Raspberry Pi produces a "step function in fun"

Fun Squared

The Raspberry Pi computer has rekindled interest in tinkering with hardware and created a market for products combining the tiny computer with customized software. *By Jon "maddog" Hall*

Those of you who know me know that I designed electronics circuits in high school and then studied Electrical Engineering at Drexel University (Philadelphia, Pennsylvania). Unfortunately during that career I was almost electrocuted by 13,600 volts and 800 amps (twice!). Fortunately I found software as much fun and a lot safer, other than paper cuts from ripping printouts. Back in those days electronic components were very expensive (US$ 128,000 for 64KB of core memory), so I took the software route and let someone else pay for the hardware.

I continued to be interested in hardware, and I even assembled my own computer from chips and prototyped digital circuits with the use of breadboards, sometimes with wire-wrapping. Soldering tens of thousands of pins perfected my soldering technique, and you really don't want to know about the wire-wrapping.

About two years ago, I became involved with the Arduino [1], which has been a lot of fun, but my time with it was limited, and to me it was not a "real" computer because it did not run GNU/Linux.

Then I heard about the Raspberry Pi (RPi). This was what I had been waiting for: a US$ 35 computer that ran a real operating system and allowed you to tinker with electronics just as you could with the Arduino. In fact, people were using the Raspberry Pi and the Arduino together, which was even cooler.

The founders of the Raspberry Pi Foundation are modest people who thought that only 1,000 very low priced computers would be enough for the world, and in doing so, they unfortunately created an imbalance between supply and demand. (Alas, many great visionaries underestimate their influence.) In fact, they took 100,000 orders before they shipped a single Raspberry Pi, and for many months, people who wanted them could only order one at a time with a 12-week delivery lead time.

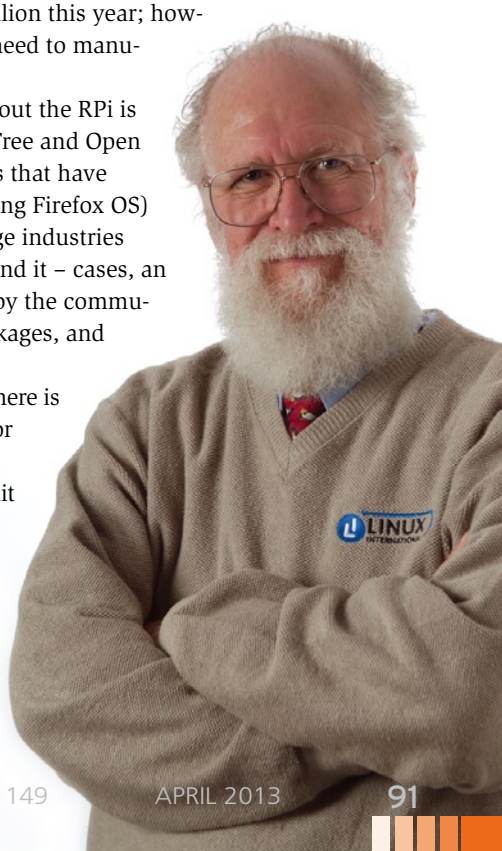
Last September, just before Campus Party Europe in Berlin [2], I contacted the Raspberry Pi Foundation and asked if they would be willing to attend and perhaps give a talk or two about their wonderful machine. Not only did they send Alan Mycroft, one of the original founders, but they sent three enthusiastic graduate students and lots of RPis and breadboarding gear, and they even gave three hands-on workshops. I attended one of them and worked with a young "Campusero" from Spain who I thought was going to go berserk over the fact that his software could make an LED blink Morse code. Then, I taught him that pushing a button was not as simple as he thought when the button has key bounce.

Over the past several months, I have had the privilege to work closer with the Raspberry Pi Foundation, learning more about their history and dreams for the computer. I have seen people create the most interesting projects with it, and in some cases move beyond projects to selling actual products based on a Raspberry Pi with some customized software (e.g., a three-person ERP system for small companies).

At Campus Party Brazil, I also met another of the product's founders, Pete Lomas, whose tales of bringing the RPi to market reminded me a lot of my days back at Digital.

I also gave two talks at Campus Party Brazil on the RPi: one about the RPi in general and another about how to make a media center out of the RPi from really inexpensive components. Attaching an RPi to a VESA-equipped monitor could create a very powerful, low-cost thin client/media center for digital inclusion. It has no fan noise, uses very little electricity (3W when idle), and has no moving parts to wear out.

Most refreshing was the real desire to keep the price of the RPi as low as possible yet still deliver enough compute power to students who want to experiment. The Raspberry Pi Foundation has now shipped more than 1 million units, and they are set to deliver another million this year; however, I think they might need to manufacture 2 or 3 million.



Another thing I like about the RPi is the number of different Free and Open Source operating systems that have been ported to it (including Firefox OS) and the number of cottage industries that are building up around it – cases, an online magazine driven by the community, bread-boarding packages, and other add-ons.

Every once in a while there is a "step function in fun" for computing, and the Raspberry Pi Foundation has hit a home run. If you have not investigated it, particularly if you are part of a school or university, I suggest you visit their website [3]. ■■■

INFO

[1] Arduino: *http://www.arduino.cc/*
[2] Campus Party Europe: *http://www.campus-party.eu/2012/index.html*
[3] Raspberry Pi Foundation: *www.raspberrypi.org*