Raspberry Pi Computer Architecture Essentials

Andrew K. Dennis

Raspberry Pi Computer Architecture Essentials

Andrew K. Dennis

Raspberry Pi Computer Architecture Essentials Andrew K. Dennis

Key Features

- Explore Raspberry Pi 2's hardware through the Assembly, C/C++, and Python programming languages
- Experiment with connecting electronics up to your Raspberry Pi 2 and interacting with them through software
- Learn about the Raspberry Pi 2 architecture and Raspbian operating system through innovative projects

Book Description

With the release of the Raspberry Pi 2, a new series of the popular compact computer is available for you to build cheap, exciting projects and learn about programming.

In this book, we explore Raspberry Pi 2's hardware through a number of projects in a variety of programming languages. We will start by exploring the various hardware components in detail, which will provide a base for the programming projects and guide you through setting up the tools for Assembler, C/C++, and Python. We will then learn how to write multi-threaded applications and Raspberry Pi 2's multi-core processor. Moving on, you'll get hands on by expanding the storage options of the Raspberry Pi beyond the SD card and interacting with the graphics hardware. Furthermore, you will be introduced to the basics of sound programming while expanding upon your knowledge of Python to build a web server. Finally, you will learn to interact with the third-party microcontrollers.

From writing your first Assembly Language application to programming graphics, this title guides you through the essentials.

What you will learn

- Set up your Raspberry Pi 2 and learn about its hardware
- Write basic programs in Assembly Language to learn about the ARM architecture
- Use C and C++ to interact with electronic components
- Find out about the Python language and how to use it to build web applications
- Interact with third-party microcontrollers
- Experiment with graphics and audio programming
- Expand Raspberry Pi 2's storage mechanism by using external devices
- Discover Raspberry Pi 2's GPIO pins and how to interact with them

About the Author

Andrew K. Dennis is the manager of professional services software development at Prometheus Research. Prometheus Research is a leading provider of integrated data management for research and is the home of HTSQL, an open source navigational query language for RDBMS.

Andrew has a diploma in computing, a BSc in software engineering, and is currently studying for a second BSc in creative computing in his spare time.

He has over 12 years of experience working in the software industry in the UK, Canada, and the USA. This experience includes e-learning courseware development, custom CMS and LMS development, SCORM consultancy, web development in a variety of languages, open source application development, blogging about the integration of web technologies with electronics for home automation, and punching lots of Cat5 cables.

His interests include web development, e-learning, 3D printing, Linux, the Raspberry Pi and Arduino, open source projects, home automation and the use of web technology in this sphere, amateur electronics, home networking, and software engineering.

Table of Contents

1. Introduction to the Raspberry Pi's Architecture and Setup
2. Programming on Raspbian
3. Low-Level Development with Assembly Language
4. Multithreaded Applications with C/C++
5. Expanding on Storage Options
6. Low-Level Graphics Programming
7. Exploring the Raspberry Pi's GPIO Pins
8. Exploring Sound with the Raspberry Pi 2
9. Building a Web Server
10. Integrating with Third-Party Microcontrollers
11. Final Project

Download Raspberry Pi Computer Architecture Essentials ...pdf

Read Online Raspberry Pi Computer Architecture Essentials ...pdf

Download and Read Free Online Raspberry Pi Computer Architecture Essentials Andrew K. Dennis

---

From reader reviews:

Lori Johnson:

The book Raspberry Pi Computer Architecture Essentials can give more knowledge and information about everything you want. So why must we leave a good thing like a book Raspberry Pi Computer Architecture Essentials? Wide variety you have a different opinion about book. But one aim which book can give many facts for us. It is absolutely suitable. Right now, try to closer with your book. Knowledge or details that you take for that, you may give for each other; you could share all of these. Book Raspberry Pi Computer Architecture Essentials has simple shape but the truth is know: it has great and massive function for you. You can appear the enormous world by start and read a reserve. So it is very wonderful.

Alan Williams:

Now a day people that Living in the era everywhere everything reachable by interact with the internet and the resources inside can be true or not demand people to be aware of each information they get. How individuals to be smart in receiving any information nowadays? Of course the correct answer is reading a book. Studying a book can help men and women out of this uncertainty Information mainly this Raspberry Pi Computer Architecture Essentials book as this book offers you rich details and knowledge. Of course the info in this book hundred per cent guarantees there is no doubt in it you may already know.

Verna Hibbard:

Reading a publication can be one of a lot of activity that everyone in the world loves. Do you like reading book thus. There are a lot of reasons why people like it. First reading a publication will give you a lot of new details. When you read a e-book you will get new information due to the fact book is one of various ways to share the information as well as their idea. Second, reading a book will make you more imaginative. When you looking at a book especially fiction book the author will bring that you imagine the story how the figures do it anything. Third, it is possible to share your knowledge to others. When you read this Raspberry Pi Computer Architecture Essentials, you may tells your family, friends and also soon about yours reserve. Your knowledge can inspire the others, make them reading a e-book.

Sebrina Knapp:

You can get this Raspberry Pi Computer Architecture Essentials by browse the bookstore or Mall. Just viewing or reviewing it might to be your solve trouble if you get difficulties for the knowledge. Kinds of this guide are various. Not only by written or printed but in addition can you enjoy this book by e-book. In the modern era just like now, you just looking from your mobile phone and searching what their problem. Right now, choose your own ways to get more information about your reserve. It is most important to arrange yourself to make your knowledge are still change. Let's try to choose appropriate ways for you.

Download and Read Online Raspberry Pi Computer Architecture Essentials Andrew K. Dennis #79ZN8OWH0SE

Read Raspberry Pi Computer Architecture Essentials by Andrew K. Dennis for online ebook

Raspberry Pi Computer Architecture Essentials by Andrew K. Dennis Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Raspberry Pi Computer Architecture Essentials by Andrew K. Dennis books to read online.

Online Raspberry Pi Computer Architecture Essentials by Andrew K. Dennis ebook PDF download

Raspberry Pi Computer Architecture Essentials by Andrew K. Dennis Doc

Raspberry Pi Computer Architecture Essentials by Andrew K. Dennis Mobipocket

Raspberry Pi Computer Architecture Essentials by Andrew K. Dennis EPub