



Raspberry Pi Foundation

Annual Review 2017

**ANNUAL
REVIEW**
2017



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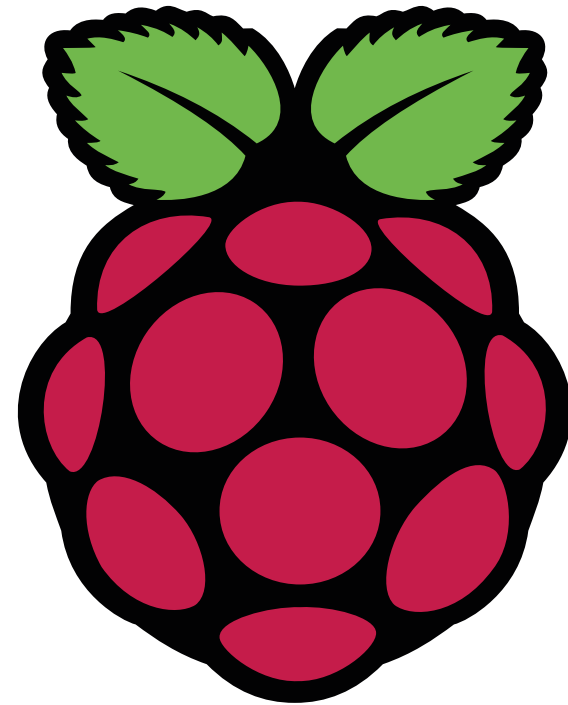
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OUR MISSION

Our mission is to put the power of computing and digital making into the hands of people all over the world. We do this so that more people can harness this power for work, to solve problems that matter to them, and to express themselves creatively.

Our strategy:

- We provide low-cost, high-performance single-board computers, and free software through Raspberry Pi Trading Ltd, so that computing and digital making are accessible to all
- We help young people acquire computing and digital making skills through compelling learning resources, a thriving network of volunteer-led clubs, exciting competitions and events, and partnerships with youth organisations
- We provide training and support to educators, volunteers, and parents who want to help young people learn these skills
- We build and support communities of young people, parents, volunteers, businesses, and educators that share our mission



“ We have sold 17 million Raspberry Pi computers and have helped to establish a global community of digital makers and educators ”

Since launching our first product in February 2012, we have sold 17 million Raspberry Pi computers and have helped to establish a global community of digital makers and educators.

We use the profits generated from the sale of our computers and accessories to pursue our educational goals. We also receive funding and in-kind support from generous partners.

INTRODUCTION

FROM THE CHAIRMAN

DAVID CLEEVELY

I am delighted to share with you the 2017 Annual Review of the Raspberry Pi Foundation.

It's been a fantastic year for the Foundation and our mission to equip many more people with the skills and knowledge to create with computers. Our free educational resources are being used by millions of people all over the world. Our training has supported tens of thousands of educators. Through our clubs and programmes, we are directly engaging hundreds of thousands of young people each week.

At the same time, our commercial activities have gone from strength to strength. We ended the year with over 17 million Raspberry Pi computers being used in industry, in education, and in the homes of people from all walks of life. That commercial success fuels our educational activities. We are also proud to be working with a large number of partners, donors, and sponsors who support our work through expertise, advocacy, and funding.

As Chairman of the Boards of both the Raspberry Pi Foundation and Raspberry Pi Trading Limited, I have the privilege of working with an exceptional group of Trustees, Directors, and Members, who make significant contributions to our work through ensuring that we have good governance, and through widely advocating for our mission.

At the end of the year, one of our co-founders, Jack Lang, stepped down from the Board of Trustees after nine years of service. We all owe Jack a huge debt of gratitude for his contribution to the Foundation and to the whole movement of computer science education.

In November 2017, the Membership elected Jon Drori, Chairman of Ravensbourne College, to serve as a Trustee. Jon brings a wealth of experience and expertise to the Board, and is already adding huge value.

I am very grateful to everyone who has contributed to the success of Raspberry Pi this year, and I look forward to even more great things in 2018.



“ I am very grateful to everyone who has contributed to the success of Raspberry Pi this year, and I look forward to even more great things in 2018 ”

INTRODUCTION

FROM FOUNDATION CEO

PHILIP COLLIGAN

Thank you for taking the time to read our Annual Review for 2017.

We had an awesome year at the Raspberry Pi Foundation, and this document will provide you with an overview of what we've been working on and show you some of the impact we're having.

One part of that story is scale: we are now helping millions of people all over the world learn the skills, knowledge, and mindset that will enable them to create with technology; we're also making real progress on our goal to make computing relevant and accessible to all, including measurable improvements in our engagement of girls.

The other part of the story is how individuals' lives are changed by learning new skills and growing confident with technology: time and again I talk to volunteers, educators, and young people who have created new opportunities for themselves

and others through learning about computing and digital making. Alongside the numbers, we're telling some of their stories in this Review.

The big news in 2017 was our merger with the CoderDojo Foundation, which we announced in May. Bringing together Raspberry Pi, Code Club, and CoderDojo in one group has created one of the largest sustained efforts to engage young people in computing and digital making in the world.

It's been a joy to welcome the CoderDojo Foundation team into the Raspberry Pi family, and to receive a very warm welcome from the CoderDojo community in return.

Of course, none of this would be possible without the incredible support we receive from our community of makers, educators, young people, volunteers, parents, businesses, and policy-makers. Thank you all for your support last year. I am excited about what we can achieve in 2018.



“ It's been a joy to welcome the CoderDojo Foundation team into the Raspberry Pi family, and to receive a very warm welcome from the CoderDojo community in return ”

INTRODUCTION

FROM TRADING CEO

EBEN UPTON

From the perspective of hardware launches, 2017 was a quiet year for Raspberry Pi, with the \$10 wireless-enabled Raspberry Pi Zero W being our only new product. However, this belies the progress we've made elsewhere.

On the software front, we upgraded our official supported operating system from Raspbian Jessie to the latest Raspbian Stretch, and made numerous improvements to our desktop environment and curated applications. We added accelerated video decoding to the Chromium web browser, rolled out high-definition H.265 video decoding for Kodi users, and released a first version of the PiServer classroom-management system. For those unlucky enough not to own a Raspberry Pi, the newly released Raspberry Pi Desktop provides access to the same environment on a PC or Mac via a bootable DVD or USB stick.

Our commercial team has been busy rolling out a number of

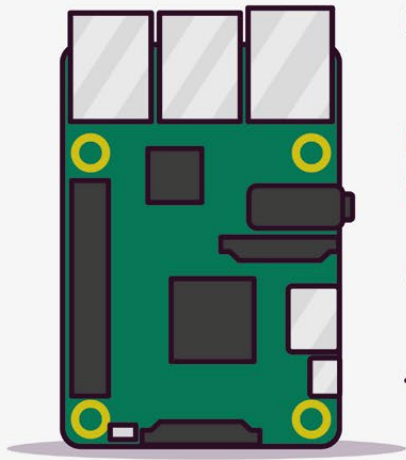
initiatives to support our customers.

The Raspberry Pi Integrator Programme provides assistance to partners who wish to integrate Raspberry Pi into their products, and the Powered by Raspberry Pi logo lets them advertise that they've done so. Our brand new network of Raspberry Pi Approved Resellers covers over forty countries, recognising resellers who represent our products well and make purchasing them straightforward.

The MagPi, the official Raspberry Pi magazine, has gone from strength to strength, with 10 000 monthly sales and 100 000 monthly downloads of the free PDF version. Continuing our tradition of hardware give-aways, we distributed 20 000 Google AIY Voice Kits with the May edition. We published a ninth Raspberry Pi book, a third Projects book, a Beginners book, and an Annual. And, of course, we launched HackSpace magazine, our publication for the maker movement.



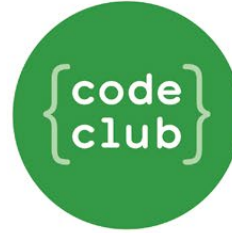
We've sold seventeen million Raspberry Pi units overall, and six million in 2017 alone. Millions of those are in the hands of children (of all ages), delivering on our educational mission. Millions more are in homes, offices, factories, and labs, being used in ways we could never have imagined when we started. The last six years have been a wild ride, and we're only just getting started.



17M
RASPBERRY PI
COMPUTERS
SOLD

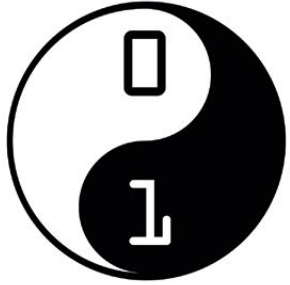


10123
CODE CLUBS
ACROSS THE WORLD



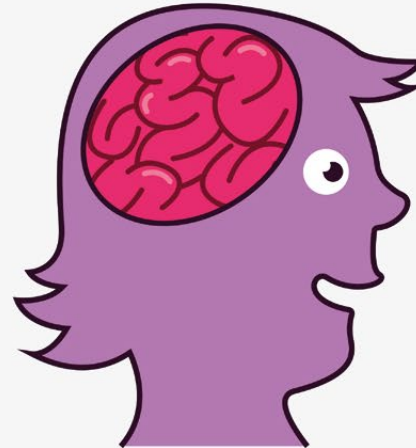
REACHING
150 000+
9- TO 13-YEAR-OLDS

THE CODE OF
6800+
YOUNG PEOPLE
RAN IN SPACE



1556 DOJOS
ACROSS THE WORLD
REACHING NEARLY
40 000
7- TO 17-YEAR-OLDS

RASPBERRY
JAM **18 700**
COMMUNITY
MEMBERS
ATTENDED



8.5M
PEOPLE LEARNED
WITH OUR ONLINE PROJECTS.
19 000
PARTICIPATED IN OUR
ONLINE COURSES

Putting the power of computing
and digital making



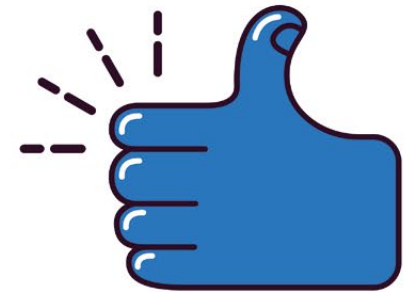
1500+
RASPBERRY PI
CERTIFIED EDUCATORS

600+
TRAINED
IN 2017

PIONEERS

1000+

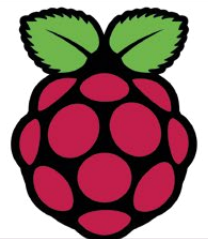
11- TO 16-YEAR-OLD
DIGITAL MAKERS

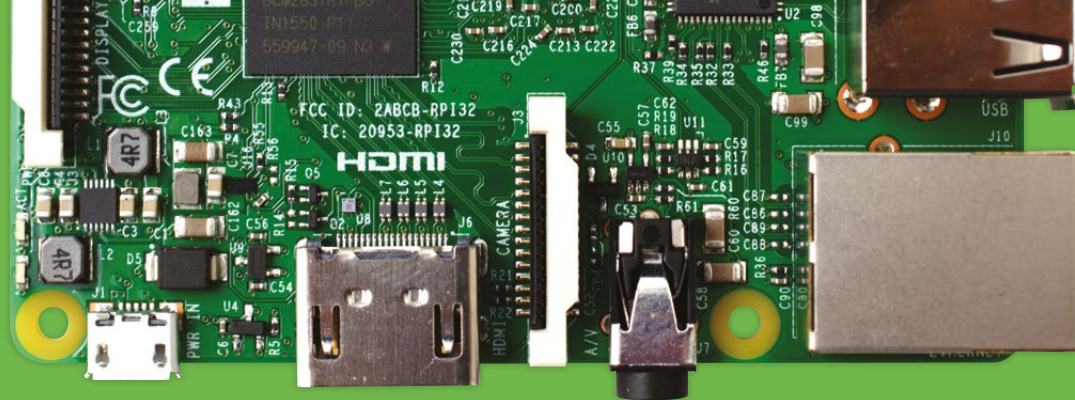


1M+

FOLLOWERS &
SUBSCRIBERS
ON OUR SOCIAL NETWORKS

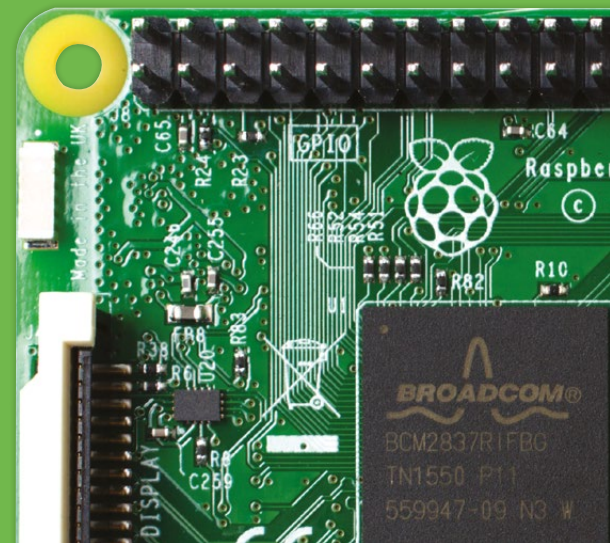
in the hands of people
all over the world.





ANNUAL REVIEW 2017 COMPUTERS

“ Sales continued to grow in 2017, and in February we launched the Raspberry Pi Zero W ”



THE RASPBERRY PI COMPUTER

We give people around the globe access to an affordable, powerful computer to enable them to learn about and create software and physical computing projects.

The Raspberry Pi is a low-cost, high-performance, credit card-sized computer that people all over the world use to learn, solve problems, and have fun. In addition to offering affordable hardware, we build and maintain open-source software, and we partner with other organisations to provide free access to powerful educational software tools.

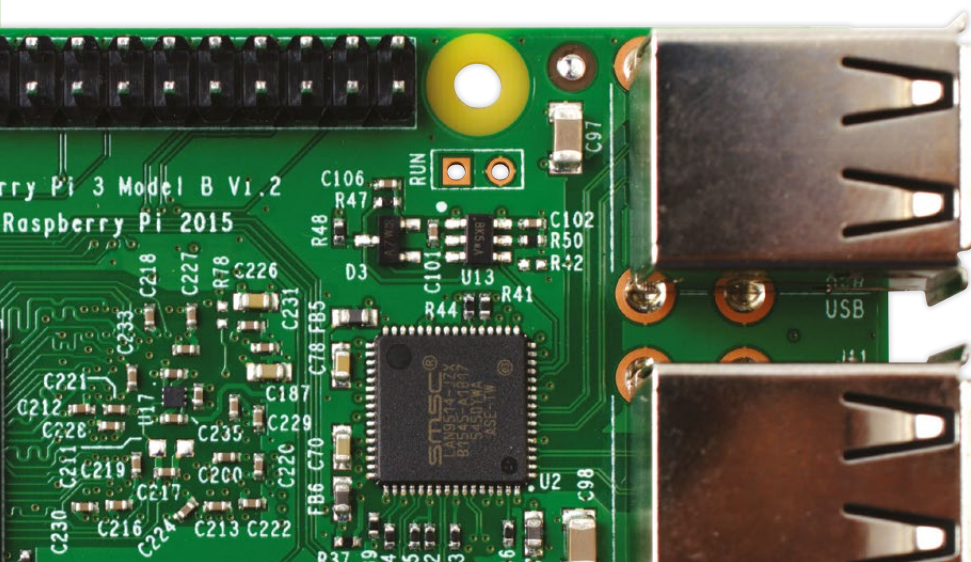
Activities:

The popularity of the Raspberry Pi computer as a platform for learning about and solving problems with technology continues to increase. 17 million Raspberry Pis are now in the hands of people all over the world, who are using them to learn about programming and physical computing, to build projects to

address problems in their own lives, and to create commercial products from washing machines to underwater exploration vehicles. Sales continued to grow in 2017, and in February we launched the Raspberry Pi Zero W, adding wireless LAN and Bluetooth connectivity to our ultra-low-cost computer.

Achievements:

- Launched Raspberry Pi Zero W, which includes wireless LAN and on-board Bluetooth
- Gave away Google's AIY Projects Voice Kit for free with The MagPi issue 57, bringing voice-controlled artificial intelligence to Raspberry Pi users
- Launched Raspberry Pi Approved Reseller programme in 50 countries, making our products available more easily and at the right price to more people across the world
- Expanded support for businesses using Raspberry Pi in their own products by setting up the Raspberry Pi Integrator Programme, which allows companies to get Raspberry Pi-based products compliance-tested more quickly, and by creating the official Powered by Raspberry Pi product label
- Received the 2017 MacRobert Award, the UK's longest-running and most prestigious national prize for engineering innovation, presented by the Royal Academy of Engineering



17 MILLION

Raspberry Pi computers sold
by the end of 2017

5 MILLION

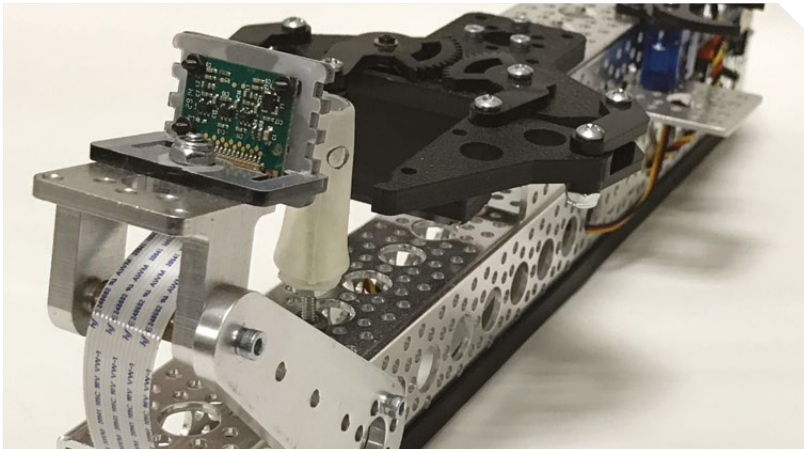
Raspberry Pi 3 Model B
computers sold in 2017

RASPBERRY PI POWERED PROJECTS

Stent-testing robot

Raspberry Pi computers are used for testing and prototyping in many areas, even in medical engineering. Dr Henry J. Feldman, Chief Information Architect at Harvard Medical Faculty Physicians, created a smart stent-testing robot controlled by a Raspberry Pi. Stents are rubber tubes used to prop open patients' airways, and a new stent design has to be tested 300 000 times to be certified for use. Dr Feldman's system uses computer vision and machine learning to identify exactly when a stent fails. Designers can then refine the stent prototype based on the collected data and images. The Raspberry Pi is thus a cost-effective tool for people working to improve and even save people's lives.

Read more at rpf.io/stent



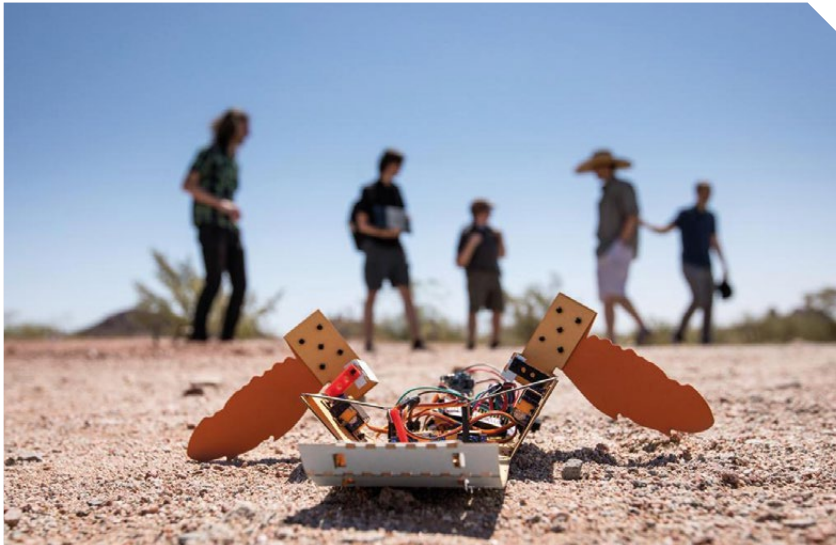
BitBarista – a fully autonomous corporation

Many people use Raspberry Pi computers to automate devices such as coffee machines, but the team at the University of Edinburgh's Centre for Design Informatics took this a step further, freeing their coffee machine from all tethers to its owners. BitBarista is part automation project, part social experiment. It will sell you a coffee in return for bitcoin, and it will also pay you bitcoin to complete tasks such as cleaning, water replenishment, and restocking. Customers choose which coffee beans the machine should order based on quality, price, environmental impact, and social responsibility, with the machine collecting and displaying data on these choices. BitBarista is an autonomous robot corporation, serving coffee and exploring societal priorities.

Read more at rpf.io/barista



“ BitBarista is an autonomous robot corporation, serving coffee and exploring societal priorities ”



Landmine-clearing C-Turtle

Ingenuity and the power of a low-cost computer can help find solutions to challenging and dangerous problems. One such problem is clearing areas of landmines. Traditionally this has required expensive robots built to withstand multiple blasts, but truly low-cost robots reframe the challenge. Scientists at Arizona State University combined a cardboard robot design inspired by turtle flippers with machine learning algorithms running on a Raspberry Pi Zero to create C-Turtle, a robot that autonomously learns how to move across different terrains. C-Turtle is cheap enough to be disposable, which could make it perfect for mapping and even clearing minefields and thus keeping people safe.

Read more at rpf.io/cturtle

Robocod

Fish tanks are fairly boring places, so Alex Kent and his friends at Carnegie Mellon University set out to make their goldfish more mobile. They added a Raspberry Pi-powered undercarriage to their goldfish tank, allowing it to move freely. Movement is controlled by the fish itself: computer vision tracks its location, and as it swims from the centre of the tank outwards, the Raspberry Pi responds by moving the tank in the corresponding direction. Other goldfish keepers can create their own free-range goldfish tanks by adapting the code shared openly on GitHub.

Read more at rpf.io/robocod



“ Other goldfish keepers can create their own free-range goldfish tanks by adapting the code ”

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OUTREACH

“ The best moment is seeing a child
discover something for the first time.
It is amazing. ”

Code Club volunteer

ASTRO PI



Astro Pi gives young people the chance to develop their computing and science skills by creating programs to run on the International Space Station (ISS).

Young people are challenged to write code that the European Space Agency (ESA) will run on two specially equipped Raspberry Pi computers on the ISS.

Activities:

Astro Pi offers two avenues for young people to write code to run in space. In Mission Zero, less experienced coders can create simple programs guaranteed to run on the ISS. These programs use the Astro Pi display to show messages and graphics for the astronauts aboard. More experienced coders take part in Mission Space Lab by designing scientific experiments to be run in space. These coders have the chance to investigate life on earth or in space, using their creativity to collect data aboard the ISS and then analysing this data once it is sent back to earth. This year teams wrote code to detect when ISS crew members were working nearby, as well as programming their own experiments.

Thanks to our partners at the European Space Agency and the UK Space Agency who we have worked with to create and deliver this programme.

Find out more at astro-pi.org

See Astro Pi in action at rpf.io/astrovideo



Image courtesy of ESA

■ ESA Astronaut Paolo Nespoli with the Astro Pi computers

Achievements:

- Expanded the programme to all 24 ESA member/associate member countries (15 countries in 2016–2017 cycle)
- Introduced Mission Zero, a non-competitive route for younger coders where all valid submissions are guaranteed to run on board the ISS
- Mission Space Lab received a record number of successful entries
- Young people from all 24 countries participated in the programme
- 41% of participants in Mission Zero and 27% participants in Mission Space Lab were girls

“How tremendously exciting! This challenge encourages children to explore code, space, and their own curiosity”

Miriam Winkels, primary school teacher from Berlin, Germany

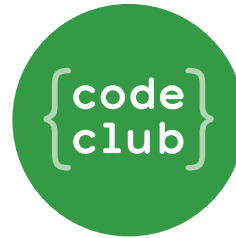
6813 young people took part in Astro Pi in 2017

24 countries were open to join the 2017–2018 Astro Pi programme with astronaut Paolo Nespoli. That's all ESA member and associate member countries!

1402 participants in **329** teams for Mission Space Lab

5411 participants in **2506** teams for Mission Zero

CODE CLUB



Code Club gives 9- to 13-year-olds the programming skills they need to succeed in an increasingly digital world.

Code Clubs are fun, free, after-school clubs run by volunteers in schools, libraries, and museums where young people learn programming by creating projects.

Activities:

At Code Clubs, young people follow our fun guides to create projects using Scratch, HTML/CSS, and Python. We match volunteers who want to help children develop their programming skills with venues where children come to learn, such as schools, libraries, and museums. We also offer hundreds of project guides for the children to work through and program games, quizzes, animations, and even encryption programs for sending secret messages. The club members are encouraged to get creative and make the projects their own, and they learn programming skills while using technology to create things they can share with their friends and family.

Find out more at:

www.codeclubworld.org
and www.codeclub.org.uk





“ I like coding because it’s like a whole other language that you have to learn, and it creates something very interesting in the end ”

Betty, Year 10 student

92 000 young people reached (2.5% of all UK 9- to 13-year-olds) through **6187** active clubs in the UK

59 000 young people reached beyond the UK through **3936** active clubs in **134** countries

8882 people running Code Clubs, including volunteers and teachers in schools

10 organisations in countries across the world coordinating official Code Club communities as National Partners

20.2% of all UK primary and secondary schools and **13.6%** of all UK libraries have registered to run Code Clubs

41% of UK club members and **39%** of international club members are girls



Achievements:

- Grew our network of Code Clubs by 42%, adding 1162 new UK clubs and 1802 new international clubs and thus reaching a total of more than 10 000 active clubs
- Expanded the age range of the programme from 9–11 to 9–13 in the UK and later across the world, and there are now 712 Code Clubs in UK secondary schools
- Launched our first free online training course, Prepare to Run a Code Club, on the FutureLearn platform, and its first run attracted more than 1000 participants
- Held the first-ever Code Club UK competition exclusively open to active clubs, attracting more than 1000 submissions
- Added 151 new project translations, expanding our catalogue to 340 projects in 29 languages, including English

CODERDOJO

CoderDojo gives 7- to 17-year-olds the opportunity to learn how to create and be creative with technology in an informal, social environment.



CoderDojo is a global, community-driven network of free, extracurricular, volunteer-led clubs where young people create with code and collaborate with each other to learn about technology.



“ I was thinking about a way to use my STEM and coding skills, so I created a smart collar for my dog Bailey that helps us find him when he gets lost! Now I share my coding skills with others at my Dojo ”

Selin (aged 11), Ninja from Istanbul

Activities:

The CoderDojo Foundation became part of the Raspberry Pi Foundation in May 2017, when we joined forces to reach even more young people worldwide. We believe that understanding of programming languages is increasingly important in the modern world, that it is both better and easier to learn these skills early, and that nobody should be denied the opportunity to do so. CoderDojo clubs across the world offer young people the chance to learn to code by creating websites, apps, games, robots, devices, and more, and to explore technology in a safe, creative, and social environment. Dojos are run by volunteers, and the global volunteer community is supported

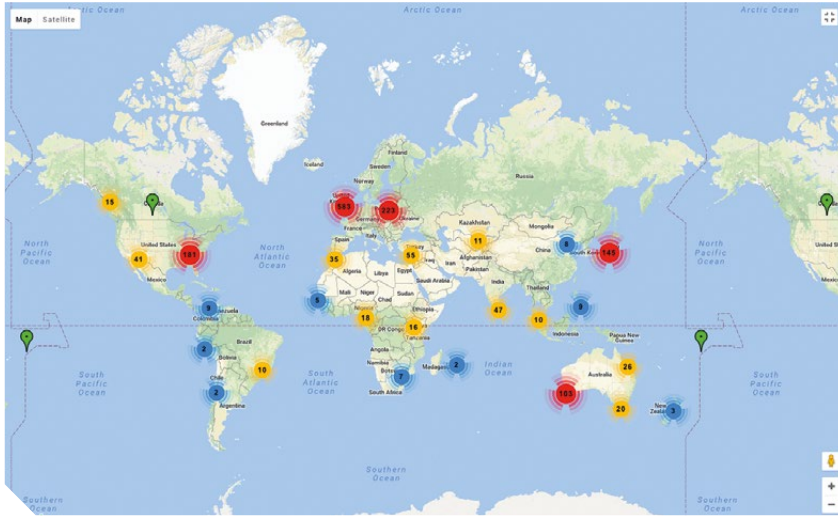
by our team at the CoderDojo Foundation. Ninjas get creative with all sorts of technologies, and they can bring their own ideas to their Dojo, or they can use our educational Sushi Cards to learn. Working together to create something new and to solve challenges is a big part of CoderDojo.

Find out how to start a Dojo at:
rpf.io/startadojo

See the highlights of the Coolest Projects 2017 event at:
rpf.io/coolestprojects2017

Find out more at:
coderdojo.com





40 000 young people reached through **1556** active Dojos

85 countries across the world have Dojos

10 000 people volunteered for CoderDojo in 2017

28% of Dojo participants (Ninjas) are girls

Achievements:

- 456 new Dojos in 2017 — a growth rate of 41%
- More than 750 young people participated in the annual international Coolest Projects event in Dublin, Ireland, showcasing their projects for 11 000 visitors from all over the world
- More than 150 volunteers and supporters of Dojos from across the world attended the annual international DojoCon event in Warrington, UK
- Regional DojoCons bringing together hundreds of local Champions, Mentors, and Ninjas took place in **Osaka, Japan; Perth, Australia;** and **Brussels, Belgium**
- Supported the release of 52 pieces of community-generated learning content
- Created and released twelve sets of educational resources (Sushi Cards) focused on teaching key programming concepts
- Organised two online content hackathons to give community members the opportunity to support us by translating resources from English into other languages
- Created and launched the Empowering the Future guide, giving CoderDojo volunteers a toolkit of well-tested practices they can adopt to help increase the proportion of girls in their clubs



PIONEERS

Pioneers supports young digital makers (aged 11–16) to expand their digital skills by getting creative with technology and showcasing their capabilities.

The programme is a series of competitions that inspire young digital makers to develop new ideas and make them a reality with the help of guidance from a mentor.



Images courtesy of Ana Gordon

“Pioneers opened a new world of possibilities for me to use technology for something fun and creative”

Alana, 13-year-old participant

Activities:

The three Pioneers competitions in 2017 gave young people the opportunity to build their computing and digital making skills by creating a project based on a theme. Young people formed teams and worked with an adult mentor to make their ideas a reality using digital technology. We encouraged creativity and experimentation, and teams submitted a video describing their idea, the process they went through, and what they made. Our judges selected winners based on these videos for a range of categories, including teams who had made a great effort but not necessarily realised their finished idea. Winning projects included a singing potato, an RFID-enabled treasure hunt, and the Computatron, an automated Nerf gun for protection during a zombie apocalypse.

Thanks to our friends at the Shell Centenary Scholarship Fund for making Pioneers possible.

Find out more at:
rpf.io/pioneers

PIONEERS

#MakeYourIdeas



971 young people formed **299** teams and registered to take part

141 teams submitted videos of their project and the process of creating it

3 themed competitions in 2017 — Make us laugh, Make it outdoors, and Only you can save us



WEATHER STATION

The Weather Station programme offers young people the experience of building hardware and programming software to create real-world meteorological experiments.

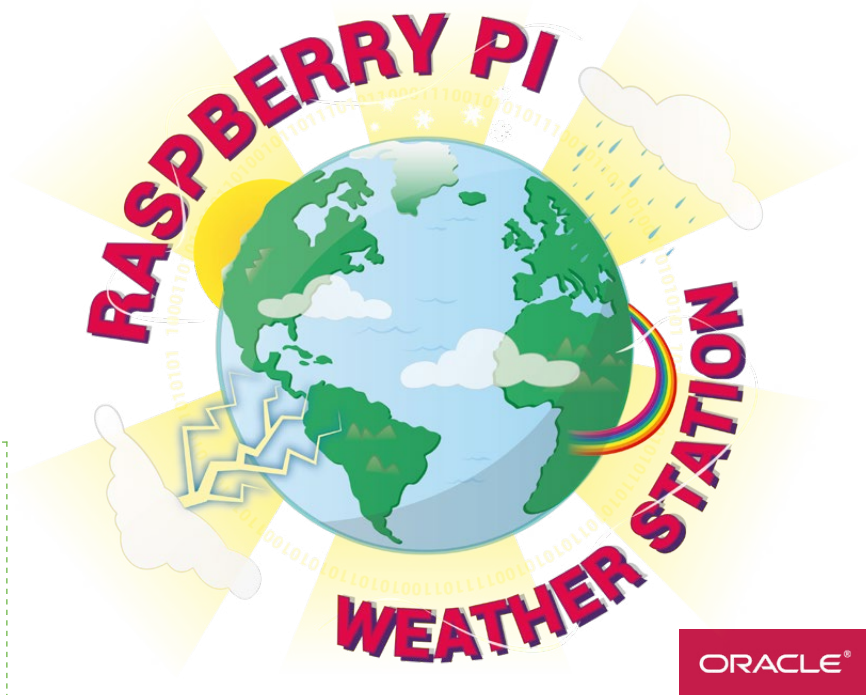
Schools all over the world have assembled Raspberry Pi Oracle Weather Stations using kits we sent them, and students have built and programmed their stations to capture local climate information and share it with our global Weather Station network. By taking part in this programme, students are learning about scientific equipment, data analysis, and data visualisation.

Activities:

The Weather Station programme brings meteorological monitoring resources to students all over the world, helping thousands of young people learn about computing and science. Raspberry Pi Oracle Weather Station kits have been distributed to nearly a thousand schools. Students assemble and mount the station, which includes sensors for wind, temperature, rainfall, and humidity. They develop their computer science skills programming the Raspberry Pi to collect sensor readings and to log them on the Oracle database, and they learn to analyse scientific data by comparing their weather records to records from other locations across the globe.

Many thanks to our partners at Oracle for making the Weather Station programme possible.

Find out more at:
rpf.io/weatherstation



936 schools with Raspberry Pi Oracle Weather Station kits

42 countries with active Weather Stations

360 schools registered on the Oracle database, where they upload and share their weather data

9 online learning resources related to weather, some utilising weather stations and some requiring no special equipment

Achievements:

- 299 000 views of online Weather Station project guides
- Developed new learning resources that do not require the official Weather Station kit, for example a guide to uploading weather data onto Weather Underground to share it with over 250 000 other users, and a guide to visualising weather data on the Initial State dashboard

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COMMUNITY

“ I really enjoy the challenge, I meet great people, and the maker crowd is fantastic and really supportive. I also enjoy networking with people and local companies. It is great for the library, and for my own skills development. ”

Jacqui Thompson, Jam at Gateshead Library

RASPBERRY JAMS

Raspberry Jams connect people in the community, giving them the chance to come together to engage in learning and digital making with Raspberry Pi.



Organised by members of the digital making community, Raspberry Jams are events where people of all ages can participate in creating with Raspberry Pi, and where they can share ideas, work together, support one another, have fun, and learn.

Activities:

Raspberry Jams provide spaces for people of all ages and levels of expertise to meet, create with technology, and support and inspire each other. Some Jams are informal meetings where people share projects they have built or bring prototypes they need help with, whilst other Jams host workshops and inspiring talks. Many Jams run regularly and attract a strong

community of people coming together around a shared interest and to support one another. Young people and adults often work together to realise their projects, with more experienced digital makers expanding their skill sets and, in turn, supporting beginners.

Learn more and find a Jam near you at: rpf.io/jam

374 Raspberry Jam events in **35** countries this year

52 countries in total have been host to Jams

18 700 people attended Jams in 2017, **50** attendees per Jam on average

Raspberry Jam Big Birthday Weekend

To celebrate the sixth birthday of Raspberry Pi in March 2018, we coordinated more than 100 simultaneous Raspberry Jams around the world.

Head to rpf.io/jam for more information.

START YOUR OWN JAM!

See rpf.io/jam for ideas and support.



Achievements:

- 111 new Jams started in 2017
- The Raspberry Jam community welcomed 11 countries where Jams were held for the first time
- Launched the Raspberry Jam Guidebook of practical advice on setting up and running Jams
- Created a new Raspberry Jam branding pack to help organisers spread the word about their events

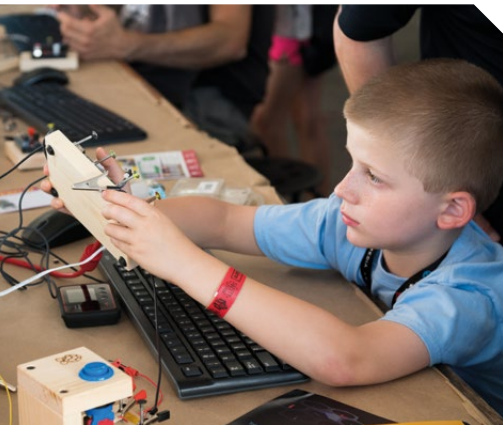
EVENTS

Through our presence at major events around the world, we introduce people to computing and digital making, and we help them discover our fun learning opportunities.

Our events team attends Maker Faires, trade shows, and other large events across the UK and the USA to showcase the power of learning digital making. All of our event stands feature hands-on activities for people to try out, and a wealth of information about how to take what they've learned further with the help of our programmes and resources.



13 600+ people attended our 13 major events in 2017





ONLINE COMMUNITIES

The forums at raspberrypi.org are the go-to place for anyone in the community wishing to find help with their project, to discuss new products and tools, or to get to know other enthusiasts. Community members moderate the forums, working hard to support the positive atmosphere and well-informed

discussions. There are now more than 1.2 million posts and 221 000 active members on the forums.

Many people in our community use social media to share their projects and to help each other make and learn, and we have thriving communities on all major social media platforms.



Instagram Raspberry Pi Foundation:

92 600 followers (more than 100% growth in 2017)



YouTube Raspberry Pi:

27 000 subscribers (93% growth in 2017)



Twitter Raspberry_Pi:

368 000 followers



Facebook Raspberry Pi:

310 000 likes



Google+ Raspberry Pi:

1.05 million followers



Raspberry Pi forums:

221 000 active members

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LEARNING

“ It’s great to see the kids’ passion for creating cool stuff with Pis and code. That lightbulb moment makes all the prep, setup, and pack-up time completely worth it. ”

Andrew Mulholland, Northern Ireland Raspberry Jam

CONTENT & CURRICULUM

Our free online learning content helps people to get started with digital making and to improve their computing skills. Millions of people across the world use our resources to make projects and learn new things.



On our website, we provide clear and easy-to-follow guides and tutorials for making fun, worthwhile projects and acquiring computing and digital making skills along the way. Learning through making is at the heart of all of our projects.

8.5 million unique users learned through our projects in 2017

208 online educational projects, including content for learning Scratch, Python, Raspberry Pi, physical computing, HTML/CSS, JavaScript, and more

70 new projects covering all aspects and levels of our Curriculum published in 2017

Activities:

We develop free and varied project guides and educational resources that cater for a range of interests and levels of expertise. We believe that, in the right context, creating with technology is for everyone, so our online projects cover a whole range of topics from home automation and science experiments to wearables and high-tech pranks. We offer playful projects such as Cat meme generator, practical projects such as Getting started with GUIs, and technically challenging projects such as making a distributed computer system using eight Raspberry Pis.

Our Digital Making Curriculum sets out the skills and understanding needed to become an increasingly more capable digital maker, giving people opportunities to challenge themselves and learn more. Some people use our resources to make

projects at home, and others develop them into workshops for learners at Code Clubs, Dojos, and events such as Raspberry Jams. Educators use them to inspire the young people they work with, both in extracurricular clubs and in computing lessons.

Find a project to make at: rpf.io/learn

Explore our Digital Making Curriculum at: rpf.io/curriculum

“An essential tool in my toolbox of maker-based education”

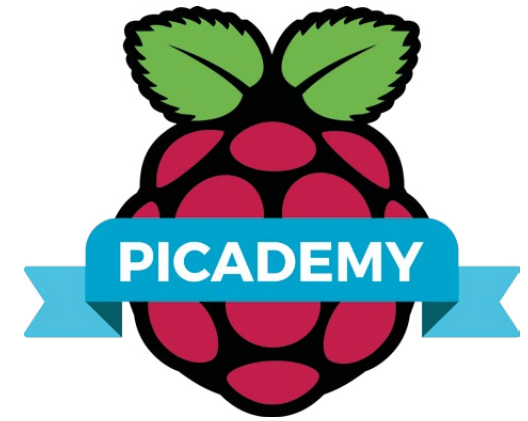
Kristi Taylor,
Code Club volunteer, USA

Achievements:

- Developed our Digital Making Curriculum, which divides digital making into five areas of learning and four levels of challenge
- Launched a new online project platform mapped to the Curriculum in order to guide users' learning
- Updated 70 of our projects, improving approaches to learning, adding optional hints, and guiding users through the projects step by step
- Collaborated with GCHQ on a series of projects on distributed computing, cybersecurity, and cryptography

EDUCATOR SUPPORT

Our educator support programmes develop the skills and confidence of teachers and other educators to create exciting computing and digital making experiences for young people.



We offer free, high-quality training for educators, volunteers, parents, and lifelong learners who want to explore learning through making and to pass on their skills and knowledge. We do so in the form of Picademy, which is our face-to-face training, and in the form of our online courses on the FutureLearn platform.

Activities:

Picademy is a two-day face-to-face training course where educators learn from experts and work on their own creative projects together with other participants. The course is designed to support and challenge both educators new to computing and digital making and those with more experience, including

primary teachers, secondary computing teachers, librarians, museum educators, youth workers, and volunteers. Picademy graduates become Raspberry Pi Certified Educators.

Our online training takes the form of short, structured courses that guide learners through a series of activities designed to



1517 Picademy graduates (Raspberry Pi Certified Educators, or RCEs) in our educator community, who work with an estimated **111 000** children and young people every year

339 educators trained in Picademy UK events in 2017

312 educators trained in Picademy North America events in 2017

10 countries and **32** US states from which Picademy participants came from in 2017

19 758 active participants in our four online training courses



give them a deeper understanding of computing education. They offer simple explanations of complex concepts, video and written content, and practical activities. The courses also provide space for discussions between learners, who support and help one another to break down barriers to entry regarding equipment and

getting started with computing and digital making.

After participating in our training, educators take our approach of learning through making back to the young people they work with. Many of them run extracurricular activities to give their students opportunities to get creative with technology and to learn skills

while making something they care about. The educators also join our wider community, often getting involved with programmes such as Code Club or CoderDojo, or with Raspberry Jams.

Find out more about our educator training at: rpf.io/train



Achievements:

- Developed new initiatives to support the RCE community, such as tools for planning impact
- Picademy North America team developed partnerships with four institutions, and engaged statewide computer science networks such as the Rhode Island Office of Innovation and the Idaho STEM Action Center
- Launched four online training courses in 2017, with two more set to launch in early 2018
 - ◆ Teaching Programming in Primary Schools
 - ◆ Teaching Physical Computing with Raspberry Pi and Python
 - ◆ Object-oriented Programming in Python: Create Your Own Adventure Game
 - ◆ Prepare to Run a Code Club

“ Picademy was life-changing — for me, my students, and those who will learn along with me ”

Robert Lane, Certified Educator, North America

RASPBERRY PI PRESS

Raspberry Pi Press supports and builds the Raspberry Pi community through resources and publications that showcase projects, share ideas, and help people learn from each other.



245 000 people interested in the Raspberry Pi community, projects, news, and reviews read The MagPi each month

15 000 teachers, after-school club volunteers, librarians, and other educators from all over the world subscribe to Hello World

25 000 people read HackSpace magazine each month to learn about hacking and making with all kinds of technologies

Achievements:

- Launched Hello World, the magazine for educators in the field of computing and digital making, in January 2017
- The MagPi magazine sales increased by over 20% in 2017
- Launched HackSpace magazine in November 2017



Raspberry Pi Press produces The MagPi, Hello World, and HackSpace magazines, and a number of books. Our publications are designed to help people to learn more about digital making and to participate in our community. Most of our

Activities:

In 2017 we expanded our publishing efforts with two new magazines: Hello World is our magazine about computing and digital making for educators, where they can share their approaches, experiences, and lesson plans; HackSpace magazine provides people who love to make things with tutorials and inspiration for hacking the world around them. Meanwhile, The MagPi, the official Raspberry Pi magazine, continued to

articles and guides are written by community members and educators themselves. We offer all our publications as free Creative Commons–licensed PDF files from day one, and print and digital editions are available for purchase around the world.

showcase the achievements of the Raspberry Pi community, and we added new titles to our The MagPi Essentials series, which includes guides on a range of topics from learning to code in C to hacking and making with Minecraft. We also published the third volume of The Official Projects Book, a 200–page omnibus of stand-out projects and tutorials from The MagPi, and The Official Beginner’s Book, a 116–page guide designed to help

newcomers find their feet in the world of learning and making with Raspberry Pi.

Many thanks to our partners at Computing At School for working with us to make Hello World possible, and to BT for supporting the provision of free print copies of the magazine to UK educators.

The MagPi
The official
Raspberry Pi magazine:
magpi.cc

Hello World
The computing and digital
making magazine for educators:
helloworld.cc

HackSpace magazine
Technology in your hands:
hsmag.cc

RESEARCH

Our research work helps us to understand how to make the biggest difference we can to people's lives with the support, resources, and activities we offer.

The research team works with others across the Foundation to collect and analyse data about our programmes, to test new approaches, and to learn from the research of others in computing education.

Areas of research:

- What impact are our programmes having on children and young people, and how can we continually improve them?
- What new approaches can we use for teaching computing and digital making?
- What is academic research telling us about computing education, and how can we make practical use of this knowledge?

Activities:

In 2017 we have continued to learn from the success of our programmes and to adapt and update them to help people learn. We have also designed and run trials testing different approaches to learning in Code Clubs and different ways of communicating with people to encourage them to take part in our programmes. There

is a whole community of people researching computing education across the world, and we make sure to keep in touch with them to learn from their research and to share our findings so we can move the field forward together.

Published research is available at: rpf.io/research



Achievements:

- Improved Picademy and shaped online training courses with feedback from our annual survey of Raspberry Pi Certified Educators
- Recruited more new Code Club hosts and volunteers through our collaboration with the Behavioural Insights Team, through which we aim to improve our messaging using behavioural science approaches
- Visited Raspberry Pi Certified Educators and teachers across the UK to explore in depth how they put our training into practice and how they use Raspberry Pi computers and our resources to teach computing
- Trialled a new approach to learning in Code Club using worked examples and collaborative problem-solving, supported by Nesta
- Published an independent evaluation of Code Clubs conducted by the National Foundation for Educational Research and supported by Nesta and the Cabinet Office

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GOVERNANCE & PARTNERSHIPS

“ Supporting our Board of Trustees is a wider group of Members, individuals with significant expertise ”

GOVERNANCE

The Raspberry Pi Foundation is a UK registered charity (1129409), formed as a company limited by guarantee.

The Foundation is governed by a Board of Trustees that is responsible for ensuring we use our resources effectively to reach our charitable goals. Trustees are volunteers who give their time freely to support the work of the Foundation.

Supporting our Board of Trustees is a wider group of Members, who are individuals with significant expertise and knowledge that supports our mission. Membership is a voluntary position. Members contribute to the Foundation's strategic direction, hold the Foundation to account, and advocate for our mission. New Trustees are elected by the Membership.

Jack Lang, one of our Founding Members, stepped down as a Trustee at the Annual General Meeting in November 2017. Jack has been instrumental to the success of Raspberry Pi from the very beginning, and we would like to thank him for his work over many years. Jon Drori was elected to the Board of Trustees at the same meeting.

Patron

His Royal Highness the Duke of York

Trustees

- **Chris Mairs**, Venture Partner, Entrepreneur First
- **David Cleavelly**, Chairman, Raspberry Pi Foundation and co-founder, Cambridge Angels
- **David Braben**, CEO, Frontier Developments
- **Jon Drori**, Chair, Ravensbourne College
- **Louis Glass**, Partner, CMS
- **Pete Lomas**, Director of Engineering, Norcott Technologies
- **Sherry Coutu**, Entrepreneur, Investor, and Advisor to charities and foundations
- **Tilly Blyth**, Head of Collections, Science Museum, London

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- **Jack Lang**, Fellow and Entrepreneur in Residence, Judge Business School (Founding Member)
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- **Limor Fried**, CEO, Adafruit Industries
- **Martha Lane Fox**, CEO, doteveryone and a member of the House of Lords
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- **Richard Sharp**, Chief Technology Officer, Shazam and Director of Studies for Computer Science, Robinson College, Cambridge
- **Rosemary Francis**, Creator and CEO, Ellexus
- **Rosemary Leith**, Founding Director, World Wide Web Foundation
- **Sarah Wood**, Co-founder and CEO, Unruly
- **Scott McGregor**, former President and CEO, Broadcom Corporation and former President, Broadcom Foundation
- **Simon Peyton Jones**, Principal Researcher, Microsoft UK and Chair, Computing At School (CAS)
- **Sway Grantham**, Primary school teacher specialising in Computing
- **Tim Peake**, British astronaut, European Space Agency (ESA)

OUR PARTNERS

The work of the Raspberry Pi Foundation is only possible because we are part of a fantastic and growing community that shares our mission. This community includes a wide range of individuals and organisations who support our work by providing funding, by donating their valuable time and

expertise, by offering discounts, or by lending in-kind support.

Special thanks to the following individuals and organisations that have supported the Raspberry Pi Foundation, including Code Club and the CoderDojo Foundation, in 2016–2017, and that continue to support us in 2018:

£500 000 and above

- Google
- The Shell Centenary Scholarship Fund
- Riot Games

£250 000 - £499 999

- Arm
- The Cabinet Office/Nesta
- Microsoft

£100 000 - £249 999

- European Space Agency
- Oracle
- The O'Sullivan Foundation

£50 000 - £99 999

- BT
- Canary Wharf Ltd
- CMS
- Dogpatch Labs
- Expo 2020 Dubai
- Intel
- Liberty Global
- Mythic Beasts Ltd
- Workday, Inc.

£10 000 - £49 999

- Adobe
- Atlassian Foundation
- A&L Goodbody
- Bloomberg
- Broadcom Foundation
- Deloitte
- The Digital Xtra Fund
- Erasmus+
- Humble Bundle
- LIONS@FRICA
- Lloyds Banking Group
- LogMeIn
- Norcott Technologies
- The Platten Family Fund at the Community Foundation, Tyne & Wear and Northumberland
- Salesforce.org
- Samsung
- Symantec
- UK Space Agency
- The Worshipful Company of Information Technologists
- Zalando Ireland

In-kind/software support

15Five, Amazon Web Services, Appcanary, Bullet, BrowserStack, Bytemark, Bytes, CircleCI, Code Climate, Contentful, DNS Made Easy, dotmailer, edgescan, Geekbot, GitHub, Google, Gravity Forms, Freshdesk, Heroku, Intercom, Laravel Forge, LastPass, LearnUpon, MailChimp, Mailtrap, New Relic, Papertrail, phpList, pi-top, Pivotal, PCA Predict, Proofpoint, ProsperWorks, Segment, Sentry, Slack, Typeform, Typekit, vzaar, WhosOff, Zapier, Zendesk, Zoom

Each year, we also receive hundreds of smaller donations from individuals and organisations. Every donation helps us further our educational mission.

Support our work today

If you or your organisation would like to make a donation towards our work, or discuss the possibility of partnership, email partners@raspberrypi.org for more information.

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raspberrypi.org

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