[Books] Getting Started With Raspberry Pi Make Projects

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Getting Started with Raspberry Pi -Matt Richardson 2012-12-10 What can you do with the Raspberry Pi, a $35 computer the size of a credit card? All sorts of things! If you're learning how to program, or looking to build new electronic projects, this hands-on guide will show you just how valuable this flexible little platform can be. This book takes you step-by-step through many fun and educational possibilities. Take advantage of several preloaded programming languages. Use the Raspberry Pi with Arduino. Create Internet-connected projects. Play with multimedia. With Raspberry Pi, you can do all of this and more. Get acquainted with hardware features on the Pi's board. Learn enough Linux to move around the operating system. Pick up the basics of Python and Scratch— and start programming Draw graphics, play sounds, and handle mouse events with the Pygame framework. Use the Pi's input and output pins to do some hardware hacking. Discover how Arduino and the Raspberry Pi complement each other. Integrate USB webcams and other peripherals into your projects. Create your own Pi-based web server with Python.

Make-Matt Richardson 2014-10-15 Provides information on using the Raspberry Pi computer, including an overview of the hardware features; how to draw graphics, play sounds, and handle mouse events with Pygame; and creating a Pi-based web server with Python.

Getting Started With Raspberry Pi 4 -Shawn Wallace 2016-07-06 The Raspberry Pi is a credit card-sized computer that plays into your TV and a keyboard. It is a capable little computer which can be used in electronics projects, and for many of the things that your desktop PC does, like spreadsheets, word processing, browsing the internet, and playing games. It also plays high-definition video. This book takes you step-by-step through many fun and educational possibilities. Take advantage of several preloaded programming languages. Use the Raspberry Pi with Arduino. Create Internet-connected projects. Play with multimedia. With Raspberry Pi, you can do all of this and more.

Programming the Raspberry Pi: Getting Started with Python-Simon Monk 2012-11-23 Program your own Raspberry Pi projects Create innovative programs and fun games on your tiny yet powerful Raspberry Pi. In this book, electronics guru Simon Monk explains the basics of Raspberry Pi application development, while providing hands-on examples and ready-to-use scripts. See how to set up hardware and software, write and debug applications, create user-friendly interfaces, and control external electronics. Do-it-yourself projects include a hangman game, an LED clock, and a software-controlled roving robot. Boot up and configure your Raspberry Pi Navigate files, folders, and menus Create Python programs using the IDLE editor Work with strings, lists, and menus Write Python programs using the IDLE editor Use strings, lists, functions, and dictionaries Work with modules, classes, and methods Create user-friendly games using Pygame Build intuitive user interfaces with Tkinter Attach external electronics through the GPIO port Add powerful Web features to your projects.

Getting Started with Raspberry Pi Zero-Shawn Wallace 2016-07-06 The Raspberry Pi is a credit card-sized computer that plays into your TV and a keyboard. It is a capable little computer which can be used in electronics projects, and for many of the things that your desktop PC does, like spreadsheets, word processing, browsing the internet, and playing games. It also plays high-definition video. This book takes you step-by-step through many fun and educational possibilities. Take advantage of several preloaded programming languages. Use the Raspberry Pi with Arduino. Create Internet-connected projects. Play with multimedia. With Raspberry Pi, you can do all of this and more.


Getting Started with Raspberry Pi Zero-Richard Grimmett 2016-03-30 Get started with the smallest, cheapest, and highest-utility Pi ever—Raspberry Pi Zero! About This Book Get started with Raspberry Pi Zero and put all of its exciting features to use. Create fun games and programs with little or no programming experience! Learn to use this super-tiny PC to control hardware and software for work, play, and everything else. Who This Book Is For This book is for hobbyists and programmers who are taking their first steps toward using Raspberry Pi Zero. No programming experience is required, although some Python programming experience might be useful. What You Will Learn Understand how to initially download the operating system and set up Raspberry Pi Zero. Find out how to control the GPIO pins of Raspberry Pi Zero to control LED circuits. Get to grips with adding hardware to the GPIO to control more complex hardware such as motors. Add USB control hardware to control a complex robot with 12 servos. Include speech recognition so that projects can receive commands. Enable the robot to communicate with the world around it by adding speech output. Control the robot from a distance and see what the robot is seeing by adding wireless communication. Discover how to build a Robotic hand and a Quadcopter. In Detail Raspberry Pi Zero is half the size of Raspberry Pi A, only with twice the utility. At just three centimeters wide, it packs in every utility required for full-fledged computing tasks. This practical tutorial will help you quickly get up and running with Raspberry Pi Zero to control hardware and software and write simple programs and games. You will learn to build interesting programs and exciting games with little or no programming experience. We cover all the features of Raspberry Pi Zero as you discover how to configure software and hardware, and control external devices. You will find out how to navigate your way in Raspbian, write simple Python scripts, and create simple DIY programs. Style and approach This is a practical and fun ?getting started? tutorial that will guide you through everything new that the Raspberry Pi has to offer.

Programming the Raspberry Pi, Second Edition: Getting Started with Python-Simon Monk 2015-10-05 An updated guide to programming your own Raspberry Pi projects Learn to create inventive projects and fun games on your powerful Raspberry Pi—with no programming experience required. This practical TAB book has been revised to fully cover the new Raspberry Pi 2, including upgrades to the Raspbian operating system. Discover how to configure hardware and software, write Python scripts, create user-friendly GUIs, and control external electronics. DIY projects include a hangman game, RGB LED controller, digital clock, and RasPiRobot complete with an ultrasonic rangefinder. Set up your Raspberry Pi and explore its features. Navigate files, folders, and menus. Write Python programs using the IDLE editor. Use strings, lists, functions, and dictionaries. Work with modules, classes, and methods. Create user-friendly games using Pygame. Build intuitive user interfaces with Tkinter. Attach external electronics through the GPIO port. Add powerful Web features to your projects.

Getting Started with Python and Raspberry Pi-Dan Nixon 2015-09-29 Learn to design and implement reliable Python applications on the Raspberry Pi using a range of external libraries. The Raspberry Pi GPIO port, and the camera module. About This Book Learn the fundamentals of Python scripting and application programming Design user-friendly command-line and graphical user interfaces. A step-by-step guide to learning Python programming with the Pi Who This Book is For This book is designed for those who are unfamiliar with the art of Python development and want to get to know their way round the language and the many additional libraries that allow you to get a full application up and running in no time. What You Will Learn Fundamentals of Python applications
Designing applications for multi-threading & interacting with electronics and physical devices. Debugging applications when they go wrong. Packaging and installing Python modules. User interface design using Qt. Building easy to use command-line interfaces. Connecting applications to the Internet. In detail, Raspberry Pi is one of the smallest and most affordable single-board computers that has taken over the world of hobby electronics and programming, and the Python programming language makes this the perfect platform to start coding with.

The book will start with a brief introduction to Raspberry Pi and Python. We will direct you to the official documentation that helps you set up your Raspberry Pi with the necessary equipment such as the monitor, keyboard, mouse, power supply, and so on. It will then dive right into the basics of Python programming. Later, it will focus on other Python tasks, for instance, interfacing with hardware, GUI programming, and more. Once you get well versed with the basic programming, the book will then teach you to develop Python/Raspberry Pi applications. By the end of this book, you will be able to develop Raspberry Pi applications with Python and will have good understanding of Python programming for Raspberry Pi. Style and approach: An easy-to-follow introduction to Python scripting and application development through clear conceptual explanations backed up by real-world examples on the Raspberry Pi.

Raspberry Pi User Guide - Eben Upton 2016-08-29
Learn the Raspberry Pi 3 from the experts! Raspberry Pi User Guide is the "unofficial official" guide to everything Raspberry Pi 3. Written by the Pi's creator and a 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 to configuring hardware and software, write Python scripts, create user-friendly GUIs, and control external electronics. Step-by-step projects include a digital clock prototype and a fully functioning Raspberry Pi robot. 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. This book will start with a brief introduction to Raspberry Pi and Python. We will direct you to the official documentation that helps you set up your Raspberry Pi with the necessary equipment such as the monitor, keyboard, mouse, power supply, and so on. It will then dive right into the basics of Python programming. Later, it will focus on other Python tasks, for instance, interfacing with hardware, GUI programming, and more. Once you get well versed with the basic programming, the book will then teach you to develop Python/Raspberry Pi applications. By the end of this book, you will be able to develop Raspberry Pi applications with Python and will have good understanding of Python programming for Raspberry Pi. Style and approach: An easy-to-follow introduction to Python scripting and application development through clear conceptual explanations backed up by real-world examples on the Raspberry Pi.

Programming the Raspberry Pi - Simon Monk 2015
Learning Raspberry Pi For Dummies - Sean McManus 2017-08-29

Understanding Linux System Admin nomenclature and conventions. Write your own programs using Python and Scratch. Extend the Pi's capabilities with add-ons like Wi-Fi dongles, a touch screen, and more. The credit-card sized Raspberry Pi has become a global phenomenon. Created by the Raspberry Pi Foundation to get kids interested in programming, this tiny computer kick-started a movement of tinkers, thinkers, experimenters, and inventors. Where will your Raspberry Pi take it? The Raspberry Pi User Guide, 3rd Edition is your ultimate roadmap to discovery.

An introduction to Python scripting and application development through clear conceptual explanations backed up by real-world examples on the Raspberry Pi.
Python Programming with Raspberry Pi: Sai Yamanoor 2017-04-28 Become a master of Python programming using the small yet powerful Raspberry Pi. This book is designed to teach Python programming in a fun and easy way. It begins with basic concepts and progressively moves on to more advanced topics.

Raspberry Pi Cookbook: Ashwin Pajankar 2016-04-22 Start building amazing projects with the Raspberry Pi right out of the box! This book is perfect for anyone who wants to learn how to use Raspberry Pi for interesting projects. It covers a wide range of topics, from basic programming to advanced projects like building a home automation system.
actuators, and LED displays work. Apply machine learning techniques to your models, interface your robots with Bluetooth. Who is the book for? This Learning Path is specially designed for Python developers who want to take their skills to the next level by creating robots that can enhance people’s lives. Familiarity with Python and electronics will aid understanding the concepts in this Learning Path.

Python for Kids-Jessie R. Briggs 2013 Introduces the basics of the Python programming language, covering how to use data structures, organize and reuse code, draw shapes and patterns with turtle, and create games and animations with tkinter.

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, and feel free to adapt and create with Exploring Raspberry Pi.

Raspberry Pi Projects for Kids - Second Edition-Daniel Bates 2015-04-28 This book is for kids who wish to develop games and applications using the Raspberry Pi. No prior experience in programming is necessary; you need only a Raspberry Pi and the required peripherals.

Adventures in Raspberry Pi-Carrie Anne Philbin 2015-01-16 Start programming quickly with this super-fun guide to programming with Raspberry Pi Adventures in Raspberry Pi, 2nd Edition includes new projects that will help you set up and start developing on your Raspberry Pi. Updated for the release of the Rev 3 board, this second edition covers all the latest features and tells you everything you need to know. Written specifically for 11-15 year-olds, this book uses the wildly successful, Raspberry Pi to explain the fundamentals of computing. You’ll have a blast learning basic programming and system administration skills, beginning with the very basics of how to plug in the board and get started. The book also includes an instructional video so you can jump in and start going through the lessons on your own. This hands-on book gets you up and running fast, with fun projects that let you explore. Learn how to “talk to” your Raspberry Pi Create games and stories with Scratch Program with Turtle Graphics and Python Code music and create a Raspberry Pi jukebox. If you want to get started programming today, Adventures in Raspberry Pi is the ultimate hands-on guide.

Raspberry Pi For Kids For Dummies-Richard Wentk 2015-07-02 Getting acquainted with your Raspberry Pi has never been sweeter. Raspberry Pi For Kids For Dummies makes it easy for kids to set-up, operate, and troubleshoot like a Pi pro! Introducing you to Pi through a series of entertaining and inspiring projects, this handy, step-by-step guide shows you how to write computer games, build websites, make art and music, create electronic projects, and much more! From downloading the operating system and setting up your Raspberry Pi to creating your own paint and designing games with Scratch, everything you need to have fun with Pi is inside! Raspberry Pi For Kids For Dummies leaves the confusing tech behind and explains in plain English how to unleash all the cool possibilities of Pi, like playing Minecraft in Python, using HTML to make a website, managing and customizing your Raspberry Pi, playing music with Sonic Pi, and understanding and playing with the GPIO.

Teaches the basics of Raspberry Pi in a simple and thorough approach. Shows you how to zoom around Pi, all while learning valuable programming skills. Offers tons of exciting projects to keep you engaged as you learn. Includes instruction on everything you need to troubleshoot Raspberry Pi if you’re aspiring computer programmer age 8-18 and want to start having fun with Pi, look no further than Raspberry Pi For Kids For Dummies.

Developing Games on the Raspberry Pi-Seth Kenlon 2018-12-19 Learn to set up a Pi-based game development environment, and then develop a game with Lua, a popular scripting language used in major game frameworks like Unreal Engine (BioShock Infinite), CryEngine (Far Cry series), Diesel (Payday: The Heist), Silent Storm Engine (Heroes of Might and Magic V) and many others. More importantly, learn how to dig deeper into programming languages to find and understand new functions, frameworks, and languages to utilize in your games. You’ll start by learning your way around the Raspberry Pi. Then you’ll quickly dive into learning game development with an industry-standard and scalable language. After reading this book, you’ll have the ability to write your own games on a Raspberry Pi, and deliver those games to Linux, Mac, Windows, iOS, and Android. And you’ll learn how to publish your games to popular marketplaces for those desktop and mobile platforms. Whether you’re new to programming or whether you’ve already published to markets like itch.io or Steam, this book showcases compelling reasons to use the Raspberry Pi for game development. Use Developing Games on the Raspberry Pi as your guide to ensure that your game plays on computers both old and new, desktop or mobile. What You’ll Learn Conﬁdently write programs in Lua and the LOVE game engine on the Raspberry Pi Research and learn new libraries, methods, and frameworks for more advanced programming Write, package, and sell apps for mobile platforms Deliver your games on multiple platforms This book Is For Software engineers, teachers, hobbyists, and development professionals looking to up-skill and develop games for mobile platforms, this book eases them into a parallel universe of lightweight, POSIX, ARM-based development.

Programming the Raspberry Pi, Third Edition: Getting Started with Python-Simon Monk 2021-06-03 An up-to-date guide to creating your own fun and useful Raspberry PiTM programs. This fully updated guide shows how to create inventive programs and fun games on your powerful Raspberry Pi—with no programming experience required. Programming the Raspberry PiTM: Getting Started with Python, Third Edition addresses physical changes and new setup procedures as well as OS updates. In the currently version 4, you will discover how to configure hardware and software, write Python scripts, create user-friendly GUIs, and control external electronics. Step-by-step projects include a digital clock prototype and a fully functioning Raspberry Pi robot. Configure your Raspberry Pi and explore its features. Start writing and debugging Python programs. Use strings, lists, functions, and dictionaries. Work with modules, classes, and methods. Apply object-oriented development methods. Create user-friendly games using Pygame Build intuitive user interfaces with guiZone Interface with hardware using the gpiozero library. Attach external electronics through the GPIO port. Add powerful Web features to your projects.


Adventures in Minecraft-David Whale 2017-10-26 Learn valuable programming skills while building your own Minecraft adventure! If you love playing Minecraft and want to learn how to code and create your own mods, this book was designed just for you. Working within the game itself, you’ll learn to set up and run your own local Minecraft server, interact with the game on PC, Mac and Raspberry Pi, and develop Python programming skills that apply way beyond Minecraft. You’ll learn how to use coordinates, how to change the player’s position, how to create and delete blocks and how to check when a block has been hit. The adventures aren’t limited to the virtual - you’ll also learn how to connect Minecraft to a BBC micro:bit so your Minecraft world can sense and control objects in the real world! The companion website gives you access to tutorial videos to make sure you understand
the book, starter kits to make setup simple, completed code files, and badges to collect for your accomplishments. Written specifically for young people by professional Minecraft geeks, this fun, easy-to-follow guide helps you expand Minecraft for more exciting adventures, and put your personal stamp on the world you create. Your own Minecraft world will be unlike anyone else's on the planet, and you'll pick up programming skills that will serve you for years to come on other devices and projects. Among other things, you will: Write Minecraft programs in Python® on your Mac®, PC or Raspberry Pi® Build houses, structures, and make a 3D duplicating machine Build intelligent objects and program an alien invasion Build huge 2D and 3D structures like spheres and pyramids Build a custom game controller using a BBC micro: bit® Plan and write a complete interactive arena game Adventures in Minecraft teaches you how to make your favourite game even better, while you learn to program by customizing your Minecraft journey.

Raspberry Pi LED Blueprints-Agus Kurniawan 2015-09-24 Design, build, and test LED-based projects using the Raspberry Pi. About This Book Implement real LED-based projects for Raspberry Pi. Learn to interface various LED modules such as LEDs, 7-segment, 4-digits 7 segment, and dot matrix to Raspberry Pi. Get hands-on experience by exploring real-time LEDs with this project-based book. Who This Book Is For This book is for those who want to learn how to build Raspberry Pi projects using LEDs, 7 segment, 4-digits 7 segment, and dot matrix modules. You also will learn to implement these modules in real applications, including interfacing with wireless modules and the Android mobile app. However, you don't need to have any previous experience with the Raspberry Pi or Android platforms. What You Will Learn Control LEDs, 7 segments, and 4-digits 7 segment from a Raspberry Pi. Expand Raspberry Pi's GPIO. Build a countdown timer. Build a digital clock. Display numbers and characters on dot matrix displays. Build a traffic light controller. Build a remote home light control with a Bluetooth low energy module and Android app. Build mobile Internet-controlled lamps with a wireless module and Android. In Detail Blinking LED is a popular application when getting started in embedded development. By customizing and utilizing LED-based modules into the Raspberry Pi board, exciting projects can be obtained. A countdown timer, a digital clock, a traffic light controller, and a remote light controller are a list of LED-based inspired project samples for Raspberry Pi. An LED is a simple actuator device that displays lighting and can be controlled easily from a Raspberry Pi. This book will provide you with the ability to control LEDs from Raspberry Pi, starting from describing an idea through designing and implementing several projects based on LEDs, such as, 7-segments, 4-digits 7 segment, and dot matrix displays. Beginning with step-by-step instructions on installation and configuration, this book can either be read from cover to cover or treated as an essential reference companion to your Raspberry Pi. Samples for the project application are provided such as a countdown timer, a digital clock, a traffic light controller, a remote light controller, and an LED-based Internet of Things, so you get more practice in the art of Raspberry Pi development. Raspberry Pi LED Blueprints is an essential reference guide full of practical solutions to help you build LED-based applications. Style and Approach This book follows a step-by-step approach to LED-based development for Raspberry Pi, explained in a conversational and easy-to-follow style. Each topic is explained sequentially in the process of building an application, and detailed explanations of the basic and advanced features are included.

Learn Raspberry Pi with Linux-Peter Membrane 2013-02-26 Learn Raspberry Pi with Linux will tell you everything you need to know about the Raspberry Pi's GUI and command line so you can get started doing amazing things. You'll learn how to set up your new Raspberry Pi with a monitor, keyboard and mouse, and you'll discover that what may look unfamiliar in Linux is really very familiar. You'll find out how to connect to the internet, change your desktop settings, and you'll get a tour of installed applications. Next, you'll take your first steps toward being a Raspberry Pi expert by learning how to get around at the Linux command line. You'll learn about different shells, including the bash shell, and commands that will make you a true power user. Finally, you'll learn how to create your first Raspberry Pi projects: Making a Pi web server: run LAMP on your own network Making your Pi wireless: remove all the cables and retain all the functionality Making a Raspberry Pi-based security cam and messenger service: find out who's dropping by Making a Pi media center: stream videos and music from your Pi Raspberry Pi is awesome, and it's Linux. And it's awesome because it's Linux. But if you've never used Linux or worked at the Linux command line before, it can be a bit daunting. Raspberry Pi is an amazing little computer with tons of potential. And Learn Raspberry Pi with Linux can be your first step in unlocking that potential.

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

Getting Started with Raspberry Pi-Matt Richardson 2012-12-24 Helps readers get acquainted with hardware features on the Pi's board; learn enough Linux to move around the operating system; pick up the basics of Python; and use the Pi's input and output pins to do some hardware hacking.

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

Raspberry Pi Projects For Dummies-Mike Cook 2015-07-13 Join the Raspberry revolution with these fun and easy Pi projects. The Raspberry Pi has opened up a whole new world of innovation for everyone from hardware hackers and programmers to students, hobbyists, engineers, and beyond. Featuring a variety of hands-on projects, this easy-to-understand guide walks you through every step of the design process and will have you creating like a Raspberry Pi pro in no time. You'll learn how to prepare your workspace, assemble the necessary tools, work with test equipment, and find your way around the Raspberry Pi before moving on to a series of fun, lively projects that brings some power to your plain ol' Pi. Introduces Raspberry Pi basics and gives you a solid understanding of all the essentials you'll need to take on your first project. Includes an array of fun and useful projects that show you how to do everything from creating a magic light wand to enhancing your designs with Lego sensors, installing and writing games for the RISC OS, building a transistor tester, and more. Provides an easy, hands-on approach to learning more about electronics, programming, and interaction design for Makers and innovators of all ages. Bring the power of Pi to your next cool creation with Raspberry Pi Projects For Dummies!