

6 things you need to know about the Raspberry Pi and Arduino - John LeMasney

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1. What are Raspberry Pi and Arduino?

Raspberry Pi is a \$35 computer that is about the size of a credit card. It runs many operating systems, usually Linux based, and can be connected to an HDMI monitor, 1/8 inch audio, an RCA style video connection, USB devices and storage. It is perfect for dedicated computer applications that you might not use your \$2500 computer for.

Arduino is an open source hardware platform for electronics prototyping. It is perfect for small electronics projects in which you want to control input and output using programming, often through a language called Processing. Many models exist, but you can get started with the Uno for about \$35.

2. What can I do with them?

You can scratch your own itch. These devices are best for making something that solves a problem that you would not want to solve with much more expensive solutions, or that you might almost solve with off the shelf solutions. You could make a home automation system, a media server, a doorbell with a video recorder, a security system, or a thousand other things.

3. Where can I get them?

You can purchase both online. I'd suggest Amazon, element14.com or adafruit.com but you can get Arduino products at RadioShack too.

4. Are there any good learning resources for them?

Fantastic resources exist for both, many of which are free. YouTube videos on Arduino and Pi projects are plentiful, but there are lots of official resources from both companies. If you like to learn by reading, I'd suggest starting with books by O'Reilly and Make Magazine. There are huge supportive communities for both platforms distributed along the Web.

5. What do I need/need to know to get started?

Surprisingly little. If you start with starting kits, they often come ready to use or build, along with learning materials in the case of Arduino:

http://www.amazon.com/gp/product/B009UKZV0A/ref=ox_sc_act_title_3?ie=UTF8&psc=1&smid=A19W1SYPKVVBJO (Arduino starter Kit)

http://www.amazon.com/gp/product/B00G1PNG54/ref=ox_sc_act_title_2?ie=UTF8&psc=1&smid=A30ZXR2W3VAJ0A (RPi starter kit)

6. How do these devices relate to Making and the Make Movement, and how are they different?

Both of these devices are part of making because they both support the making philosophy: If you do not know how something works, if you can not make it your own, you do not truly own it. Making supports the idea that societally, we have gone too far down a consumerist, disposable hole, in which the devices we purchase are never intended to be used except in the way the manufacturer allows and permits. These devices come with the intent of you making them do something more than what they do when purchased. They are platforms, opportunities for building, and beautiful questions, rather than predetermined answers.

The Pi is a working computer, very similar in functionality to your Windows or Mac based PC. You can make it do anything those devices can do, but the intent is to use that functionality to scratch an itch that you might not trouble your Mac to do, such as acting as a dedicated Media server or Arcade machine emulator.

The Arduino is an electronics prototyping and sensor programming platform, and will literally do nothing when started without instructions. The Pi is programmable, but this is less essential than on the Arduino, where it is essential for even the most basic function.