1. Record Nr. UNINA9910808338503321

Autore Cox Tim

Titolo Raspberry Pi cookbook for Python programmers : over 50 easy-to-comprehend tailor-made recipes to get the most out of the raspberry Pi and unleash its huge potential using Python / / Tim Cox ; Darren Brindley, cover image

Pubbl/distr/stampa Birmingham, England : , : Packt Publishing, , 2014
©2014

ISBN 1-84969-663-2

Descrizione fisica 1 online resource (402 p.)

Collana Quick answers to common problems

Disciplina 004.165

Soggetti Microcomputers
Python (Computer program language)
Raspberry Pi (Computer)

Lingua di pubblicazione Inglese

Formato Materiale a stampa

Livello bibliografico Monografia

Note generali Includes index.

Nota di contenuto Cover; Copyright; Credits; About the Author; About the Reviewers; www.PacktPub.com; Table of Contents; Preface; Chapter 1: Getting Started with a Raspberry Pi Computer; Introduction; Connecting the Raspberry Pi; Using NOOBS to set up your Raspberry Pi SD card; Networking and connecting your Raspberry Pi to the Internet via the LAN connector; Configuring your network manually; Networking directly to a laptop or computer; Networking and connecting your Raspberry Pi to the Internet via a USB Wi-Fi dongle; Connecting to the Internet through a proxy server
Connecting remotely to the Raspberry Pi over the network using VNC Connecting remotely to the Raspberry Pi over the network using SSH (and X11 Forwarding); Sharing the home folder of the Raspberry Pi with SMB; Keeping the Raspberry Pi up to date; Chapter 2: Starting with Python Strings, Files, and Menus; Introduction; Working with text and strings; Using files and handling errors; Creating a boot-up menu; Creating a self-defining menu; Chapter 3: Using Python for Automation and Productivity; Introduction; Using Tkinter to create graphical user interfaces

Creating a graphical application Start menu Displaying photo information in an application; Organizing your photos automatically; Chapter 4: Creating Games and Graphics; Introduction; Using IDLE3 to debug your programs; Drawing lines using a mouse on Tkinter Canvas; Creating a bat and ball game; Creating an overhead scrolling game; Chapter 5: Creating 3D Graphics; Introduction; Starting with 3D coordinates and vertices; Creating and importing 3D models; Creating a 3D world to roam in; Building 3D maps and mazes; Chapter 6: Using Python to Drive Hardware; Introduction; Controlling an LED Responding to a button A controlled shutdown button; The GPIO keypad input; Multiplexed color LEDs; Chapter 7: Sense and Display Real-world Data; Introduction; Using devices with the I2C bus; Reading analog data using an analog-to-digital converter; Logging and plotting data; Extending the Raspberry Pi GPIO with an I/O expander; Sensing and sending data to online services; Chapter 8: Creating Projects with the Raspberry Pi Camera Module; Introduction; Getting started with the Raspberry Pi camera module; Using the camera with Python; Generating a time-lapse video

Creating a stop frame animation Making a QR code reader; Chapter 9: Building Robots; Introduction; Building a Rover-Pi robot with forward driving motors; Using advanced motor control; Building a six-legged Pi-Bug robot; Avoiding objects and obstacles; Getting a sense of direction; Chapter 10: Interfacing with Technology; Introduction; Automating your home with remote sockets; Using SPI to control an LED matrix; Communicating using a serial interface; Controlling the Raspberry Pi over Bluetooth; Controlling USB devices; Appendix: The Hardware and Software List; Introduction

General component sources

Sommario/riassunto	""Raspberry Pi Cookbook for Python Programmers"" is written in a Cookbook format, presenting examples in the style of recipes.This allows you to go directly to your topic of interest, or follow topics throughout a chapter to gain a thorough in-depth knowledge.The aim of this book is to bring you a broad range of Python 3 examples and practical ideas which you can develop to suit your own requirements. By modifying and combining the examples to create your own projects you learn far more effectively with a much greater understanding. Each chapter is designed to become a foundation for further e