



Contents

Issue 59 July 2017

raspberrypi.org/magpi

TUTORIALS

- > **PI 101: SENSE HAT EMULATION** 40
How to create and test code for the Sense HAT
- > **PI 101: GET STARTED WITH GIT** 42
Manage your code repositories the easy way
- > **CREATE A GPS TRACKER** 48
Track your travels with this nautical project
- > **ADD BLUETOOTH CONTROL** 50
Use Blue Dot to control Bluetooth devices
- > **USE SENSE HAT WITH WOLFRAM** 54
Analyse and display your data with Mathematica
- > **BUILD WIND CHIMES** 56
This month's Pi Bakery makes wind-powered music
- > **ADD SERVOS TO AIY PROJECTS** 60
Use the AIY Projects Voice HAT to control servos
- > **USE MOTORS WITH VOICE HAT** 62
Servos not enough for you? Let's add some motors!

IN THE NEWS

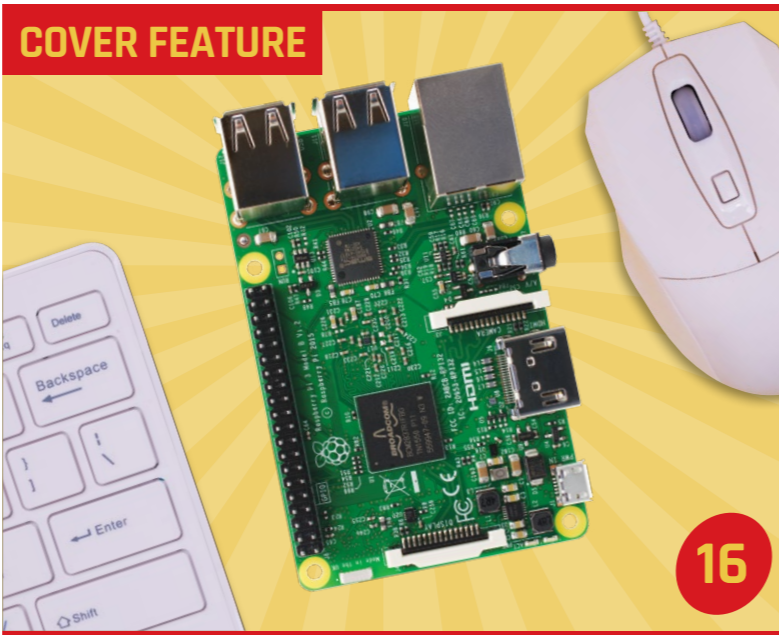
CODERDOJO AND RASPBERRY PI



Two Foundations join forces to bring coding to young people

6

COVER FEATURE



THE PI PC CHALLENGE

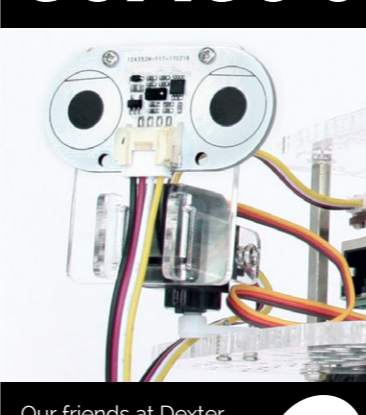
BEST OF SHOW



Raspberry Pi clusters support medical research

13

GOPIGO 3



Our friends at Dexter Industries launch a new robot

10

THE BIG FEATURE

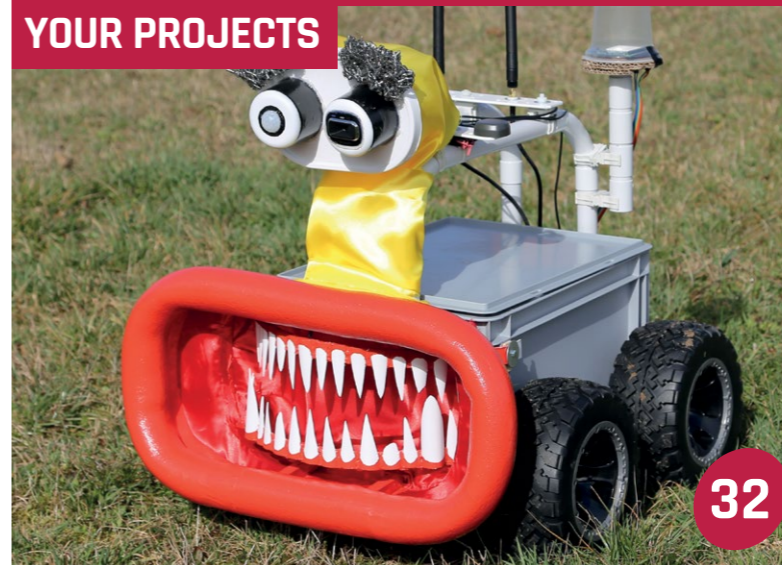
SUMMER PROJECTS

Let's take this outside

HOT HOLIDAY PROJECTS 68

Go outside and get making this summer!

YOUR PROJECTS



32

BIG ROB ROBOT

Not our Features Editor, but a GPS-controlled robot!

TELE2 VR

Experience the life of a stranger with this incredible Pi project

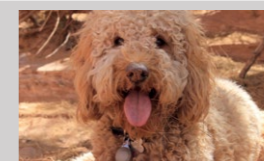
34



DOG TREAT DISPENSER

The ultimate, Pi-powered treat dispenser for a very good boy

36



PIOCKET TINY

The smallest handheld games system we've ever seen

38



WIN!

A RASPBERRY PI 3 WITH AN OFFICIAL CASE SIGNED BY EBEN UPTON

97

REGULARS

- > NEWS 06
- > TECHNICAL FAQ 64
- > BOOK REVIEWS 82
- > FINAL WORD 98

COMMUNITY

- > **THIS MONTH IN PI** 84
Everything else that happened last month
- > **COMMUNITY SPOTLIGHT** 88
Meet awesome YouTuber Estefannie
- > **EVENTS REPORT** 90
Some of the cool events that took place last month
- > **UPCOMING EVENTS** 92
Attend one of these upcoming Jams!
- > **YOUR LETTERS** 94
We endeavour to answer your questions

REVIEWS

- > **OCTOCAM** 76
- > **BROWSER GROUP TEST** 78
- > **WD PIDRIVE USB FLASH** 80