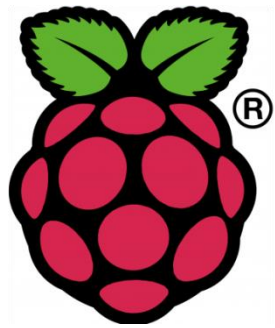
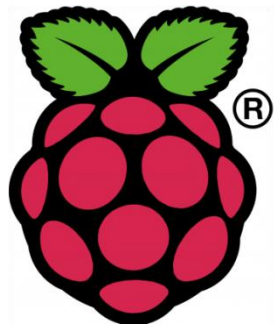


# Introduction



It's fantastic to be here in Japan for this series of Raspberry Pi events, together with our distribution partner RS Components. In the fourteen months since we launched the first Raspberry Pi board, we have seen enormous interest all around the world, and Japan has been one of our strongest markets outside Europe. I am excited to see what applications people in Japan have found for the Raspberry Pi.

# Summary



Today, I will give a brief history of Raspberry Pi, and share with you a few of my favourite examples of projects that people have accomplished using the Raspberry Pi. I would also like to show you two new things: the \$25 5-megapixel camera board which we launched two weeks ago, and the New Out-of-Box Software, which simplifies getting started with Raspberry Pi for new users.

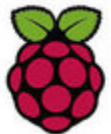
# Beginnings



For me, Raspberry Pi has been a seven-year journey, starting with my time teaching at the University of Cambridge in 2006. We discovered that every year, fewer high-school students applied to study Computer Science. Also, the students had become less skilled: in 1995 most students could program when they arrived, but ten years later many had only designed simple HTML web pages.

# Our theory

We still do not know why this decline happened, but our theory was that as 8- and 16-bit microcomputers like the Commodore 64, MSX, PC68000 and BBC Micro were replaced by games consoles and PCs, children no longer had programmable computers in their bedrooms, and so had no route into programming. In 2007, we set out to develop a machine to fill this gap.



Raspberry Pi

# Goal



Our machine would have to fulfil four criteria:

- Obviously, it would have to be programmable, in as many languages as possible.
- It would have to be interesting to children, which for us meant playing games and videos.
- It would have to be small and robust, so that children could carry it to school.
- And it would have to be cheap – we chose \$25, which we thought was the price of a textbook.

# The Foundation



By 2008, I had left Cambridge, and was working for Broadcom, one of the world's largest chip companies. Broadcom develops mobile phone graphics chips, which are ideal for building the sort of device we wanted. A group of six of us founded the Raspberry Pi Foundation (a UK charity) that year. We chose Raspberry in honour of other fruit-named companies (Apple, Acorn), and Pi for the programming language Python.



# Accidental announcement

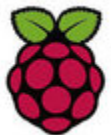


By May 2011, we had a working prototype. We wanted to put the BBC (British Broadcasting Corporation) brand on the device, but we could not for legal reasons. However, a BBC journalist, Rory Cellan-Jones, put a video of the Raspberry Pi on his very popular blog, and we got 600,000 page views in two days. We had accidentally promised 600,000 people we would make them a \$25 computer!

# Launch



We spent the rest of 2011 working out how to build Raspberry Pi for \$25, originally in China. All six of us contributed money (\$250,000 in total) to build the first 10,000 units. We thought we would sell these in a few months. However, before we launched at the start of 2012, RS Components agreed to build Raspberry Pis under license: this was lucky, because we sold 100,000 in the first day!



Raspberry Pi

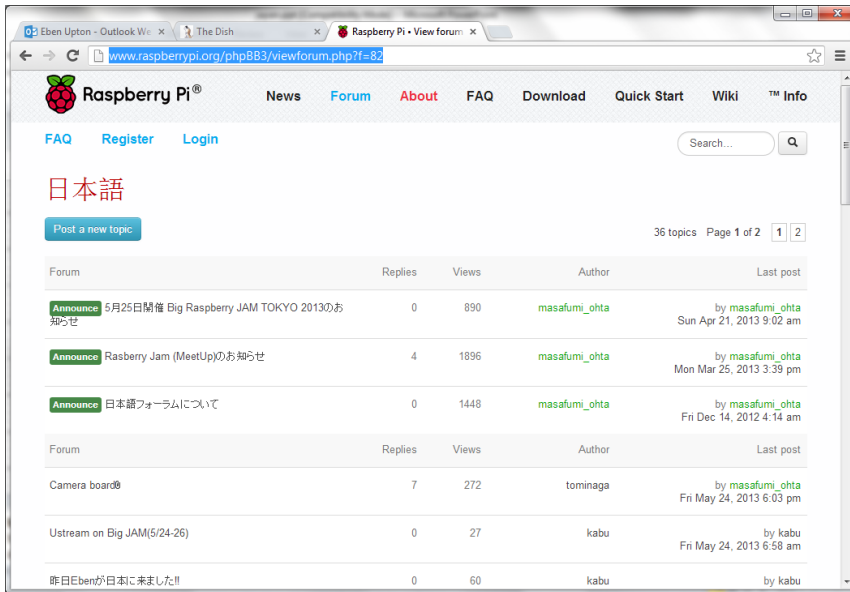
# First Year



Throughout 2012, we and our partners worked very hard to keep up with demand. For the first few months, there were shortages, and we rationed people to one unit each, but by the end of the year they were in good supply. In August we started building units at the Sony UK Technology Centre in Wales, UK at the same cost as in China. By August 2013 there will be almost no units being produced in China.

# Website

We run a website at [www.raspberrypi.org](http://www.raspberrypi.org). For the first year of our project we only wrote about our own work. For the next six months we mostly wrote about what adults, like you in this room, were doing. More recently we have been able to write about what children have been doing: these stories keep our morale high when we have tough days. I will share a few highlights with you in a moment



# Second year



Our plan for the rest of 2013 is as follows:

- Improve the Linux software on the Raspberry Pi to give a better user experience.
- Produce high-quality educational material for use with the Raspberry Pi.
- Educate the UK government that teaching Computer Science in schools is a high priority.
- Promote the Raspberry Pi overseas, particularly in the US, Canada and Japan.

# Camera

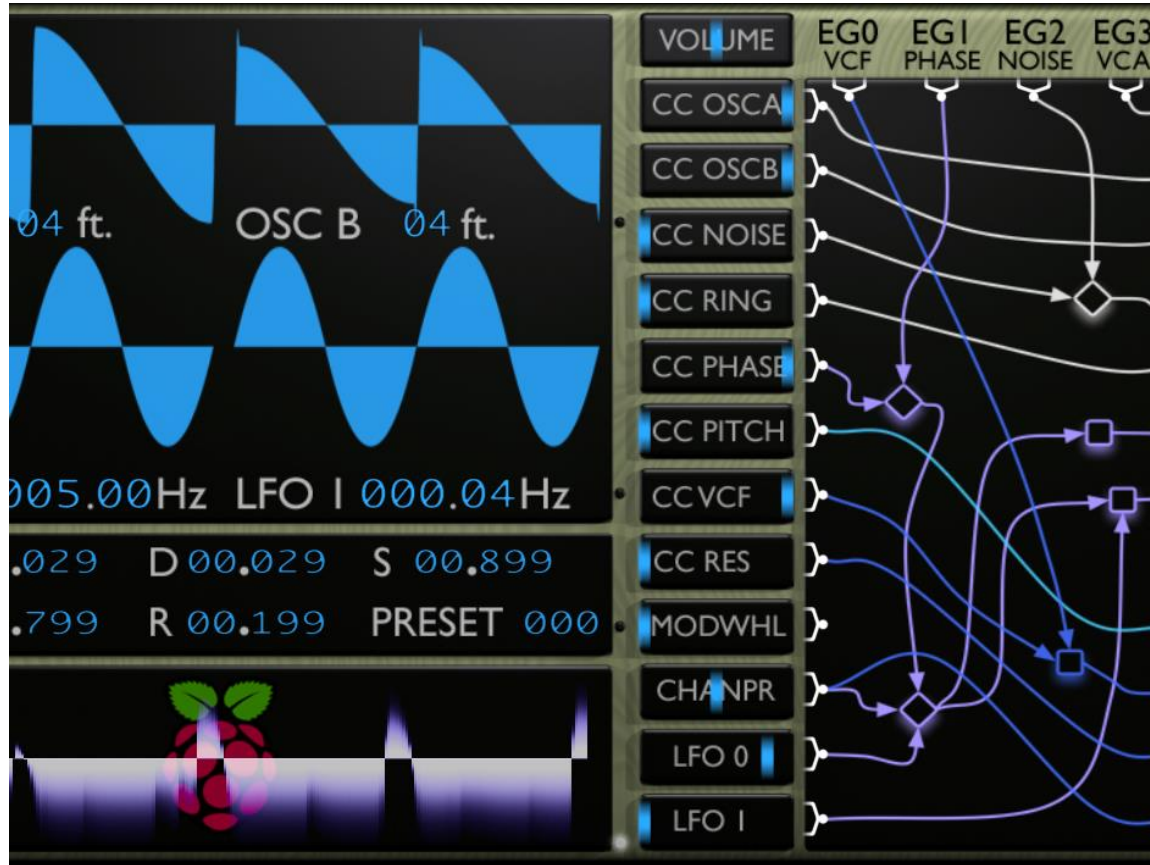


The Broadcom BCM2835 chip in the Raspberry Pi has a very powerful image processor, which has been used in many high-end Nokia camera phones. Two weeks ago, we launched a \$25 accessory which adds a fixed-focus camera module. This is able to capture 5-megapixel JPEG images, or record HD video at 30 frames per second. We are excited to see what people do with this capability over the next year

# New Out-of-Box Software (NOOBS)



Until now we have only marketed the Raspberry Pi to technically-literate adults (and their children). To reach a broader market, we have developed our New Out-of-Box Software, which makes it easier to get started: new users simply unzip a file onto an SD card. When they first boot up, they are asked what they want to do with the Pi, and if they ever corrupt the card they can easily reset to a fresh image



## Music

An engineer in the UK developed a digital analogue synthesizer called Piana for the Raspberry Pi.





## Beer

Many of our fans are also fans of beer! BrewPi lets you control a brewery with Raspberry Pi and Arduino.





## Photography

You can now use a Raspberry Pi with a DSLR camera to take macro photographs or timelapse video.



## Games

Many people use the Raspberry Pi to emulate old games consoles like the Super Nintendo.



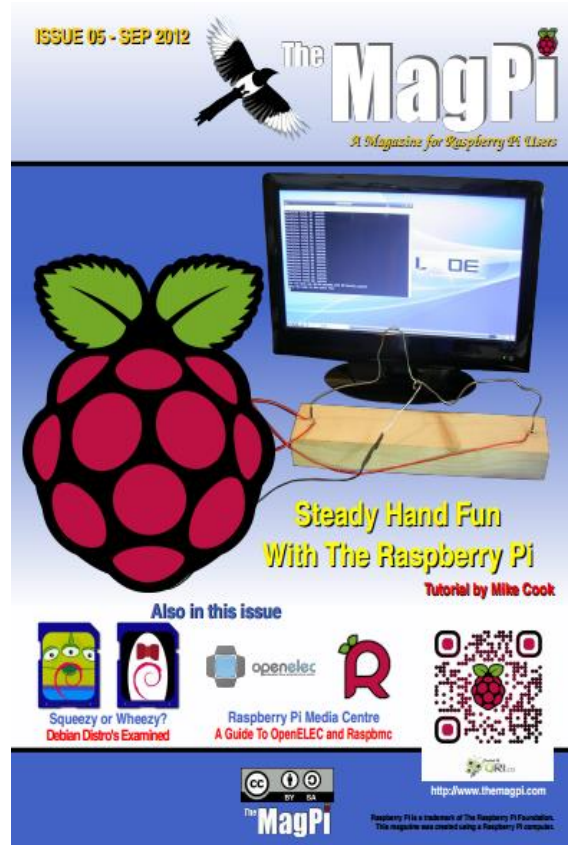
## Art

Artists use the Raspberry Pi to control installations, like this one at Canary Wharf in East London.



## Space

Dave Akerman in the UK has sent many Raspberry Pis to the edge of space under weather balloons.

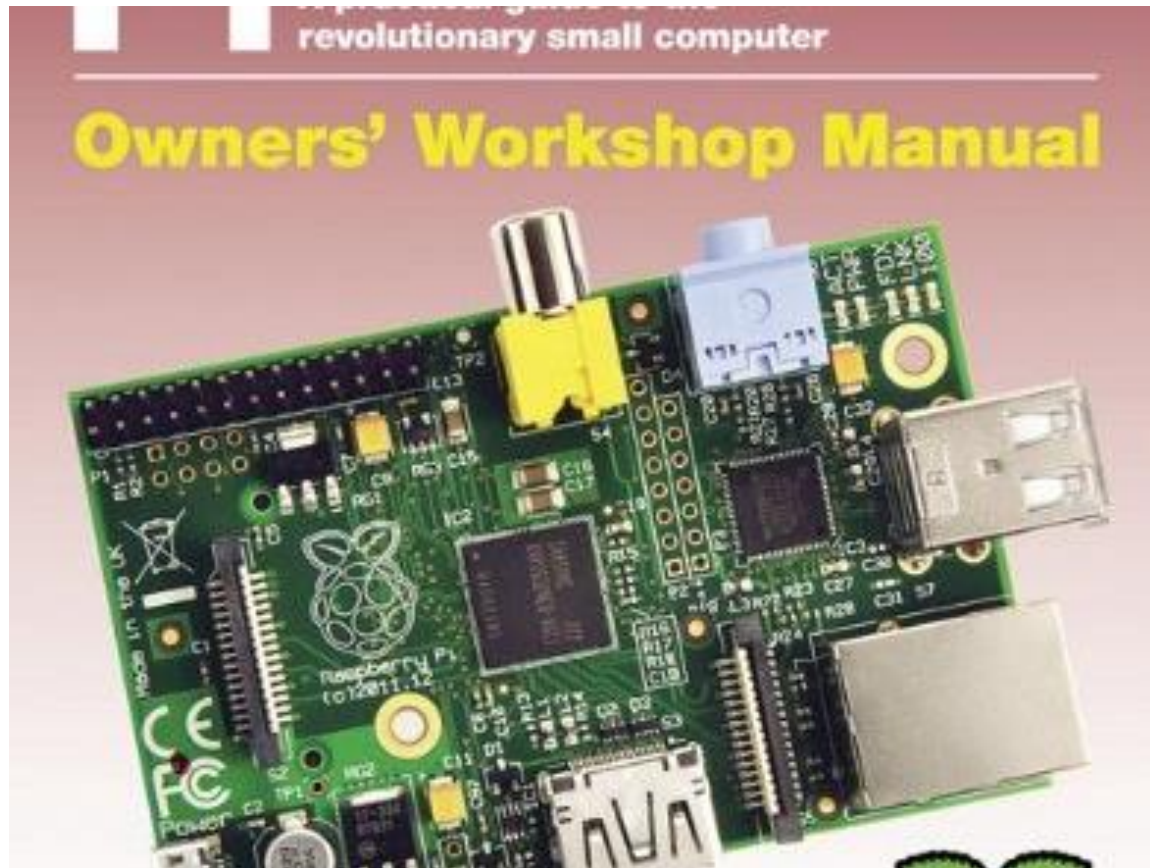


## Magazines

In the 1980s, I used to type in programs for my BBC Micro from magazines. We have a magazine too!



Raspberry Pi



## Books

Many publishers offer Raspberry Pi books. My “User Guide” has just been translated into Japanese.

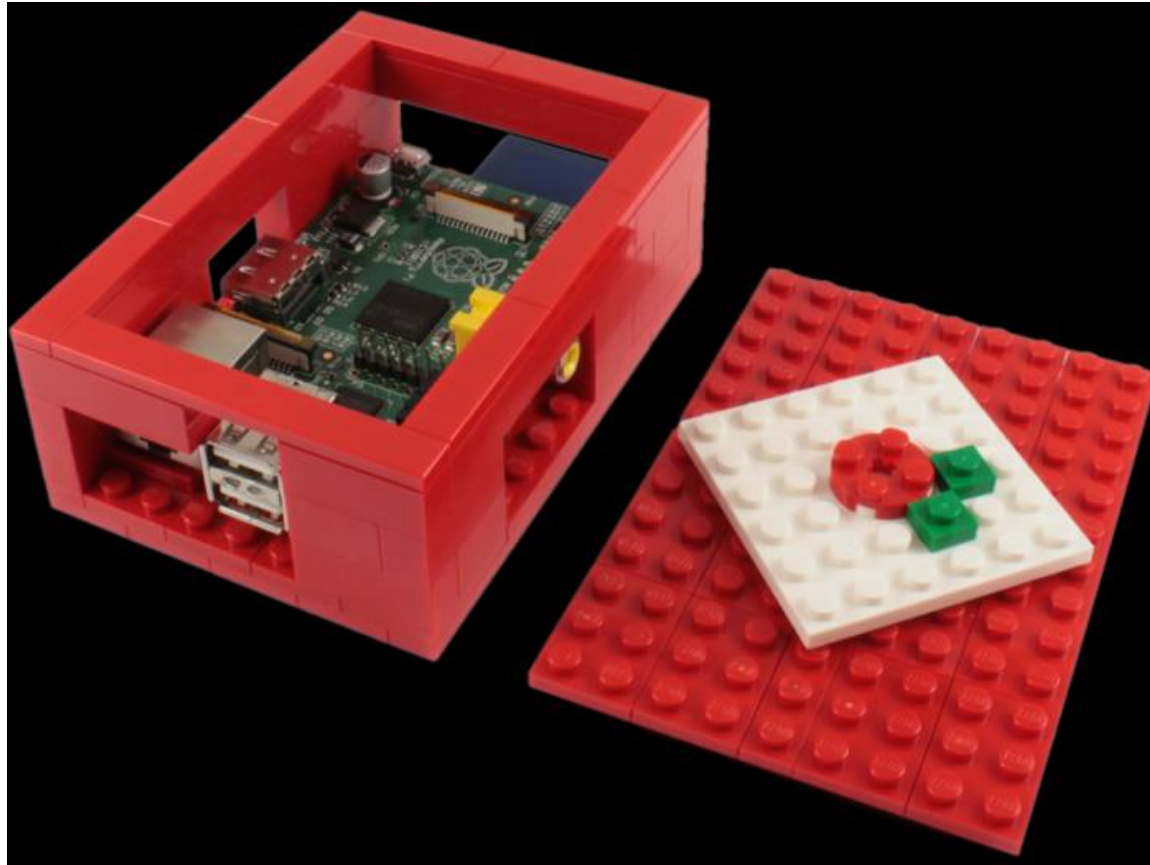




## Cases(1)

We did not make a case for the Pi, so other people have. This case can be printed onto cardboard





## Cases (2)

This LEGO case was designed by an 11-year-old girl scout in the UK. She gets royalties in LEGO!



### Cases (3)

The Pibow is made by my good friend Paul Beech out of stacked, laser-cut Perspex.



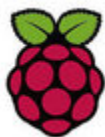
## Kids (1)

Parents send us pictures of their children using the Raspberry Pi. They cheer us up.

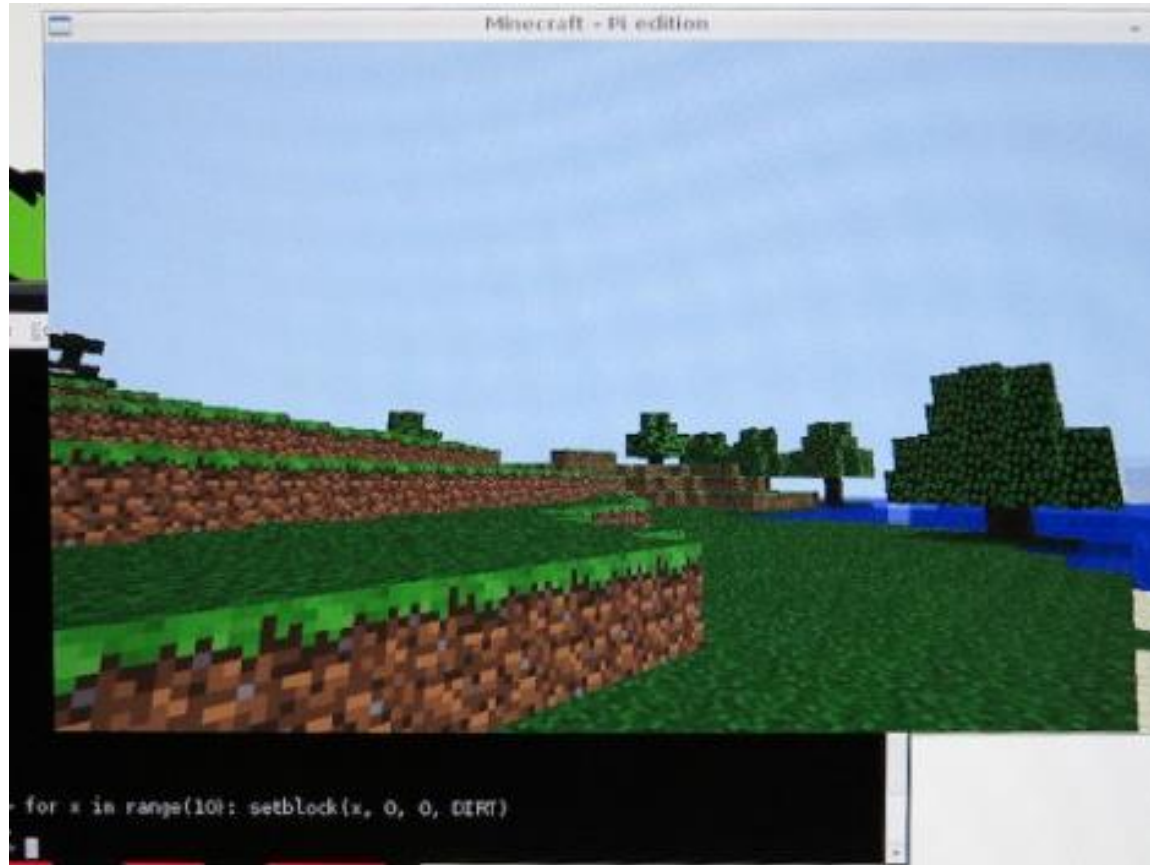


## Kids (2)

Children all over the world have been learning to program using the Raspberry Pi.



Raspberry Pi



## Minecraft

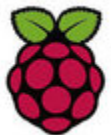
Mojang have produced a special version of Minecraft for the Raspberry Pi with programming features.





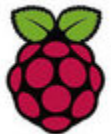
## Sony

I am Welsh, and it's very satisfying to be building Raspberry Pi with Sony, very close to where I was born.



Raspberry Pi

# Questions?



Raspberry Pi