BeagleBone Black Cookbook

By Charles A. Hamilton

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Over 70 recipes and solutions for inventors, makers, and budding engineers to create projects using the BeagleBone Black

About This Book

- Learn how to develop applications with the BeagleBone Black and open source Linux software
- Sharpen your expertise in making sophisticated electronic devices
- Explore the BeagleBone Black with this easy-to-succeed recipe format

Who This Book Is For

If you are a hardware, Linux, and/or microcomputing novice, or someone who wants more power and possibilities with product prototypes, electronic art projects, or embedded computing experiments, then this book is for you. It is for Internet of Things enthusiasts who want to use more sophisticated hardware than the Raspberry Pi or the Arduino can provide.

Whether you are an engineering student, a DIYer, an inventor, or an advanced electronics enthusiast, this book delivers accessible, compelling instructions for using an advanced microcomputing platform.

What You Will Learn

- Set up and run the BeagleBone Black for the first time
- Learn the basics of microcomputing and Linux using the command line and easy kernel mods
- Make introductory projects with Python, JavaScript, BoneScript, and Node.js
- Explore physical computing and simple circuits using buttons, LEDs, sensors, and motors
- Discover the unique features of the BeagleBone Black and its real-time computing functions
- Build intermediate level audio and video applications
- Assemble draft prototypes for wearable and Internet of Things devices

In Detail

With dozens of how-tos, this book kicks off with the basic steps for setting up and running the BeagleBone Black for the first time, from connecting the necessary hardware and using the command line with Linux commands to installing new software and controlling your system remotely. Following these recipes, more advanced examples take you through scripting, debugging, and working with software source files, eventually working with the Linux kernel. Subsequently, you will learn how to exploit the board's real-time functions. We will then discover exciting methods for using sound and video with the system before marching forward into an exploration of recipes for building Internet of Things projects. Finally, the book finishes with a dramatic arc upward into outer space, when you explore ways to set up test recipes for building a project on board a small satellite's payload.

Style and approach

This comprehensive recipe book deconstructs a complex, often confusing piece of technology, and transforms it to become accessible and fun with snappy, unintimidating prose, and extensive easy-to-succeed instructions.

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BeagleBone Black Cookbook By Charles A. Hamilton Bibliography

- Sales Rank: #1971389 in Books
- Published on: 2016-02-29
- Released on: 2015-11-18
- Original language: English
- Number of items: 1
- Dimensions: 9.25" h x .78" w x 7.50" l, 1.31 pounds
- Binding: Paperback
- 358 pages

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Editorial Review

About the Author

Charles A. Hamilton

Charles Hamilton is the owner of HudsonWerks, a New York City-based DIY hardware and new product development shop. Passionate about emerging technologies, open source hardware, and the maker movement, Charles' background as a technology creative, entrepreneur, and maker provides a unique perspective for readers. Besides the BeagleBone Black, Charles has worked with other hardware platforms including the Raspberry Pi, Arduino, and Udoo development boards, open source board architecture and PCB design, micromechatronics, sensors, and Zigbee devices, as well as emerging low-cost manufacturing and design tools including 3D printing and laser cutting. Among other subjects, he keenly follows advances and design challenges in the arenas of space technologies and next-gen health and wellness devices. He is a former Creative Director at AT&T and product developer at a New-York-based new product development agency with development expertise spanning devices in the consumer electronics, digital media, display, voice recognition, and telecommunication markets. He is also the proud papa to his 3-year-old son, Hudson. Charles would like to acknowledge the invaluable support and contributions of Jason Kridner, the Texas Instruments embedded applications evangelist and founder of BeagleBoard.org.

Users Review

From reader reviews:

Carlos Terrill:

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