

Annual Review



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INTRODUCTION

From Foundation Chair John Lazar

Welcome to the 2020 Annual Review for the Raspberry Pi Foundation.

In a year dominated by a global pandemic that has wrought devastating health, economic, and educational impacts across the world, our mission to democratise computing has never been more relevant.

"Our mission to democratise computing has never been more relevant."

Over 1.5 billion young people were unable to access learning through schools or clubs due to the restrictions put in place to limit the spread of Covid-19. While teachers and parents performed heroic feats to support young people to learn at home, the impact on young people's education has been significant and particularly serious for those young people who already experienced educational disadvantage.

At the same time, computers and digital technologies have played a more vital role in our



lives than ever before. The accelerating pace of digital transformation makes it even more important that all young people, whatever their background, have meaningful opportunities to learn how to create with technology and that price isn't a barrier to anyone owning a computer.

Against this backdrop, we helped millions of young people to keep learning and having fun with technology in 2020, including through our free online digital making projects and challenges like Astro Pi. While the majority of Code Clubs and CoderDojos were unable to meet in person due to the pandemic, we saw fantastic examples of innovation as thousands of clubs moved online, enabling young people to keep learning and creating together.

Through our partnership with Oak National Academy, we produced more than 300 video lessons, linked to our comprehensive Teach Computing Curriculum, which have been used by thousands of schools to help their students continue to learn at home. Our Isaac Computer Science online platform saw a huge increase in users, with more than 29,000 students and teachers registered and over 1.2 million questions attempted.

As part of our renewed commitment to diversity and inclusion across everything we do, we redoubled our efforts to support young people who experience educational disadvantage, including through expanding our partnerships with youth and community organisations and our Learn at Home campaign.

Through our research symposium and series of research seminars, we have ensured that our practice is informed by the best research, and we've created a platform and community that is helping to advance the field of computing education more broadly.

It was another record-breaking year for the sale of Raspberry Pi computers, aided by the launch of the Raspberry Pi 4 8GB, the Compute Module 4, and the Raspberry Pi 400. We ended the year with 37.4 million Raspberry Pi computers in the world, being used to transform industry and education in ways we could never have imagined. We have been particularly proud to see Raspberry Pi computers used to develop healthcare innovations that are contributing to the global effort to fight Covid-19.

I joined the Foundation as Chair of the Board of Trustees in October 2020, and it has been a huge pleasure getting to know the team over

these past few months and seeing first-hand their commitment to our mission and expertise.

The Raspberry Pi Foundation and our group companies are supported by an incredible team of Trustees, Members, and independent Directors. This year we welcomed three new Trustees — Amali de Alwis, Charles Leadbeater, and Dan Labbad — each of whom brings significant experience and expertise to the Board. I am deeply grateful to all Trustees for everything they have contributed to our work.

I want to pay a special tribute to David Cleevely, who preceded me as Chair of the Foundation and made a huge contribution over more than six years. David stepped down in October 2020 at the end of his term of office, and I am delighted that he continues to be involved as a founding member of the Raspberry Pi Supporters Club.

Raspberry Pi is a unique institution that is both one of the world's leading technology companies and education non-profits. We are proud to be part of a movement of organisations and individuals that share our mission and help bring it to life through their resources, time, and expertise. Thank you to everyone who has contributed to our impact in 2020. We look forward to achieving even more together in the years ahead.

IMPACT

7775 young people from

39 countries

showcased projects in our Coolest Projects online gallery



from 25 countries took part in our research events

6550

programs written

by young people ran in

space through Astro Pi

49 **MILLION** learners engaged with

70,000

earners engaged with our online projects



26k teachers from 12,000 schools in England supported through the National Centre for Computing Education

220k downloads

of our Teach Computing Curriculum resources for teachers

Questions answered on our Isaac Computer Science

A level platform

36,000 & 10,000

subscribers to Hello World subscribers to our other magazines participants in our online courses in 2020



3220 SCHOOLS

engaged in our research on gender balance in computing

Engaging millions of young people to learn computing and digital making



DIGITAL MAKING PROJECTS

ЧП

Millions of people use our free online resources to learn computing and digital making skills

We've created more than 250 free online projects that people all over the world use to learn about computing and how to make things with digital technologies. The projects cater for everyone from beginners to more experienced learners, offer learning with a wide variety of hardware and software, and are used in schools, in clubs, and at home. They are written by expert educators, and reflect the best evidence about how people learn. We structure our projects into pathways that support progression and offer real-world contexts to make learning more engaging and accessible. In 2020, we added 17 projects in new pathways focused on well-being, the environment, and machine learning with Python. In these new pathways, learners engaged in more than 100,000 learning experiences in 2020.





Digital Making at Home

We launched a new video series this year to complement our online learning resources and to inspire and engage young people. Each week, Digital Making at Home takes young people through fun, creative projects and introduces them to real-life role models on a live stream, which is also published on YouTube. In 2020, 53,000 viewers tuned into the weekly videos, and total Facebook impressions for Digital Making at Home reached 960,000 by the end of the year.



Translations

We know that making our learning resources available in local languages increases accessibility, particularly for young people who are socio-economically disadvantaged. We write our projects in English and work with a community of more than 2000 volunteers to translate them into up to 32 different languages. This year, we ran our first translation hackathon supported by Atlassian, in which 150 volunteers created 180 project translations. Learners engaged in 375,000 learning experiences in languages other than English in 2020.

CLUBS



A global network of computing clubs that help young people learn how to create with technology

codel

club

CoderDojo

Code Club

Code Club is a global network of free computing clubs for 9- to 13-year-olds run by volunteers

and educators. Code Clubs typically take place in schools and offer a fun, informal space for young people to learn computing skills and get creative with technology, making everything from animations and websites to games and digital art.

CoderDojo

CoderDojo is a global

community of free, communitybased programming clubs for

young people aged 7 to 17. CoderDojos are run by volunteers in informal, social environments and offer young people opportunities to create with code, learn new skills, and collaboratively create solutions to problems that they care about.

At the start of 2020, there were more than 10,000 Code Clubs and CoderDojos, attended by more than 150,000 young people each week. Clubs were significantly impacted by the social distancing restrictions that were put in place all over the world to prevent the spread of the coronavirus.

From April 2020, we supported more than 1000 Code Clubs and CoderDojos to deliver online activities to their learners. We produced new guides for volunteers and educators, updated our safeguarding guidelines, and held community calls and training webinars to share best practices for running online sessions and remote activities for clubs.

In countries where social distancing restrictions have been relaxed, we have seen a rapid return to Code Clubs and CoderDojos meeting in person, including in Japan, Australia, and New Zealand. We continue to work closely with the network of 52 Code Club and CoderDojo partner organisations to support the safe return of in-person club sessions as social distancing restrictions are relaxed around the world.

Despite the challenges, in 2020 more than 2100 individuals participated in our online training courses for setting up a Code Club or CoderDojo, and 1500 volunteers and educators accessed our training webinars.



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CLUBS







Code Club leader Ana

When West Norwood Library in London, UK had to shut in March 2020.



Abby and Viktor decided to continue their popular Code Club sessions online. They ran two sessions every week, split into activities for beginners and more experienced members. More than 20 young people regularly attended the club sessions and continued to develop their programming skills.

"It has really been fantastic for us to be able to offer the children the opportunity to develop their skills and creativity, which is not only great fun but also a way of opening their minds to a future career in programming."

– Ana

CoderDojo leader Mark

As well as working full-time and supporting home learning for his own children, Mark took his CoderDojo in Banbridge, UK online during the pandemic. Event frequency stepped up from twice a month to weekly, and the sessions alternated between being led by an adult one week and being led by a young person the next.

Despite the challenges, in 2020 more than over 2100 individuals participated in our online training courses for setting up a Code Club or CoderDojo. 🖊

Mark and his fellow volunteers led young people through projects in real time, as well as regularly emailing them ideas from our Digital Making at Home activities. They worked hard to keep their club members engaged and interested while at home during the lockdown.

CoderDojos in the Netherlands

The Dutch CoderDojo community came together during the pandemic to support events to continue online. They used videoconferencing to run large events, with breakout rooms so that they could give more tailored support to young people in smaller groups.

As a community, they sent out emails to CoderDojo participants across the country to keep them informed about online events. and recorded video tutorials for them to work through at their own pace. Some events focused on taking all young people through a single project, while other events were more open-ended.

COOLEST PROJECTS

A global showcase of creative projects made by young people



Coolest Projects is the world's leading technology fair for young people. It brings young people together to showcase the amazing projects that they have created with digital technologies. Sharing and learning from each other is at the heart of Coolest Projects, with young people exhibiting year on year, creating increasingly advanced projects each time as they learn and develop their skills.

In March 2020, we held Coolest Projects USA at Discovery Cube Orange County in Southern California, with 149 young people taking part, which was an increase of 22% from 2019.

When it became clear that we wouldn't be able to host the in-person Coolest Projects events that were planned for other countries, we pivoted the model and launched Coolest Projects online, open for young people anywhere in the world to share their creations through a digital showcasing platform.

We were delighted to see 775 young people from 39 countries take part, entering a total of 560 projects, including websites, games and animations in Scratch, mobile apps, and hardware builds. A significant proportion of the projects were focused on social change and solving real-world problems, addressing topics such as the environment, healthcare, and social justice.

The panel of special judges included Limor Fried, Tim Peake, Mitchel Resnick, Dr Hayaatun Sillem, and Eben Upton, who each picked their favourite projects.

Coolest Projects 2020 was supported by generous sponsors including BNY Mellon; Blizzard Entertainment; Broadcom Foundation; CanaKit; EPAM Systems, Inc.; Facebook; Liberty Global; MathWorks; PayPal; and Twitter.







775 young people

of online showcase participants were girls from 39 countries shared projects in the online showcase







COOLEST PROJECTS







Coolest Projects online entries per country

THE EUROPEAN ASTRO PI CHALLENGE

Giving young people the opportunity to write computer programs that run in space

Astro Pi gives young people the opportunity to write programs that are run on Raspberry Pi computers onboard the International Space Station (ISS).

Mission Zero is open to young people up to the age of 14 who write a simple Python program that measures the temperature on the ISS and displays a message on the Astro Pi computers. All eligible entries are run aboard the ISS.

Mission Space Lab is a scientific mission for young people up to the age of 19. Entrants design and program an experiment that can ASTRO PI

be run on the Astro Pi computers, making use of their sensors or camera. The most accomplished projects are run on the ISS, and the data is returned to Earth, where teams analyse it and produce scientific reports of their findings. The ten teams that write the best reports are selected as the Astro Pi Mission Space Lab winners.

The European Astro Pi Challenge is an ESA Education project run in collaboration with the Raspberry Pi Foundation. SCOUTS

Developing computing and digital making skills through a Staged Activity Badge

We work with the Scout Association in the UK to support their Digital Maker Staged Activity Badge. The badge introduces digital making to young people and adult volunteers. The first stages of the badge involve engaging with uses of digital technology in everyday life, giving instructions to computers, and creating simple programs. Later stages involve using programming and electronic components to create something that could be used in a Scouting activity, and to help others to solve real-life local or global problems. We provide fun learning resources and projects to support

over **40%**

of participants were girls

young people from 25 countries took part

6559

programs written by young people were run on the International Space Station

Italian ESA astronaut

Parmitano supported our missions from the International Space Station

OVER 28,000

Digital Maker Staged Activity Badges awarded in 2020 **43,800** views and downloads of our Digital Maker Staged Activity Badge learning resources

OVER

young people and Scout leaders to work through the stages and meet the requirements to earn the badge.

In 2020, we supported two large online Scout events, The Great Indoors Weekender and Gilwell Reunion 2020.

Learn at Home campaign

LEARN AT HOME CAMPAIGN

Providing computers for disadvantaged young people to learn at home

UK YOUTH

As part of our response to the pandemic, the Raspberry Pi Foundation partnered with UK Youth and a network of grassroots youth and community organisations to put Raspberry Pi desktop kits (with monitors, webcams, and headphones) into the hands of disadvantaged young people in England and Scotland who didn't have a computer to learn at home.

The impact was immediate: young people engaged with learning; parents reported positive changes in their children's attitude and behaviour...

This wasn't just about shipping hardware, we also trained youth workers and teachers, and we worked closely with families to make sure that they could set up and use the computers. We did a lot of work to make sure that the educational platforms and apps that they

needed worked out of the box, and we provided a customised operating system image with free educational resources and enhanced parental controls.

The impact was immediate: young people engaged with learning; parents reported positive changes in their children's attitude and behaviour; and youth and social workers deepened their relationship with families, enabling them to provide better support.

This programme was supported by generous donations from more than 70 organisations and individuals, including top-tier donors the Bloomfield Trust, the S&P Global Foundation. Checkout.com, Tim and Jax Parsonson, and Applevard Lees. We have so far raised more than £900,000 in donations, which will enable us to distribute 5000 computers to young people who don't have a computer to learn at home.

"The pandemic has highlighted the issue of the digital divide, but it has always been there. The Foundation's ability to provide help and support, and their commitment to playing their part in addressing this long-term problem, made backing them for this project a no-brainer."

- Martin Hellawell, Bloomfield Trust

"Going into Year 11, it is a really important time at school. Due to coronavirus, my whole year has been sent home and given online lessons, which I can now do."

"It makes it so much easier to get my work done, I don't have to stay behind at school. I can come home and do it."

"I feel so positive, like I can spend quality time and not get rushed to do my work, as I used to do it on my mum's phone, and then she needed it too."

1700

Raspberry Pi kits distributed to young people in 2020

of young people reported spending more time on their schoolwork since receiving a computer

said that having access to the computer changed how they felt about doing schoolwork

Young people reported using the computers for videoconferencing for school lessons, accessing online learning resources, and learning computing skills such as programming

"Now I get to research and get the correct answer, where before I used to guess more answers. I feel like I've improved and I'm understanding more."

Supporting schools to implement computing

NATIONAL CENTRE FOR COMPUTING EDUCATION

Supporting computing teachers and students in England

The Raspberry Pi Foundation is part of a consortium — together with STEM Learning and BCS, The Chartered Institute for IT — that is running the National Centre for Computing Education in England. This is a government-funded initiative providing comprehensive support for schools and colleges in England to offer a world-leading computing education, from Key Stage 1 through to A level.

Through the National Centre for Computing Education, we are supporting teachers by providing an extensive range of professional development and certification, bursaries for training, curriculum and teaching resources, community support, and more. National Centre for Computing Education

26,000

teachers supported from over 12,000 primary and secondary schools in England

OVER 11,000 teachers in England

taking part in online professional development

3 MILLION

visits to the teachcomputing.org website **2** MILLION

students in England reached

TEACH COMPUTING CURRICULUM

Comprehensive classroom resources for the entire computing curriculum

In 2020, we launched the Teach Computing Curriculum, which includes almost 500 hours of free classroom resources to support teachers with the delivery of the entire English computing curriculum from Key Stages 1 to 4 (ages 5 to 16). The resources include lesson plans, slides, worksheets, homework, and assessment materials, and are designed to reduce teachers' workload, whilst also supporting them to improve their subject knowledge and understanding of effective teaching approaches. It's all free, open, and editable (under an Open Government Licence) so that teachers can tailor it to their students and school setting.

We built the Teach Computing Curriculum on an innovative progression framework where computing content (concepts, knowledge, skills, and objectives) is organised into interconnected networks that we call learning graphs; all the content is mapped to exam board standards.

We also made sure that the content is suitable for all students irrespective of their academic performance, background, and additional needs.

The Teach Computing Curriculum is part of the National Centre for Computing Education, which is funded by the Department for Education in England. The resources are completely free for any students and teachers anywhere in the world.

"I would like to start by saying your resources for the secondary department have been excellent and a great help for my students and I. They have made planning so much easier as a nonspecialist computing teacher, so thank you!"

- Computing Head of Department, Secondary

OVER 220.0 00 downloads since the launch

492 hours of resources in the **Teach** Computing

Curriculum

"It's great that there are resources available that have everything we need. It gives a good foundation that, as we gain more confidence, we can build on it."

- Primary Teacher

Teach Computing Curriculum page views by Key Stage

100%

of the English national curriculum for computing covered

page views across the Teach Computing Curriculum resources

satisfaction that the content is useful and of high quality

ONLINE TRAINING FOR EDUCATORS

Courses to develop computing subject knowledge and skills

Through our free online training courses, the Raspberry Pi Foundation is supporting educators to develop the subject knowledge and pedagogy to support young people learning computing, computer science, and digital making. The courses are free for anyone to access and are hosted on the FutureLearn platform.

In 2020, we ran 33 individual courses, with a total of 103 course runs, serving a total of over 70,000 learners worldwide, which is more than double the number of learners in 2019. Since we launched the first course in 2016, we have served more than 160,000 learners through our online courses.

Teachers in England can use our courses to work towards professional certificates as part of the National Centre for Computing Education. We are grateful to the Department for Education, Google, and Micron Technology for their financial support, which makes our online training for educators possible.

"The course just demystified maths and logic. The teaching ideas and provided resources for offline and online learning were helpful for me, and something I will use in teaching."

"I have definitely learnt many different uses of Scratch, which would be interesting to use in school and also different ways of achieving an end result."

"I think the course has been very clear and well structured, providing both key knowledge but then also requiring further research through the questions that have been posed. I'd say the course has given me a broader understanding."

of learners said they

were more confident

in their computer

skills after having

taken part

over 70,000

learners participated in our online courses in 2020, and over 160,000 since 2016

over 11,000

teachers in England took courses as part of their certification

ran for the first time in 2020

ISAAC COMPUTER SCIENCE

Supporting students and teachers of advanced computer science qualifications

Isaac Computer Science is our online platform for students and teachers of advanced computer science, developed in collaboration with University of Cambridge researchers in online learning and designed for use in the classroom, at home, and for revision. Students work through a range of questions at their own pace, tracking their progress and working towards better exam results. Teachers save time on marking and identify areas for further support by following their students' progress.

We launched the platform in September 2019 and completed 100% coverage of the AQA and OCR A level computer science specifications in March 2020. It's been a remarkable first full

"Particularly in this challenging time, Isaac Computer Science has helped me progress despite not being in school. The quality of the website and the content is by far the best online."

year, with 27,000 registered students and 2200 registered teachers on the platform, and over 1.2 million questions answered.

Alongside the platform, we offer events to support teachers and students to explore A level computer science. Our Teacher CPD events typically take place in partner universities and provide teachers with focused demonstrations on a particular topic. Student Booster sessions offer targeted activities related to particular aspects of the A level syllabus, and Student Masterclasses give students an insight into the applications of computer science in an engaging context, such as developing a heartbeat sensor. In 2020, we hosted 90 events, both online and face to face, with participation from 508 students and 510 teachers.

Isaac Computer Science is part of the National Centre for Computing Education, which is funded by the Department for Education in England.

"I love it. It makes me feel more confident that I understand everything for my exam. I really love the fact that the spec has been broken down so I really know what I should learn for my exams." "For the majority, this has been a godsend in this pandemic situation to facilitate distance learning." "Very useful, resources like this are difficult to find so this website is an important learning resource!"

coverage of the AQA and OCR specifications for A level computer science

questions answered on the platform

of students reported that they would recommend the platform to their peers 27,000

registered students and 2200 registered teachers

OAK NATIONAL ACADEMY

Online computing lessons to help students learning at home

In the summer of 2020, we filmed 313 computing video lessons for students, which were published as part of Oak National Academy, a project to provide high-quality video lessons for children in England not able to attend school due to the pandemic.

The lessons are presented by experienced computing teachers, including many who work here at the Raspberry Pi Foundation. They are based on the Teach Computing Curriculum and include guizzes, worksheets, and creative activities.

All of the video lessons and materials are available for free for students and teachers on the Oak National Academy website.

A digital system

inputs.

313 video lessons

on the Oak National Academy platform based on the **Teach Computing** Curriculum

146,000 lessons started, averaging 145 users per lesson

instructions, expressed in some sort of language (e.g. textual, visual).

instructions.

HELLO WORLD

The magazine for computing and digital making educators

Hello World is a free magazine for educators all about computing and digital making inside and outside the classroom. It includes inspirational projects, news, lesson plans, and opinion pieces. Hello World is a community magazine, and every issue has contributions from educators and researchers, including practising teachers. The magazine is available for free online for everyone, and UK-based educators can receive a printed copy to their home address free of charge.

We published three editions of Hello World in 2020, including a special edition in June focused on providing support and guidance to educators teaching remotely. Subscriptions grew by almost 7% in 2020 to just over 36,000.

Hello World is produced by the Raspberry Pi Foundation and generously supported by Oracle.

of subscribers reported using content from the magazine in their teaching

PEDAGOGY QUICK READS & THE TEACH COMPUTING PODCAST

Resources to support teachers' professional development

In 2020, we launched Pedagogy Quick Reads and the Teach Computing podcast to support computing teachers with practical and digestible advice on research-informed pedagogy. Pedagogy Quick Reads are two-page summaries of a pedagogy topic, with links to original sources. The Teach Computing podcast examines different questions, challenges, or practices relating to computing education; through conversations with classroom teachers and other experts, we highlight new ideas, examples of effective practice, and how both can be adopted.

8 Pedagogy Quick Reads were downloaded **3800** times

5800 listeners engaged with the Teach Computing podcast

Pedagogy Quick Reads and the Teach Computing podcast are available for free and produced as part of the National Centre for Computing Education, which is funded by the Department for Education in England.

observation schedules, in which you code behaviour effects at happens in a live setting, or from recordings made during lesses in a live setting, or from recordings made during lesses when learners as to help, or thy confign the different lesses behaviour that are exhibited in a particular time interval, such as behaviour that are exhibited in a particular time interval, such as set up an observation schedule for event or interval coding are presented in the future.

Group	Ask teacher	Refer back to board	Explain concept to each other
1		1	П
2	н		
3	ш	н	

(top) and intervals (bottom). For event coding, you may keep a tally of each time a particular behaviour is seen. For interval coding, you may record whether a particular behaviour occurs at different times in the lesson.

Research

RESEARCH EVENTS

Engaging with the computing education research community

Cambridge Computing Education Research Symposium

In 2020, we hosted our first online research symposium in partnership with the University of Cambridge Department of Computer Science and Technology. Researchers shared nine presentations and eleven posters describing computing education research projects, and 125 people from 20 countries attended. Dr Natalie Rusk from the MIT Media Lab presented an inspiring keynote on stories of learning from the Scratch community.

The all-day event covered research on:

- Teacher engagement in computing education research
- Assessment tools
- Application of theoretical frameworks
- Perceptions and attitudes towards computing

Research seminars

We hosted eleven seminars for researchers, academics, and teachers throughout 2020, building on the momentum and success of the symposium. The seminars featured talks from academics from around the world covering topics like formative assessment, semantic waves, and the links between computing and mathematics education. A total of 229 unique attendees from 31 countries attended at least one of the seminars. After each seminar, we shared the content in the form of a video recording and a summary blog post.

GENDER BALANCE IN COMPUTING

Trialling new ways to encourage more girls to study computing

The Raspberry Pi Foundation is leading the £2.4m Gender Balance in Computing research project to trial five new initiatives aimed at increasing girls' participation in computing. Areas explored by the research include: Nonformal Learning, Teaching Approach, Subject Choice, Belonging, and Relevance. Fieldwork was paused for much of 2020 due to the disruption to schools as a result of the pandemic.

This research is funded by the Department for Education in England and is a programme of the National Centre for Computing Education. We are partnering with the Behavioural Insights Team, Apps for Good, and WISE on the trial interventions.

"Being able to work with an outside organisation and to develop your own practice for the benefit of your students is such a wonderful thing. Being a teacher can be quite insular, so getting the opportunity to work with the GBIC team was wonderful and I really enjoyed it."

42

"We have started with the project and students are enjoying it. The selection of girls especially are stepping up!"

 Secondary teacher running the Apps for Good section of the Non-formal Learning intervention

"You learn so much and have lots of fun. We have learned a lot including debugging and programming and we sent a message to the International Space Station."

- Primary pupil
- 5 different research interventions
- Run across 4 years
- In over 1000 state schools in England
- 220 schools took part in 2020

Computers

Low-cost, high-performance computers, accessories, and publications to learn from

RASPBERRY PI PRODUCTS

Raspberry Pi is a tiny, powerful computer that millions of people use in industry, to learn, and to make things that matter to them

Raspberry Pi 4 brought desktop performance to Raspberry Pi, and during the pandemic we have seen a huge increase in people using our computers for home working and learning.

People all over the world use Raspberry Pi computers to learn about computing and technology. Our free operating system, Raspberry Pi OS, comes complete with a wide range of educational software for learning programming and computing, and connectivity such as the GPIO and camera connections allows people to make physical projects such as robots, security systems, and physical interfaces.

Raspberry Pi 400 is a complete personal computer built into a compact keyboard. Launched in November 2020, it is an affordable, high-performance computer that's inspired by the classic home PCs of the 1980s. It's a faster, cooler-running Raspberry Pi 4 integrated into a neat and portable keyboard, and offering the same GPIO connectivity for physical projects. Our new High Quality Camera launched in April, bringing 12.3 megapixel quality and interchangeable lenses to Raspberry Pi photography projects.

In May we launched an 8GB variant of Raspberry Pi 4, with twice the RAM previously available, for more demanding applications.

Raspberry Pi Compute Module 4 launched in October 2020, providing the power of Raspberry Pi 4 in a system-on-module variant for deeply embedded and industrial applications, and introducing a new, more compact form factor to our Compute Module line.

37.4 MILLION

Raspberry Pi computers sold to date

650k

sales of products launched in 2020 (Raspberry Pi 4 8GB, Compute Module 4, and Raspberry Pi 400)

High Quality Camera

Raspberry Pi 4 8GB

Raspberry Pi Compute Module 4

Raspberry Pi 400

RASPBERRY PI-POWERED PROJECTS

Supporting public health

FluSense was created by researchers at the University of Massachusetts Amherst to monitor the prevalence of flu-like symptoms in crowds. A Raspberry Pi is joined by a cheap microphone, a thermal sensor, and a neural computing engine to analyse audio from crowds and detect coughing. This is just one of the projects that have been developed to help with the COVID-19 pandemic using Raspberry Pi hardware.

Find out more

Lab automation for microbiology

A flexible, low-cost robot for a microbiology lab was created by the Edwards Lab at the University of Reading. The Raspberry Pi camera Open-source Laboratory Imaging Robot (POLIR) uses a Raspberry Pi with a Raspberry Pi Camera Module built into a 3D printer frame for imaging. It is used to automate the collection of images of samples in the lab, and was originally used in experiments on antibiotic resistance.

Find out more

Classify your rubbish

Jen Fox created a machine learning project that can identify whether rubbish is compostable, recyclable, or waste. A Raspberry Pi with a Raspberry Pi Camera Module supplies images to Lobe, a desktop machine learning application. Makers can create their own and train the model using items from their home, giving them an opportunity both to learn about machine learning and to create a useful gadget.

Find out more

Stretch a movie for months

Tom Whitwell was inspired by Bryan Boyer's slow movie player project to create a digital photo frame that stretches out his favourite films. The e-paper display plays a film frame by frame to unearth all the visual delights. A Raspberry Pi mounted behind the display and photo frame takes individual frames from the film, dithers them to monochrome, and then displays them on eye-friendly e-paper. For those films you want to last (almost) forever.

Find out more

RASPBERRY PI PRESS

Raspberry Pi Press produces magazines that help people create with technology

Our publications and books showcase projects, share ideas, and help people learn from each other.

To make them accessible to as many people as possible, most of our publications are available in print and as free, Creative Commons–licensed PDFs on the day of publication. To help protect the environment, our publications are printed on paper sourced from sustainable forests.

Magazines:

- The MagPi
- HackSpace
- Wireframe
- Custom PC

320,000

downloads of Raspberry Pi Press magazines per month in 2020

100,000

10,000

subscribers to Raspberry Pi Press magazines at the end of 2020 print copies of The Official Raspberry Pi Beginner's Guide sold

GOVERNANCE

The Raspberry Pi Foundation is governed by a Board of Trustees, who are responsible for ensuring that we use our resources effectively to achieve our charitable goals. Trustees of the Foundation are elected by the Membership. Members play an important role in supporting the Board of Trustees, contributing to the Foundation's strategic direction, holding the Foundation to account, and advocating for our mission. Trustees and Members are volunteers. In October 2020, David Cleevely stepped down as the Chair of the Board of Trustees when his six-year term of office came to an end. Caroline Brown also stepped down as a Trustee.

John Lazar was appointed as the new Chair at the Annual General Meeting in October 2020, when we also welcomed Amali de Alwis, Charles Leadbeater, and Dan Labbad to the Board of Trustees.

Trustees

Amali de Alwis

Charles Leadbeater

Jonathan Drori

John Lazar (Chair)

Tilly Blyth

Chris Mairs

Dan Labbad

Kim Shillinglaw

Richard Clegg

Partnerships

55

PARTNERSHIP WITH ATLASSIAN FOUNDATION INTERNATIONAL

A ATLASSIAN

Funding period: 2017 – present

Total funding: Over \$1 million

Making computing education accessible to all young people

The Atlassian Foundation International shares our vision of equipping young people across the world — especially those from disadvantaged backgrounds — with the skills they need to succeed in a world increasingly shaped by digital technologies.

In 2017, our partnership started with an innovative project to combine machine learning technology with the work of volunteers to accelerate the process of translating educational resources, enabling more young people to get involved with Code Club. Our partnership has since grown to include the development of a global network of organisations supporting computing education. Together, we have recruited more than 2000 translation volunteers, who have translated 1456 online projects into more than 30 languages. To date, this has enabled more than 1.6 million learners globally to access computing education through our online projects in languages other than English. Atlassian's global offices have supported us through their network of passionate translation volunteers.

We are delighted to be continuing this partnership over the next three years to bring computing education to more disadvantaged young people, with a particular focus on India and on investing in research into what works in computing education. <image>

1.6 MILLION

learners accessed our online projects in languages other than English

⁴⁴ There are numerous bright young minds out there whose primary language isn't English. I love that we're able to provide the Raspberry Pi curriculum in their languages.

– Alex, Atlassian volunteer

↑ 2070
translation volunteer

translation volunteers recruited and translating resources

Our partnership with the Raspberry Pi Foundation is a great way for us to help people of all ages harness the power of computing. Working with global volunteers to translate Raspberry Pi resources into various languages means that more people, particularly young people from lowincome countries, can continuously shape our digital world. JJ

> – Atlassian Foundation International

PARTNERS

Our work is made possible by generous financial and in-kind support from many organisations and individuals. We would like to thank the following organisations for their support:

£1 million and above

Google

$\pm 500,000 - \pm 999,999$

Microsoft Atlassian Foundation International

£250,000 - £499,999

BNY Mellon

£100,000 - £249,999

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Our work is also supported by a network of individuals that believe in our mission and generously donate in support of our work: Christer Holloman David Thomas DigiTech Search Eben Upton Jonathan Drori (Trustee of the Raspberry Pi Foundation) Jeremy Gumbley The Cleevely Family Charitable Trust The Evolution Education Trust Robert Sansom Stephen Dietz Simon Peyton Jones

Support our work today

If you or your organisation would like to make a donation towards our work, you can do so at raspberrypi.org/donate. If you would like to discuss how you can become a partner and support our work, please email partners@raspberrypi.org for more information.

www.raspberrypi.org

Raspberry Pi Foundation UK registered charity 1129409