
Creative Projects With Raspberry Pi Build Gadgets Cameras Tools Games And More With This Guide To Raspberry Pi Foreword By David Braben Obe Freng Co Founder Of Raspberry Pi Foundation

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Raspberry Pi Cookbook for Python Programmers John Wiley & Sons

Creative Coding in Python presents over 30 creative projects that teach kids how to code in the easy and intuitive programming language, Python. Creative Coding in Python teaches the fundamentals of computer programming and demonstrates how to code 30+ fun, creative projects using Python, a free, intuitive, open-source programming language that's one of the top five most popular worldwide and one of the most popular Google search terms in the U.S. Computer science educator Sheena Vaidyanathan helps kids understand the fundamental ideas of computer programming and the process of computational thinking using illustrations, flowcharts, and pseudocode, then shows how to apply those essentials to code exciting projects in Python: Chatbots: Discover variables, strings, integers, and more to design conversational programs. Geometric art: Use turtle graphics to create original masterpieces. Interactive fiction: Explore booleans and conditionals to invent "create your own adventure" games. Dice games: Reuse code to devise games of chance. Arcade games and apps: Understand GUI (graphical user interfaces) and create your own arcade games and apps. What ' s next? Look at exciting ways to use your powerful new skills and expand your knowledge of coding in Python. Creative Coding in Python gives kids the tools they need to create their own computer programs.

Raspberry Pi Projects For Dummies Packt Publishing Ltd

Start building amazing projects with the Raspberry Pi right out of the box About This Book Explore the vast range of opportunities provided by Raspberry Pi and other hardware components such as a webcam, the Pi camera, and sensors Get hands-on experience with coding, networking, and hardware with the Raspberry Pi platform Learn through ample screenshots that offer a play-by-play account of how to implement Raspberry-Pi-based real-life projects Who This Book Is For What's the best way to learn how to use your Raspberry Pi? By example! If you want something exciting to do whilst getting to grips with what your Pi can offer, this is the book for you.

With both simple and complex projects, you'll create a wide variety of cool toys and functions with your Raspberry Pi - all with minimal coding experience necessary. What You Will Learn Set up your Raspberry Pi and get it ready for some interesting real-life projects Work with images, videos, webcams, and the Pi camera and create amazing time-lapse videos Explore the amazing world of Minecraft Pi Get to know how to use PiGlow for GPIO programming Interface your Pi with Grove Sensors and implement IoT applications Build your own cluster with Raspberry Pi Understand the networking and network programming fundamentals In Detail Want to put your Raspberry Pi through its paces right out of the box? This tutorial guide is designed to get you learning all the tricks of the Raspberry Pi through building complete, hands-on hardware projects. Speed through the basics and then dive right in to development! Discover that you can do almost anything with your Raspberry Pi with a taste of almost everything. Get started with Pi Gaming as you learn how to set up Minecraft, and then program your own game with the help of Pygame. Turn the Pi into your own home security system with complete guidance on setting up a webcam spy camera and OpenCV computer vision for image recognition capabilities. Get to grips with GPIO programming to make a Pi-based glowing LED system, build a complete functioning motion tracker, and more. Finally, get ready to tackle projects that push your Pi to its limits. Construct a complete Internet of Things home automation system with the Raspberry Pi to control your house via Twitter; turn your Pi into a super-computer through linking multiple boards into a cluster and then add in advanced network capabilities for super speedy processing! Style and approach This step-by-step guide to building Raspberry-Pi-based projects is explained in a conversational and easy-to-follow style. Each topic is explained sequentially in the process of creating real-life projects, and detailed explanations of the basic and advanced features of various Python libraries are also included.

Raspberry Pi Projects For Dummies Packt Publishing Ltd

Build cool Raspberry Pi projects with no experience required! Adventures in Raspberry Pi, 3rd Edition is the fun guide to learning programming. Starting from the very basics and building skill upon skill, you'll learn developing fundamentals—even if you've never programmed before.

Learning is exciting when you're working your way through cool projects, but the concepts you learn and the skills you master will take you further than you ever thought possible. You'll learn how your Raspberry Pi 3 works and what it can do as you create stories and games, program shapes, code music, and even build Minecraft worlds with projects designed specifically for kids 11 to 15. Author Carrie Anne Philbin is a former high school teacher, and she showcases her skills with clear, easy to follow instructions and explanations every step of the way. If you're interested in programming but find other books hard to understand, this book is your ideal starting point for mastering the Raspberry Pi. Inexpensive, non-intimidating, yet surprisingly versatile, the Raspberry Pi 3 is an ideal way to learn programming. Updated to align with the newest board, this book will teach you fundamental programming skills while having a ton of fun! Get acquainted with your Raspberry Pi's bits and pieces Take control of your Pi's "insides" with simple commands Program games, code music, and build a jukebox Discover where your new skills can take you next The tiny, credit-card sized Raspberry Pi has become a huge hit among kids—and adults—interested in programming. It does everything your desktop can do, but with a few basic programming skills, you can make it do so much more. With simple instructions, fun projects, and solid skills, *Adventures in Raspberry Pi* is the ultimate kids' programming guide! [Arduino Project Handbook, Volume 2](#) Packt Publishing Ltd

Explore the powers of Raspberry Pi and build your very own projects right out of the box About This Book From robotics to gaming, this Learning Path will unlock your creativity! Build your own impressive IoT projects to transform your home Featuring some of Packt's very best Raspberry Pi content, this Learning Path doesn't just get you to your destination – it opens up a whole horizon of possibilities! Who This Book Is For Want new ideas for your next Raspberry Pi project? Got one lying around gathering dust? This Learning Path gets you straight into the creative dirty work of programming and playing with your pi. Whether your new to Raspberry Pi, or an experienced maker, we think this Learning Path will inspire you and get your creative juices flowing! What You Will Learn Discover an awesome range of Raspberry Pi projects Bridge the gap between software and hardware through your Pi and find out how to make an operating system interact with cameras and other hardware Find out how to use your Raspberry Pi for gaming Secure your home with this tiny computer! Make science fiction a reality – build a walking robot In Detail Looking for inspiration for your next Raspberry Pi project? Not sure where to begin? This Learning Path is the perfect place to begin, providing you with an accessible yet comprehensive journey through Raspberry Pi. Following three modules, you'll soon be confident and prepared to get creative with your microcomputer. *Raspberry Pi by Example* is the first module in this Learning Path – and it does exactly what it says. It doesn't just teach, it shows you how to go and build some awesome Raspberry Pi projects immediately. Build and play your own games with the Pi, build a complete Internet of Things home automation system that controls your house through Twitter... let your imagination run wild! In the next module we'll look in more depth at building a home security system. You'll be using some of the skills you devoped through the first module, but apply them to something more intricate and impressive. Using a Linux based operating system as the foundations, you'll gradually build up an entire security infrastructure adding cameras, remote controls, and even intrusion alerts! In the final module, we'll take you into the world of Raspberry Pi robotics. By the end of it, you'll have built a biped robot that can interact with its environment! This Learning Path combines some of the best that Packt has to offer in one complete, curated package. It includes content from the following Packt products: *Raspberry Pi By Example* by Ashwin Pajankar and Arush Kakkar *Building a Home Security System with Raspberry Pi* by Matthew Pole *Raspberry Pi Robotics Essentials* by Richard Grimmett Style and approach It's not every day you build a home automation system. It's not every day you build a walking robot. But with

this Learning Path you'll do just that. So get started and let this tiny computer expand your imagination.

Raspberry Pi: Amazing Projects from Scratch Maker Media, Inc.

If you have a passion for technology and want to explore the world of Raspberry Pi, then this book provides you with all the tools and information you are looking for. Although being familiar with basic programming concepts is useful, you can still learn a lot from this book as a wide variety of topics are covered.

The Official Raspberry Pi Beginner's Guide Packt Publishing Ltd

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 Projects](#) John Wiley & Sons

Learn to build software and hardware projects featuring the Raspberry Pi! Congratulations on becoming a proud owner of a Raspberry Pi! Following primers on getting your Pi up and running and programming with Python, the authors walk you through 16 fun projects of increasing sophistication that let you develop your Raspberry Pi skills. Among other things you will: Write simple programs, including a tic-tac-toe game Re-create vintage games similar to Pong and Pac-Man Construct a networked alarm system with door sensors and webcams Build Pi-controlled gadgets including a slot car racetrack and a door lock Create a reaction timer and an electronic harmonograph Construct a Facebook-enabled Etch A Sketch-type gadget and a Twittering toy Raspberry Pi Projects is an excellent way to dig deeper into the capabilities of the Pi and to have great fun while doing it.

10 LED Projects for Geeks John Wiley & Sons

10 LED Projects for Geeks is a collection of interactive and customizable projects that all have the humble LED in common, but don't write them off as basic! You'll learn how to make challenging and imaginative gadgets like a magic wand that controls lights using hand gestures, a pen-sized controller for music synthesizers, a light strip that dances to the beat of music, and even an LED sash that flashes scrolling text you send from your phone. Every project includes photos, step-by-step directions, colorful circuit diagrams, and the complete code to bring the project to life. As you work your way through the book, you'll pick up adaptable skills that will take your making abilities to the next level. You'll learn how to: - Design versatile circuits for your own needs - Build and print a custom printed circuit board - Create flexible circuits which you can use to make any wearable you dream up - Turn analog signal into digital data your microcontroller can read - Use gesture recognition and wireless interaction for your own Internet of Things projects - Experiment with copper tape and create circuits with paper and foil - Build "smart" gadgets that make decisions with sensors If you want to experiment with LEDs and circuits, learn some new skills, and make cool things along the way, 10 LED Projects for Geeks is your first step.

Exploring Raspberry Pi Maker Media, Inc.

Looking for a Raspberry Pi guide that caters to the needs of advanced learners, graduates, and even

professionals? Have you searched the whole market upside down, looking for something that has powerful concepts explained through a simple approach? Are you itching to explore the secrets and test the limits of your Raspberry Pi? Are you looking for a guide that builds upon the basic and common concepts of the Raspberry Pi and gives you a ladder to climb into the real world of the experts? Then you have definitely come across the perfect book. Here, you'll find loads of exercises and projects that not only extend the functionality of your Raspberry Pi but also take your skills on an ultimate workout as well. In this book you'll discover... Conceptual clarity of Raspberry Pi. Explanations that don't get too nerdy and difficult to follow. How to master the secrets of your Raspberry Pi and unlock it's hidden potential. Creative ideas and templates providing you with virtually endless projects to build. How to make use of Python to bring out the fullest of each Pi project. Projects and exercises with code that you can also replicate and reuse. Proper guidance on how to avoid complications and errors when practically working with the Raspberry Pi. Emphasis on polishing your practical skills such as building and coding rather than dwelling in the theoretical realm. How to bring your device to life! ? Click the Buy Now button to get started on the amazing and endless adventure of Raspberry Pi projects!

[Wearable-Tech Projects with the Raspberry Pi Zero](#) The Rosen Publishing Group, Inc

Turn your Raspberry Pi into a secret agent toolbox with this set of exciting projects About This Book Turn your Raspberry Pi into a multi-purpose secret agent gadget for audio and video surveillance, Wi-Fi exploration, or playing pranks on your friends Detect an intruder on camera or with sensors and set off an alarm or receive messages to your phone Find out what the other computers on your network are up to and make yourself anonymous on the Internet This book has been updated for new additions to your toolkit featuring the tiny, recently released Raspberry Pi Zero board Who This Book Is For This book is for those who are new to the Raspberry Pi Zero ,Raspberry Pi 2 or Raspberry Pi 3 and have some experience with the original Raspberry Pi models, and even for those budding secret agents who would like to use Pi Zero as a secret agent toolbox. No programming experience is assumed. Suitable for the novice and expert alike, each topic provides a fast and easy way to get started with exciting applications, with practical examples in every chapter. What You Will Learn Install and configure the Raspbian Jessie operating system for maximum mischief Detect an intruder with motion detection or a laser trip wire and set off an alarm Listen in to conversations from a distance over Bluetooth Distort your voice in weird and wonderful ways Track the Pi's whereabouts using GPS Connect your Pi to the mobile Internet using a 3G dongle and make yourself anonymous on the net Display secret messages and codes to fellow agents on a LED display In Detail This book is for all mischievous Raspberry Pi owners who'd like to see their computer transform into a neat spy gadget to be used in a series of practical pranks and projects. No previous skills are required to follow along, and if you're completely new to Linux, you'll pick up much of the basics for free. We'll help you set up your Raspberry Pi Zero , Raspberry Pi 2 and Raspberry Pi 3 and guide you through a number of pranks and secret agent techniques that are so inconspicuous yet high on mischief. You'll learn how to configure your operating system for maximum mischief and start exploring audio, video, or Wi-Fi techniques. We'll show you how to record, listen, or talk to people from a distance and how to set up your own phone network. Then, you'll plug in your webcam and set up a motion detector with an alarm and find out what the other computers on your Wi-Fi network are up to. Once you've mastered the techniques, we'll combine them with a battery pack and GPS for the ultimate off-road spy kit. Style and Approach This easy-to-follow guide is for budding secret agents who want to create tools for mischief, stealth, and reconnaissance. It's full of fun, practical examples and easy-to-follow recipes, guaranteeing maximum mischief for all skill levels.

Raspberry Pi For Dummies No Starch Press

In just 24 sessions of one hour or less, Sams Teach Yourself Python Programming for Raspberry Pi in 24 Hours teaches you Python programming on Raspberry Pi, so you can start creating awesome projects for homeautomation, home theater, gaming, and more.

Using this book's straightforward,step-by-step approach, you'll move from the absolute basics all the way through network and web connections, multimedia, and even connectingwith electronic circuits for sensing and robotics. Every lesson and casestudy application builds on what you've already learned, giving you a rock-solid foundation for real-world success! Step-by-step instructions carefully walk you through the most common Raspberry Pi Python programming tasks. Quizzes at the end of each chapter help you test your knowledge. By the Way notes present interesting information related to the discussion. Did You Know? tips offer advice or show you easier ways to perform tasks. Watch Out! cautions alert you to possible problems and give you advice on how to avoid them. Get your Raspberry Pi and choose the right low-cost peripherals Set up Raspbian Linux and the Python programming environment Learn Python basics, including arithmetic and structured commands Master Python 3 lists, tuples, dictionaries, sets, strings, files, and modules Reuse the same Python code in multiple locations with functions Manipulate string data efficiently with regular expressions Practice simple object-oriented programming techniques Use exception handling to make your code more reliable Program modern graphical user interfaces with Raspberry Pi and OpenGL Create Raspberry Pi games with the PyGame library Learn network, web, and database techniques you can also use in business software Write Python scripts that send email Interact with other devices through Raspberry Pi's GPIO interface Walk through example Raspberry Pi projects that inspire you to do even more

Python Programming for Raspberry Pi Packt Publishing Ltd

Raspberry Pi 3 The Ultimate Guide on how to design and build your own projects with Raspberry Pi The Raspberry Pi 3 is the perfect tool for the tech savvy do it yourself-er. Though most often used in HTPC and similar applications, you can use the Pi in a wide variety of ways-both in practical applications and ones that are just for fun. Initially designed as an educational tool for teaching programming, the Pi is easy to learn and use even if you have a limited background in electronics. The knowledge in this book will get you on your way to designing your own creative Pi projects. This book will cover the following topics: How to set up and use your Pi The basics of using it in programming and building applications Basic projects to get you started Ideas for more advanced projects Practical applications of the Pi around your house Download your copy of " Raspberry Pi 3 " by scrolling up and clicking "Buy Now With 1-Click" button. Tags: Raspberry Pi 3, Raspberry Pi 3 Projects, projects with Raspberry Pi 3, Raspberry Projects, set up Raspberry Pi 3, Configuring Raspberry Pi, RasPiRobot, Raspbian operating system.

[Hacking Raspberry Pi](#) John Wiley & Sons

The Raspberry Pi is an inexpensive, simple computer that's about the size of a credit card. At first glance, it looks like a simple circuit board with a few inputs and outputs, but the Raspberry Pi is actually a computer with multiple inputs and outputs that make it the foundation for an almost limitless number of projects - from creating a wireless internet streaming radio, to creating a wi-fi hot spot, to creating elaborate, programmed LED light shows - it's all been done. The real power of the RPi is that it's simple, cheap, and users can build all kinds of useful and fun projects using a few simple tools, some basic programming, and a ton of imagination. Idiot's Guides: Raspberry Pi is the perfect beginner book for learning how the Raspberry Pi works, how to program it, how to connect it to existing devices to enhance or even hack their existing functionality, and

how to put together some basic first projects from scratch. Readers will learn how to download and use the right software for the job, how to program using Scratch (a basic language for programming Linux), and how to come up with their own crazy project ideas for creating virtually anything that requires nothing more than processing power from a simple computer.

Getting Started with Raspberry Pi Pearson Education

Explore Raspberry Pi's architecture through innovative and fun projects About This Book 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 Who This Book Is For Raspberry Pi Computer Architecture Essentials is for those who are new and those who are familiar with the Raspberry Pi. Each topic builds upon earlier ones to provide you with a guide to Raspberry Pi's architecture. From the novice to the expert, there is something for everyone. A basic knowledge of programming and Linux would be helpful but is not required. 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 In Detail 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. Style and approach This book takes a step-by-step approach to exploring Raspberry Pi's architecture through projects that build upon each other. Each project provides you with new information on how to interact with an aspect of the Raspberry Pi and Raspbian operating system, providing a well-rounded guide.

Raspberry Pi User Guide Packt Publishing Ltd

A \$35 minicomputer about the size of a credit card, the Raspberry Pi has taken the world of computing by storm. Originally intended for teaching programming in schools, the device's low price, small size, and low power consumption have given it wide appeal. This entertaining, informative title reveals the vision behind the Raspberry Pi and the history of its creation. It describes the computer's hardware and the options it offers in terms of operating systems, software, programming languages, and peripherals. Readers also get a look at the lively Raspberry Pi community of tinkerers and their creative projects making use of the minicomputer.

Deploying Raspberry Pi in the Classroom Harry N. Abrams

This second volume of the Arduino Project Handbook delivers 25 more beginner-friendly electronics projects. Get up and running with a crash course on the Arduino, and then pick any

project that sparks your interest and start making! Each project includes cost and time estimates, simple instructions, colorful photos and circuit diagrams, a troubleshooting section, and the complete code to bring your build to life. With just the Arduino board and a handful of components, you'll make gadgets like a rainbow light display, noise-level meter, digital piano, GPS speedometer, and fingerprint scanner. This collection of projects is a fast and fun way to get started with microcontrollers that's perfect for beginners, hobbyists, parents, and educators. 25 Step-by-Step Projects LED Light Bar Light-Activated Night-Light Seven-Segment LED Countdown Timer LED Scrolling Marquee Mood Light Rainbow Strip Light NeoPixel Compass Arduino Piano Audio LED Visualizer Old-School Analog Dial Stepper Motor Temperature-Controlled Fan Ultrasonic Range Finder Digital Thermometer Bomb Decoder Game Serial LCD Screen Ultrasonic People Counter Nokia 5110 LCD Screen Pong Game OLED Breathalyzer Ultrasonic Soaker Fingerprint Scanner Ultrasonic Robot Internet-Controlled LED Voice-Controlled LED GPS Speedometer Uses the Arduino Uno board Praise for the first volume of Arduino Project Handbook: "Easily the best beginner's guide out there. Pair with an inexpensive clone-based starter kit, and it's never been cheaper to join the maker revolution." —MakeUseOf.com "Beautifully designed." —Boing Boing

Getting Started with Raspberry Pi John Wiley & Sons

Raspberry Pi is the most versatile and affordable computer ever made - and you don't even need any coding skills to use it. Showing the many different ways to use Raspberry Pi, the projects in this book will appeal to creatives from all walks of life. The Raspberry Pi was designed expressly to make computer programming fun and enjoyable. The size of a credit card, the little circuit board computer is cheap and simple enough for anyone, anywhere in the world, to learn how to create computer programs easily. Learn step by step how to complete simple projects with your Raspberry Pi and explore the most innovative inventions ever made with the little computer that could. These amazing 'Pideas' show how easy it is to develop fantastic homebrew electronics. With tips from master Pi engineers you can create anything you can think of, from your own video games and robots to expressing yourself artistically, and even performing scientific experiments. 25 of these projects are sourced from the greatest makers in the world, and are designed to showcase the ultimate possibilities with Pi. These are accompanied by 10 'inspired-by' projects that even a novice could make, including full step-by-step building instructions. Every project includes a web link to pick up extra apps and coding to make the projects even easier.

Getting Started with Sensors "O'Reilly Media, Inc."

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 gives you an insight into implementing several creative projects using the peripherals provided to your next cool creation with Raspberry Pi Projects For Dummies!

Raspberry Pi Apress

In just 24 sessions of one hour or less, Sams Teach Yourself Python Programming for Raspberry Pi in 24 Hours teaches you Python programming on Raspberry Pi, so you can start creating awesome projects for home automation, home theater, gaming, and more. Using this book's straightforward, step-by-step approach, you'll move from the absolute basics all the way through network and web connections, multimedia, and even connecting with electronic circuits for sensing and robotics. Every lesson and case study application builds on what you've already learned, giving you a rock-solid foundation for real-world success! Step-by-step instructions carefully walk you through the most common Raspberry Pi Python programming tasks. Quizzes at the end of each chapter help you test your knowledge. By the Way notes present interesting information related to the discussion. Did You Know? tips offer advice or show you easier ways to perform tasks. Watch Out! cautions alert you to possible problems and give you advice on how to avoid them. Get your Raspberry Pi and choose the right low-cost peripherals Set up Raspian Linux and the Python programming environment Learn Python basics, including arithmetic and structured commands Master Python 3 lists, tuples, dictionaries, sets, strings, files, and modules Reuse the same Python code in multiple locations with functions Manipulate string data efficiently with regular expressions Practice simple object-oriented programming techniques Use exception handling to make your code more reliable Program modern graphical user interfaces with Raspberry Pi and OpenGL Create Raspberry Pi games with the PyGame library Learn network, web, and database techniques you can also use in business software Write Python scripts that send email Interact with other devices through Raspberry Pi's GPIO interface Walk through example Raspberry Pi projects that inspire you to do even more

Raspberry Pi 3 Pearson Education

Utilize the powerful ingredients of Raspberry Pi to bring to life your amazing robots that can act, draw, and have fun with laser tags About This Book Learn to implement a number of features offered by Raspberry Pi to build your own amazing robots Understand how to add vision and voice to your robots. This fast-paced practical guide comprises a number of creative projects to take your Raspberry Pi knowledge to the next level Who This Book Is For This all-encompassing guide was created for anyone who is interested in expanding their knowledge in applying the peripherals of Raspberry Pi. If you have a fancy for building complex-looking robots with simple, inexpensive, and readily available hardware, then this book is ideal for you. Prior understanding of Raspberry Pi with simple mechanical systems is recommended. What You Will Learn Add sensors to your robot so that it can sense the world around it Know everything there is to know about accessing motors and servos to provide movement to the robotic platform Explore the feature of adding vision to your robot so it can "see" the world around it Refine your robot with the skill of speech recognition so that it can receive commands Polish your robot by adding speech output so it can communicate with the world around it Maximize the use of servos in Raspberry Pi to create a drawing robot Strengthen your robot by adding wireless communication skills so you can see what the robot is seeing and control it from a distance Build an unbelievable autonomous hexcopter controlled by Raspberry Pi In Detail The Raspberry Pi is a series of credit card-sized single-board computers developed in the UK by the Raspberry Pi Foundation with the intention of promoting the teaching of basic computer science in schools. The Raspberry Pi is known as a tiny computer built on a single circuit board. It runs a Linux operating system, and has connection ports for various peripherals so that it can be hooked up to sensors, motors, cameras, and more. Raspberry Pi has been hugely popular among hardware hobbyists for various projects, including robotics. This book

by Raspberry Pi. To start, we'll walk through the basic robotics concepts that the world of Raspberry Pi offers us, implementing wireless communication to control your robot from a distance. Next, we demonstrate how to build a sensible and a visionary robot, maximizing the use of sensors and step controllers. After that, we focus on building a wheeled robot that can draw and play hockey. To finish with a bang, we'll build an autonomous hexcopter, that is, a flying robot controlled by Raspberry Pi. By the end of this book, you will be a maestro in applying an array of different technologies to create almost any imaginable robot. Style and approach This book is an easy-to-follow, project-based guide that throws you directly into the action of creating almost any imaginable robot through blueprints. It is full of step by step instructions and screenshots to help you build amazing robots in no time at all.