots of clear, well-illustrated instructions for easy assembly. The larger workbook-style layout makes following the step-by-step instructions a breeze. Build these and other devious devices: LED blinker MP3 player Camera controller Bluetooth robot Earthquake detector Home automation controller Weather station Home security controller RFID door latch Remote power controller Radon detector Make Great Stuff! TAB, an imprint of McGraw-Hill Professional, is a leading publisher of DIY technology books for makers, hackers, and electronics hobbyists.

Raspberry Pi For Dummies - Sean McManus 2017-08-29

Get your slice of Raspberry Pi With the invention of the unique credit card-sized single-board computer comes a new wave of hardware geeks, hackers, and hobbyists who are excited about the possibilities with the Raspberry Pi—and this is the perfect guide to get you started. With this down-to-earth book, you'll quickly discover why the Raspberry Pi is in high demand! There's a reason the Raspberry Pi sold a million units in its first year, and you're about to find out why! In Raspberry Pi For Dummies, 3rd Edition veteran tech authors Sean McManus and Mike Cook make it easier than ever to get you up and running on your Raspberry Pi, from setting it up, downloading the operating system, and using the desktop environment to editing photos, playing music and videos, and programming with Scratch—and everything in between. Covers connecting the Pi to other devices such as a keyboard, mouse, monitor, and more Teaches you basic Linux System Admin Explores creating simple hardware projects Shows you how to create web pages Raspberry Pi For Dummies, 3rd Edition makes computing as easy as pie!

Linux-Server mit Debian 7 GNU/Linux - Eric Amberg 2014-04-04

Das umfassende Praxis-Handbuch Aktuell für die Version Debian 7 (Wheezy) Praxis-Szenarien: Backoffice-Server, Root-Server, Linux als Gateway, Server-Security Zahlreiche Workshops mit Schritt-für-Schritt-Anleitungen Aus dem Inhalt: 1. Teil: Allgemeine Systemadministration Debian-Grundlagen, Installation, Systemstart Paketmanagement, Benutzerverwaltung, Rechteverwaltung, Bash Systemadministration, System- und Festplattenmanagement Zeitlich gesteuerte Backups Einführung in die Shell-skript-Programmierung Protokollierung Anpassung des Kernels Das X-Window-System Netzwerkkonfiguration und Fehlersuche im Netzwerk, Fernwartung mit SSH 2. Teil: Der Backoffice-Server DHCP und NFS Drucken im Netzwerk Samba: Grundlagen und erweiterte Samba-Konfiguration Apache: Aufbau eines Intranets Datenbanken mit MySQL Dynamische Webseiten mit PHP 3. Teil: Der Root-Server Apache: Der Webserver im Internet-Einsatz und DNS Lokaler E-Mail-Server mit Content-Filter Internet-Mail-Server mit SMTP-Authentication FTP - Dateiübertragung im Internet iptables als Personal-Firewall 4. Teil: Linux als Gateway Linux als Router iptables als Netzwerk-Firewall Squid-Proxyserver 5. Teil: Server-Security Härten des Server-Systems, Einbruchererkennung mit Intrusion-Detection-Systemen, Disaster-Recovery, Notfallplan Dieses Buch bietet einen umfassenden Praxiseinstieg in die System- und Netzwerkadministration von Linux-Servern - am Beispiel von Debian GNU/Linux (Version 7, Wheezy). Ziel des Buches ist es, Ihnen die notwendigen Grundlagen zur Administration eines Linux-Servers in unterschiedlichen Umgebungen zu verschaffen. Dazu ist das Buch in fünf Teile gegliedert, die jeweils die verschiedenen Aspekte bzw. Anwendungsbereiche eines Servers beleuchten. Ein Schwerpunkt liegt auf den Hintergründen und Funktionsweisen der Systeme, ein zweiter Schwerpunkt ist der praxisnahe Einstieg in die Linux-Systemadministration: Auf der Basis des expandierenden Architekturbüros Windschief werden die verschiedensten Serverdienste installiert und konfiguriert, um - je nach Grundszenario - einen kompletten Linux-Server aufzubauen. Hierfür entwirft der Autor drei typische Szenarien, die in der Praxis vorkommen können: Backoffice-Server, Root-Server und Linux als Gateway. Im Rahmen dieser Anwendungsbereiche erläutert der Autor detailliert die benötigten Komponenten. Einzelne Workshops stellen einen konkreten Praxisbezug her. Sie können dieses Buch als Lehrbuch durcharbeiten oder auch langfristig als Nachschlagewerk verwenden, da die einzelnen Themenbereiche klar voneinander abgegrenzt sind. Weil die meisten Bestandteile eines Linux-Systems wie der Kernel, die Shell, die Linux-Befehle sowie der Einsatz von Samba, Apache etc. distributionsübergreifend sind, ist auch der größte Teil des Buches distributionsübergreifend einsetzbar und nur ein sehr geringer Teil

Debian-spezifisch. Über den Autor: Eric Amberg arbeitet seit über 15 Jahren in großen Unternehmen im Bereich IT-Security und System- und Netzwerkadministration. Er verfügt über zahlreiche Zertifizierungen, u.a. LPIC-2, RHCE, Cisco CCNP und CISSP. Darüber hinaus ist er MCITP Enterprise Administrator sowie Microsoft Certified Trainer und zertifizierter Cisco Trainer (CCSI). Seit 2009 ist er selbstständig tätig und bietet Consulting und praxisorientierte Seminare im Bereich IT-Infrastruktur an. Sein neuestes Projekt ist die Videotraining-Plattform CBT24 (www.cbt-24.de).

c't Home & Office - c't-Redaktion 2021-02-19

Mit dem neuen Sonderheft c't Home & Office erhalten Sie einen Guide, der Sie mit allen aktuellen Themen zum Arbeiten in den eigenen vier Wänden berät und unterstützt: Vom mühelosen Einrichten des neuen Arbeitsplatzes bis zur Wahl des richtigen Equipments sowie der datenschutzkonformen Dateiaufbewahrung und des -austauschs. Wir erklären, worauf man achten sollte und stellen nützliche Tools vor, die Ihren Arbeitsalltag um einiges erleichtern.

Raspberry Pi - Maik Schmidt 2014-03-24

Das Buch vermittelt Ihnen alles, was Sie brauchen, um den Raspberry Pi zum Leben zu erwecken und coole Sachen damit anzustellen! Es beginnt mit einer Einführung in die Hardware des Raspberry Pi. Sie machen sich mit den Anschlüssen des Pi vertraut und lernen, welche Zusatzhardware Sie benötigen, um ihn das erste Mal zu starten. Sie installieren ein Betriebssystem - Debian Linux - und konfigurieren es nach Ihren Bedürfnissen. Dabei erfahren Sie, welche Einstellungen verfügbar sind und wie Sie die häufigsten Probleme lösen. Dann geht der Spaß richtig los! Sie werden den Pi mit Ihrem Heimnetzwerk verbinden, um im Web zu surfen oder Nachrichten zu twittern. Dabei werden Sie auch den Pi-Standard-Browser Midori kennen lernen. Mit ein paar einfachen Schritten verwandeln Sie den Pi in ein Kiosk-System, das Ihnen live Twitter-Infos anzeigt. Außerdem erfahren Sie, wie Sie die Desktops anderer PCs mit dem Pi steuern können - und umgekehrt. Danach werden Sie die Vielseitigkeit des Pi mit einer Reihe von Projekten erkunden. Bauen Sie aus dem Pi einen Webserver oder verwandeln Sie ihn in ein leistungsstarkes Multimedia-Center, sodass Sie HD-Filme sehen und Ihre Lieblingsmusik hören können. Spielen Sie klassische Videospiele. Nutzen Sie die GPIO-Anschlüsse auf dem Raspberry Pi, um Elektronikprojekte zu basteln, wie z.B. einen "out of memory"-Alarm, auf den Sie per Webbrowser zugreifen können. Entdecken Sie schließlich, wie Sie mit Ihrem Pi Digital- oder Analogsensoren verwenden können. Neu in dieser Auflage ist ein komplettes Kapitel über die Pi Kamera (incl. Einbruchsalarm) sowie zahlreiche Ergänzungen (wie das neue und einsteigerfreundliche Installationsprogramm NOOBS) und Aktualisierungen. Dies ist das Anwenderhandbuch, das sich alle Raspberry Pi-Anwender zulegen sollten, bevor sie loslegen. Es ist klar verständlich und kompakt. Mehr benötigt man nicht. Thomas Lockney, Professional Geek DorkbotPDX

An Introduction to C & GUI Programming - Simon Long 2019-04-11

Practical Python Programming for IoT - Gary Smart 2020-11-12

Leverage Python and Raspberry Pi to create complex IoT applications capable of creating and detecting movement and measuring distance, light, and a host of other environmental conditions Key Features Learn the fundamentals of electronics and how to integrate them with a Raspberry Pi Understand how to build RESTful APIs, WebSocket APIs, and MQTT-based applications Explore alternative approaches to structuring IoT applications with Python Book Description The age of connected devices is here, be it fitness bands or smart homes. It's now more important than ever to understand how hardware components interact with the internet to collect and analyze user data. The Internet of Things (IoT), combined with the popular open source language Python, can be used to build powerful and intelligent IoT systems with intuitive interfaces. This book consists of three parts, with the first focusing on the "Internet" component of IoT. You'll get to grips with end-to-end IoT app development to control an LED over the internet, before learning how to build RESTful APIs, WebSocket APIs, and MQTT services in Python. The second part delves into the fundamentals behind electronics and GPIO interfacing. As you progress to the last part, you'll focus on the "Things" aspect of IoT, where you will learn how to connect and control a range of electronic sensors and actuators using Python. You'll also explore a variety of topics, such as motor control, ultrasonic sensors, and temperature measurement. Finally, you'll get up to speed with advanced IoT programming techniques in Python, integrate with IoT visualization and automation platforms, and build a comprehensive IoT project. By the end of this book, you'll be well-versed with IoT development and have the

knowledge you need to build sophisticated IoT systems using Python. What you will learn Understand electronic interfacing with Raspberry Pi from scratch Gain knowledge of building sensor and actuator electronic circuits Structure your code in Python using Async IO, pub/sub models, and more Automate real-world IoT projects using sensor and actuator integration Integrate electronics with ThingSpeak and IFTTT to enable automation Build and use RESTful APIs, WebSockets, and MQTT with sensors and actuators Set up a Raspberry Pi and Python development environment for IoT projects Who this book is for This IoT Python book is for application developers, IoT professionals, or anyone interested in building IoT applications using the Python programming language. It will also be particularly helpful for mid to senior-level software engineers who are experienced in desktop, web, and mobile development, but have little to no experience of electronics, physical computing, and IoT.

Advanced Raspberry Pi - Warren Gay 2018-10-24

Jump right into the pro-level guts of the Raspberry Pi with complete schematics and detailed hardware explanations as your guide. You'll tinker with runlevels, reporting voltages and temperatures, and work on a variety of project examples that you can tune for your own project ideas.. This book is fully updated for the latest Pi boards with three chapters dedicated to GPIO to help you master key aspects of the Raspberry Pi. You'll work with Linux driver information and explore the different Raspberry Pi models, including the Pi Zero, Pi Zero W, Pi 2, Pi3 B and Pi3 B+. You'll also review a variety of project examples that you can tune for your own project ideas. Other topics covered include the 1-Wire driver interface, how to configure a serial Linux console, and cross-compile code, including the Linux kernel. You'll find yourself turning to Advanced Raspberry Pi over and over again for both inspiration and reference. Whether you're an electronics professional, an entrepreneurial maker, or just looking for more detailed information on the Raspberry Pi, this is exactly the book for you. What You'll Learn Master I2C and SPI communications from Raspbian Linux in C Program USB peripherals, such as a 5-inch LCD panel with touch control and the Pi camera Study GPIO hardware, the sysfs driver interface and direct access from C programs Use and program the UART serial device. Who This Book Is For Advanced Raspberry Pi users who have experience doing basic projects and want to take their projects further.

Smart Home Automation with Linux and Raspberry Pi - Steven Goodwin 2013-07-27

Smart Home Automation with Linux and Raspberry Pi shows you how to automate your lights, curtains, music, and more, and control everything via a laptop or mobile phone. You'll learn how to use Linux, including Linux on Raspberry Pi, to control appliances and everything from kettles to curtains, including how to hack game consoles and even incorporate LEGO Mindstorms into your smart home schemes. You'll discover the practicalities on wiring a house in terms of both power and networking, along with the selection and placement of servers. There are also explanations on handling communication to (and from) your computer with speech, SMS, email, and web. Finally, you'll see how your automated appliances can collaborate to become a smart home. Smart Home Automation with Linux was already an excellent resource for home automation, and in this second edition, Steven Goodwin will show you how a house can be fully controlled by its occupants, all using open source software and even open source hardware like Raspberry Pi and Arduino.

Hello World! - Warren Sande 2009

Presents a guide for beginners on the fundamentals of computer programming using the Python language.

c't Python - c't-Redaktion 2022-08-17

Mit dem neuen Sonderheft "c't Python" finden Sie einen leichten Einstieg in die Programmiersprache mitsamt einer Schritt-für-Schritt-Anleitung für die Installation auf allen Betriebssystemen, einschließlich Android. Sie erfahren, wie Sie Python ganz ohne Installation im Browser ausführen können, wie moderne Webentwicklung mit Python und dem Framework Django geht und lernen Möglichkeiten von KI am Beispiel der Sprach-KI GPT-3 kennen. Diese und weitere spannende Themen finden Sie in dem Sonderheft "c't Python".

Exploring Raspberry Pi - Derek Molloy 2016-06-09

Expand Raspberry Pi capabilities with fundamental engineering principles Exploring Raspberry Pi is the innovators guide to bringing Raspberry Pi to life. This book favors engineering principles over a 'recipe' approach to give you the skills you need to design and build your own projects. You'll understand the fundamental principles in a way that transfers to any type of electronics, electronic modules, or external peripherals, using a "learning by doing" approach that caters to both

beginners and experts. The book begins with basic Linux and programming skills, and helps you stock your inventory with common parts and supplies. Next, you'll learn how to make parts work together to achieve the goals of your project, no matter what type of components you use. The companion website provides a full repository that structures all of the code and scripts, along with links to video tutorials and supplementary content that takes you deeper into your project. The Raspberry Pi's most famous feature is its adaptability. It can be used for thousands of electronic applications, and using the Linux OS expands the functionality even more. This book helps you get the most from your Raspberry Pi, but it also gives you the fundamental engineering skills you need to incorporate any electronics into any project. Develop the Linux and programming skills you need to build basic applications Build your inventory of parts so you can always "make it work" Understand interfacing, controlling, and communicating with almost any component Explore advanced applications with video, audio, real-world interactions, and more Be free to adapt and create with Exploring Raspberry Pi.

Raspberry Pi - Das technische Handbuch - Klaus Dembowski
2015-02-09

Aufbau und Funktion des Raspberry Pi werden sachlich und praxisorientiert vorgestellt. Zunächst wird das System in Betrieb gesetzt, um damit eine Grundlage zu schaffen, auf die auch in Problemsituationen zurückgegriffen werden kann. Die Konfigurierung, Optimierung und Programmierung ist von besonderer Bedeutung, weil die gegenüber anderen Architekturen limitierten Ressourcen stets mit zu berücksichtigen sind. Die Schaltungstechnik der verschiedenen Raspberry Pi Boards (A, B, A+, B+, Compute Module) wird ausführlich behandelt. Der Schwerpunkt des Buches liegt darin, die Funktion der Hardware, insbesondere der Schnittstellen (LAN, WLAN, GPIO, seriell, SPI, I2C), transparent zu machen, um mit anderen Geräten Daten austauschen oder eigene Elektronik anzusteuern. Damit sind optimale und zudem kostengünstige Ergebnisse zu erzielen. Dies beinhaltet den Low Power-Betrieb, wie er insbesondere für akkubetriebene und somit für mobile Anwendungen essenziell ist.

Electronics Cookbook - Simon Monk 2017-03-31

If you're among the many hobbyists and designers who came to electronics through Arduino and Raspberry Pi, this cookbook will help you learn and apply the basics of electrical engineering without the need for an EE degree. Through a series of practical recipes, you'll learn how to solve specific problems while diving into as much or as little theory as you're comfortable with. Author Simon Monk (Raspberry Pi Cookbook) breaks down this complex subject into several topics, from using the right transistor to building and testing projects and prototypes. With this book, you can quickly search electronics topics and go straight to the recipe you need. It also serves as an ideal reference for experienced electronics makers. This cookbook includes: Theoretical concepts such as Ohm's law and the relationship between power, voltage, and current The fundamental use of resistors, capacitors and inductors, diodes, transistors and integrated circuits, and switches and relays Recipes on power, sensors and motors, integrated circuits, and radio frequency for designing electronic circuits and devices Advice on using Arduino and Raspberry Pi in electronics projects How to build and use tools, including multimeters, oscilloscopes, simulations software, and unsoldered prototypes

The Rust Programming Language (Covers Rust 2018) - Steve Klabnik
2019-09-03

The official book on the Rust programming language, written by the Rust development team at the Mozilla Foundation, fully updated for Rust 2018. The Rust Programming Language is the official book on Rust: an open source systems programming language that helps you write faster, more reliable software. Rust offers control over low-level details (such as memory usage) in combination with high-level ergonomics, eliminating the hassle traditionally associated with low-level languages. The authors of The Rust Programming Language, members of the Rust Core Team, share their knowledge and experience to show you how to take full advantage of Rust's features--from installation to creating robust and scalable programs. You'll begin with basics like creating functions, choosing data types, and binding variables and then move on to more advanced concepts, such as:

- Ownership and borrowing, lifetimes, and traits
- Using Rust's memory safety guarantees to build fast, safe programs
- Testing, error handling, and effective refactoring
- Generics, smart pointers, multithreading, trait objects, and advanced pattern matching
- Using Cargo, Rust's built-in package manager, to build, test, and document your code and manage dependencies
- How best to use Rust's advanced compiler with compiler-led programming techniques

You'll find plenty of code examples throughout the book, as well as three chapters dedicated to building complete projects to test your learning: a number guessing game, a Rust implementation of a command line tool, and a multithreaded server. New to this edition: An extended section on Rust macros, an expanded chapter on modules, and appendixes on Rust development tools and editions.

Custom Raspberry Pi Interfaces - Warren Gay 2017-01-24

Design and build custom hardware interfaces for the Raspberry Pi and discover low cost display and sensor options for embedded system projects. With this book you'll master I2C communications using Raspbian Linux in C++ and perform ADC and DAC experiments. You'll experiment with debounce buttons and switches using hardware and software solutions. Develop flywheel rotary encoder effects for ease of tuning and construct a hardware interface to the Music Playing Daemon (MPD) with developed software. Discover how to add your own hardware keypad for remote combination lock applications. Custom Raspberry Pi Interfaces offers a thorough chapter on interfacing 5-volt systems to 3.3-volt Raspberry Pis designed to expand your choice of peripheral options. Ready to go C++ programs involving GPIO and I2C peripherals are provided. This book also explores ADC, DAC, rotary encoders, CMOS shift registers. I2C I/O extenders. What you'll learn: Build simple, low cost input/output interfaces including rotary encoders Interface with 5-volt devices from a 3-volt Raspberry Pi system Apply analog to digital and digital to analog conversions on the Pi Read potentiometers (volume control) from the Pi Determine step, directions, and velocity of a rotary encoder Perform remote interfacing using the I2C PCF8574 chip Work with external CMOS devices like the 74HC595 (in C++) Who this book is for: Students and hobbyists interested in building custom interfaces for their Raspberry Pis.

Make: Sonderheft 2017 RICHTIG LOSLEGEN - Make-Redaktion
2017-11-09

Das Sonderheft des deutschsprachigen DIY-Magazins Make: zum Thema Selbermachen richtet sich an alle, die mit dem machen - dem selber basteln und bauen - loslegen wollen. Zögern Sie nicht länger, sondern starten Sie Ihre Elektronik-Projekte. In ausführlichen Artikeln werden die Grundlagen gezeigt, die Sie für einen Start benötigen. Sie erfahren, welche Ausstattung am Arbeitsplatz sinnvoll ist, mit welcher Software Sie kostenlos arbeiten können, wie Sie Schaltpläne am PC erstellen, Platinen entwerfen und fertigen lassen. Sie sind ein Meister am Lötkolben, haben aber den Zugang zum ständig wachsenden Mikrocontroller-Universum noch nicht gefunden? Kein Problem, wir geben einen Überblick über die verschiedenen Boards und Plattformen, sagen Ihnen und welche Vor- und Nachteile die verschiedenen drumherum gewachsenen Biotope haben. Sie haben keinen Platz oder kein Werkzeug? Kein Problem, denn wir geben nicht nur einen Überblick zur Technik, unsere aktualisierte Karte von FabLabs und offenen Werkstätten im deutschsprachigen Raum verrät Ihnen auch auf einen Blick, wo in Ihrer Nähe solche High-Tech-Geräte zugänglich sind. Die Redaktion der Zeitschrift Make: steht auch bei diesem Sonderheft für anspruchsvolle neue Artikel in der gewohnten übersichtlichen Aufmachung, die sicherstellt, dass die Projekte wie gezeigt nachvollzogen werden können und am Ende funktionieren. Learning by Doing steht bei Make: immer im Vordergrund.

grep Pocket Reference - John Bambenek 2009-01-14

grep Pocket Reference is the first guide devoted to grep, the powerful Unix content-location utility. This handy book is ideal for system administrators, security professionals, developers, and others who want to learn more about grep and take new approaches with it -- for everything from mail filtering and system log management to malware analysis. With grep Pocket Reference, you will: Learn methods for filtering large files for specific content Acquire information not included in the current grep documentation Get several tricks for using variants such as egrep Keep key information about grep right at your fingertips Find the answers you need about grep quickly and easily. If you're familiar with this utility, grep Pocket Reference will help you refresh your basic knowledge, understand rare situations, and work more efficiently. If you're new to grep, this book is the best way to get started. *Electrical Engineering Without Prior Knowledge* - Benjamin Spahic
2020-10-23

Listing: Electrical engineering without priors knowledge - Understand the basics within seven days Two in One: You will receive the eBook in PDF format free of charge when you buy the paperback! Would you like to understand electrical circuits and be able to apply the basics of electrical engineering? No problem - with the help of this electrical engineering beginner's guide, you will be able to understand the basic

effects of electric current, voltage and energy in no time at all. This guide covers the basics of direct current technology. Real practical examples and small exercises alongside the text help you understand. With the help of this beginner's guide, many satisfied readers have already been able to get into the subject and expand their own skills - see for yourself! Advantages of this book: Simply explained - written in a way understandable for everyone To the point - 114 pages in a practical pocketbook format Relevant to everyday life - real practical examples Clear and structured - important remarks and formulas are highlighted Bonus chapter included What the book contains: Review of the most important mathematical and physical basics Power, current and voltage explained Electromagnetism: cause and effect Understand electrical circuit diagrams: the correct notation and structure The most important components: resistors, capacitors and many more! Bonus: Practical example - a real circuit to reproduce Do not hesitate any longer - order the guide now, and soon you will understand the basics of electrical engineering!

SSH, The Secure Shell - Daniel J. Barrett 2005-05-10

Are you serious about network security? Then check out SSH, the Secure Shell, which provides key-based authentication and transparent encryption for your network connections. It's reliable, robust, and reasonably easy to use, and both free and commercial implementations are widely available for most operating systems. While it doesn't solve every privacy and security problem, SSH eliminates several of them very effectively. Everything you want to know about SSH is in our second edition of SSH, The Secure Shell: The Definitive Guide. This updated book thoroughly covers the latest SSH-2 protocol for system administrators and end users interested in using this increasingly popular TCP/IP-based solution. How does it work? Whenever data is sent to the network, SSH automatically encrypts it. When data reaches its intended recipient, SSH decrypts it. The result is "transparent" encryption-users can work normally, unaware that their communications are already encrypted. SSH supports secure file transfer between computers, secure remote logins, and a unique "tunneling" capability

that adds encryption to otherwise insecure network applications. With SSH, users can freely navigate the Internet, and system administrators can secure their networks or perform remote administration. Written for a wide, technical audience, SSH, The Secure Shell: The Definitive Guide covers several implementations of SSH for different operating systems and computing environments. Whether you're an individual running Linux machines at home, a corporate network administrator with thousands of users, or a PC/Mac owner who just wants a secure way to telnet or transfer files between machines, our indispensable guide has you covered. It starts with simple installation and use of SSH, and works its way to in-depth case studies on large, sensitive computer networks. No matter where or how you're shipping information, SSH, The Secure Shell: The Definitive Guide will show you how to do it securely.

[Beginning Git and GitHub](#) - Mariot Tsitoara 2019-11-30

Learn the fundamentals of version control through step-by-step tutorials that will teach you the ins-and-outs of Git. This book is your complete guide to how Git and GitHub work in a professional team environment. Divided into three parts - Version Control, Project Management and Teamwork - this book reveals what waits for you in the real world and how to resolve the problems you may run into. Once past the basics of Git, you'll see how to manage a software project, and finally how to utilize Git and GitHub to work effectively as a team. You'll examine how to plan, follow and execute a project with GitHub, and then apply those concepts to real-world situations. Workaround the pitfalls that most programmers fall into when driving a project with Git by using proven tactics to avoid them. You will also be taught the easiest and quickest ways to resolve merge conflicts. A lot of modern books on Git don't go into depth about non-technical topics. Beginning Git and GitHub will help you cover all the bases right at the start of your career. What You'll Learn Review basic and advanced concepts of GitApply Project Management skills using GitHub Solve conflicts or, ideally, avoid them altogetherUse advanced concepts for a more boosted workflow Who This book Is For New developers, developers that have never worked in a team environment before, developers with basic knowledge of Git or GitHub, or anyone who works with text documents.