John DeLooper, Hudson County Community College, jdelooper@hccc.edu (201)-360-4723
Technology Speed Dating – Parsippany Public Library, January 14, 2014
Presented by LibraryLinkNJ, the New Jersey State Library and the New Jersey Library Association

Raspberry Pi "Take a Byte!"

What is the Raspberry Pi?

The Raspberry Pi is a **$25 or $35 Linux based computer** designed with education in mind. Created by professors at Cambridge University's Computer Science Department, its initial goal was to make school age children more computer literate, especially in the area of programming. As a cheap computer, it enables experimentation – without the fear of erasing family photos or last year's tax returns. Since its launch in 2011, **more than 2 million Raspberry Pis have been sold**, and it has grown beyond the education market to hobbyists, "makers," and even businesses.

The Raspberry Pi is **about the size of an Altoids can or an iPhone**, yet it is a powerful computer – roughly equal to an original Xbox or a Pentium 2 PC.

How it Works

The Raspberry Pi comes as you see here:

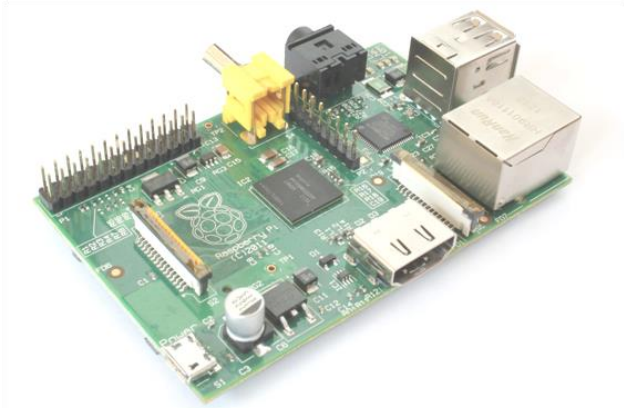

Image courtesy of wrodgers, *http://en.wikipedia.org/wiki/File:RaspberryPi.jpg*

You may already have everything you need to get started. The Pi has ports to hook up to most TVs, and will work with a USB keyboard and mouse, common on many desktop computers. Digital camera owners may also have the requisite SD card to store the Raspberry Pi's operating system.

How libraries are using it

- OPAC
- Digital Signs (Notable example -- Somerset County Library)
- Email Server
- Web server

- Electronics Projects -- LEDs, radios
- Education -- teaching people how to program
- Computer Lab/Public Access Computers
- Makerspace

Other uses:

- Entertainment -- Media Center similar to AppleTV or ChromeCast
- Gaming
- Robotics
- Weather balloons
- Find your own use!

Considerations

- The Raspberry Pi is a Linux computer with an ARM processor. This factor means it is incompatible with Windows or Macintosh software such as Microsoft Word or Adobe Photoshop. Luckily, however, it works with lots of open-source Linux software, so alternatives like LibreOffice and GIMP are available.
- It comes as a bare single-board computer – so you need to supply an SD card, keyboard, mouse, monitor, and probably a case.
- Device setup can be difficult for a first timer.
- There are two versions, with the key differences being that the Model B costs $35, has 512 megabytes of RAM, two USB ports, and an Ethernet port, while the Model A costs $25, but has only 256 megabytes of RAM, one USB port, and no Ethernet port.

Should you bring Raspberry Pi to your library?

Absolutely -- at $25-35, this is an affordable device with a strong user community, and lots of great software. It was designed with education in mind, so there are plenty of resources like free ebooks and courses for getting started, and it makes a great addition to a Makerspace.

To quote the Raspberry Pi Foundation, “take a byte!”

Further Resources

- http://www.raspberrypi.org/ -- Official Website
- http://learn.adafruit.com/category/raspberry-pi -- Projects and Tutorials
- http://www.cambridgegcsecomputing.org/ -- Raspberry Pi MOOC
- http://telescopio.galileo.edu/curso/raspberry-pi/ Raspberry Pi MOOC (Spanish Language)
- http://downloads.raspberrypi.org/Raspberry_Pi_Education_Manual.pdf -- Raspberry Pi Education Manual
- http://makezine.com/category/raspberry-pi/ Projects from *Make Magazine*
- http://elinux.org/RPi_Tutorials A tutorial wiki