

The Arduino Microcontroller

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What is the Arduino

- Microcontroller (Atmel ATmega168)
- Open Source!
- 14 Digital IO/6 Analog IO pins
- Analog to Digital Converter
- USB/5v powered

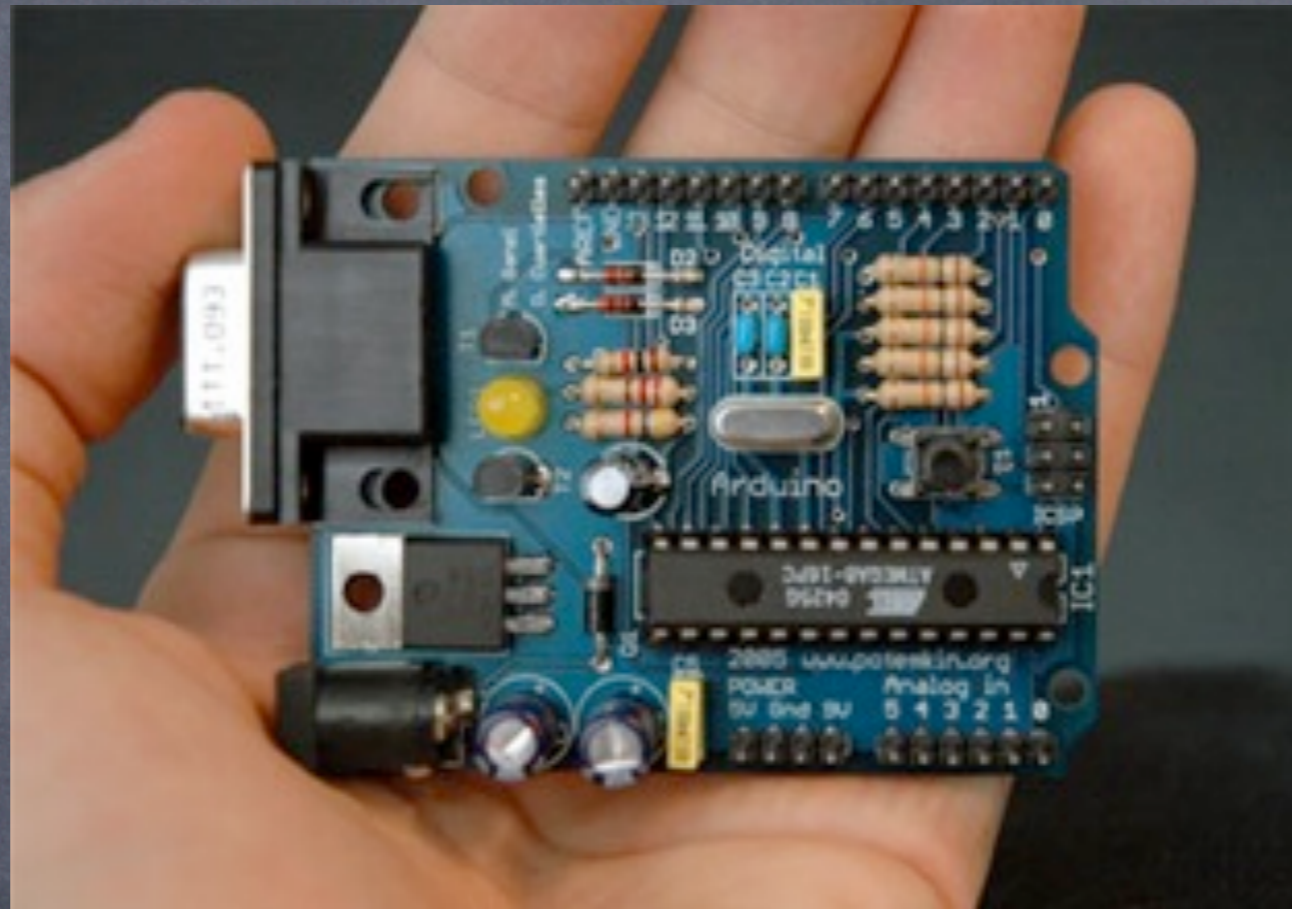
PICs vs Arduino

	PIC	Arduino
Prog. Lang	Basic	Wiring (looks like C)
Manufacturer	Microchip	Atmel
Bootloader	No	Yes
IDE?	Windows Only	All Platforms

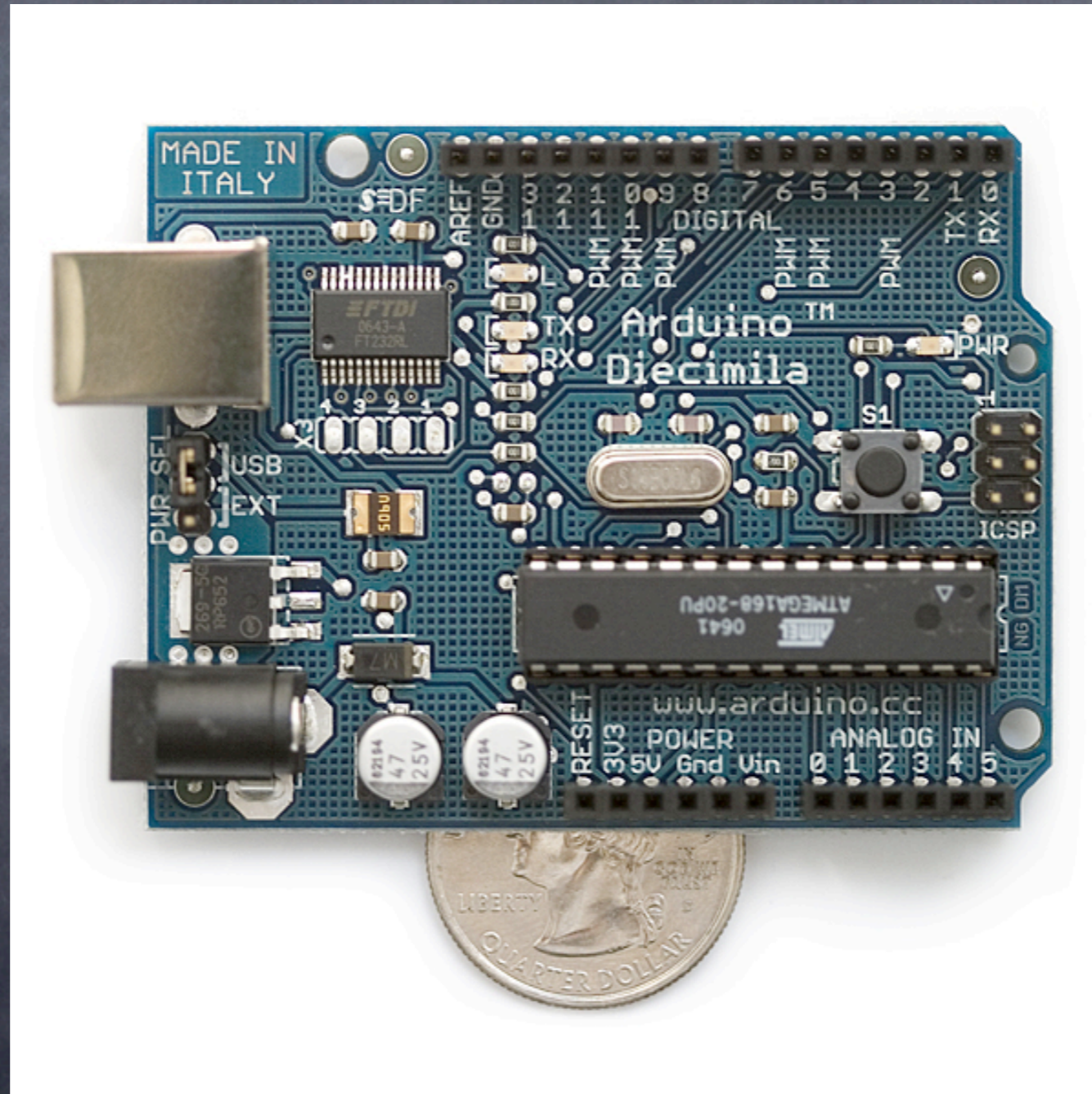
Arduino Flavors?

- Serial
- USB
- Stamp
- Bluetooth
- LillyPad

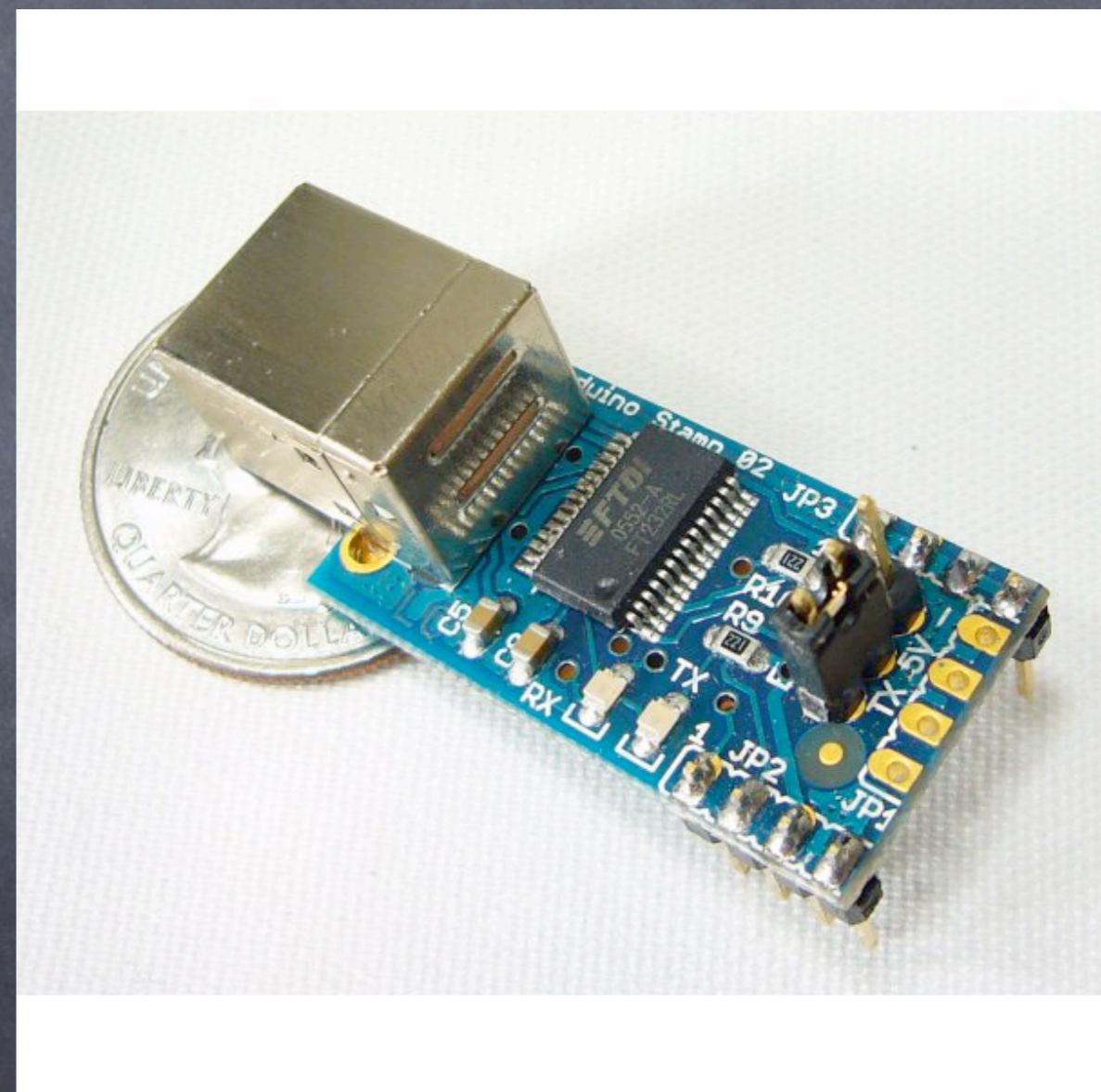
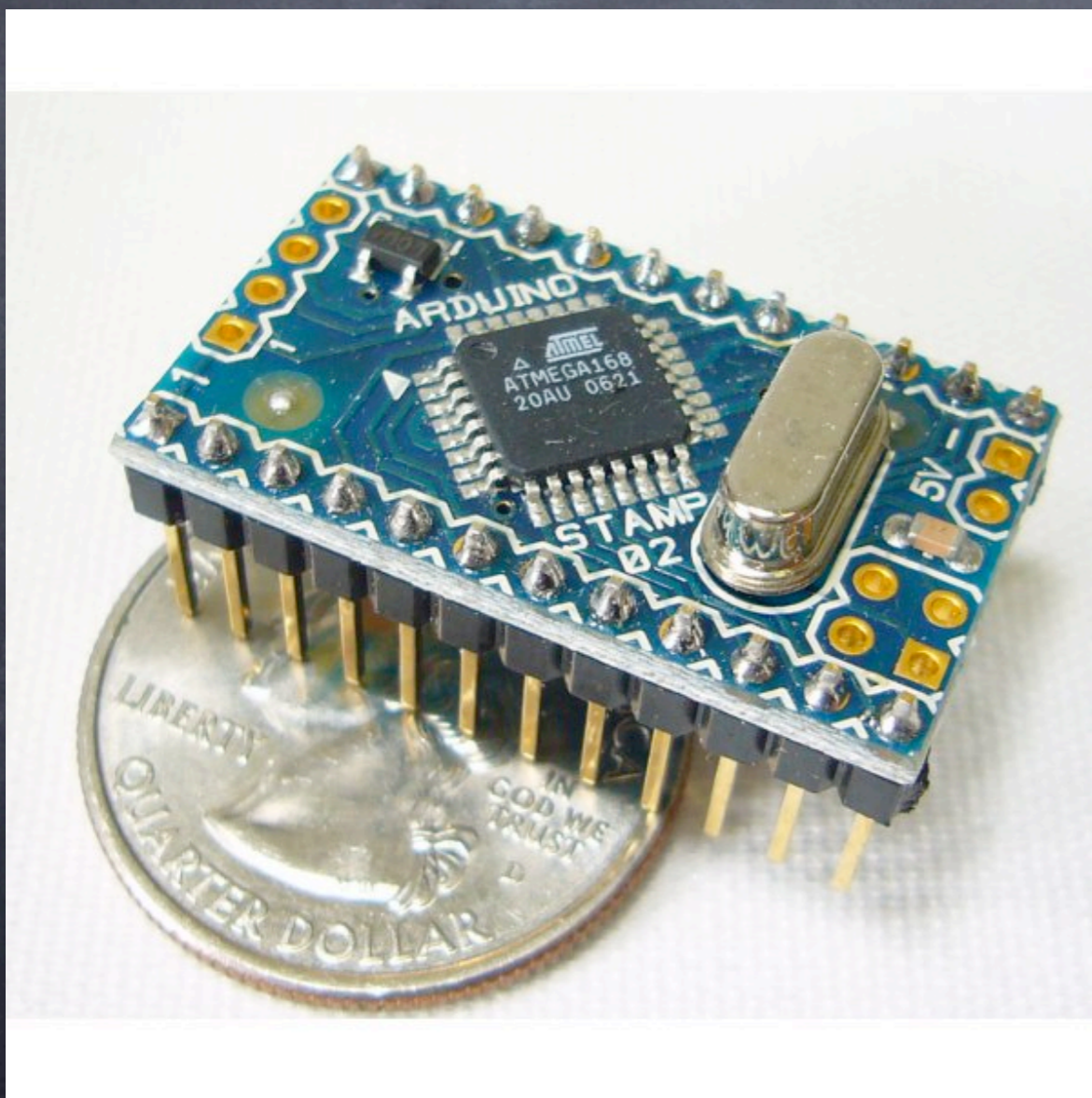
Serial Arduino



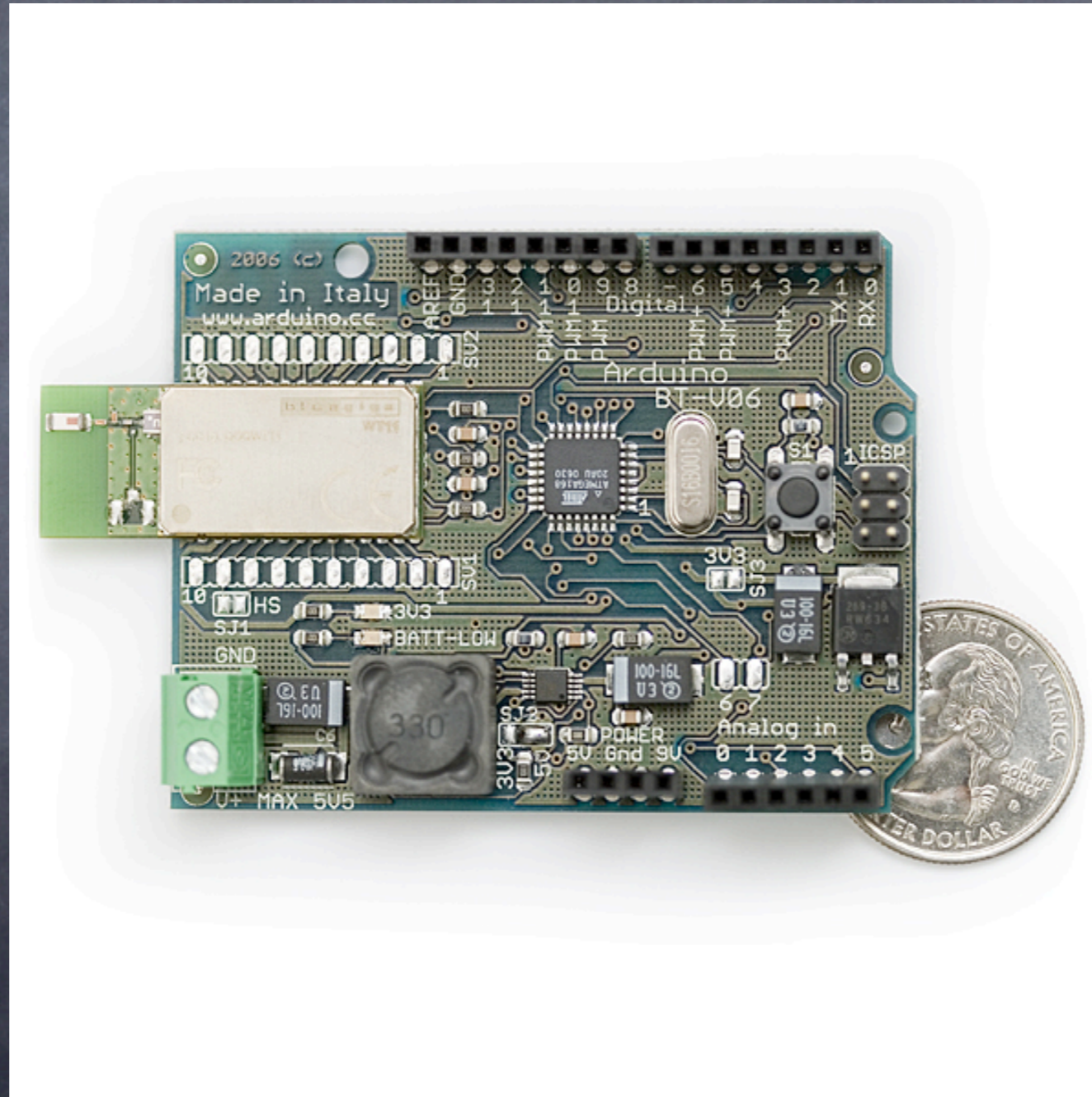
USB Arduino



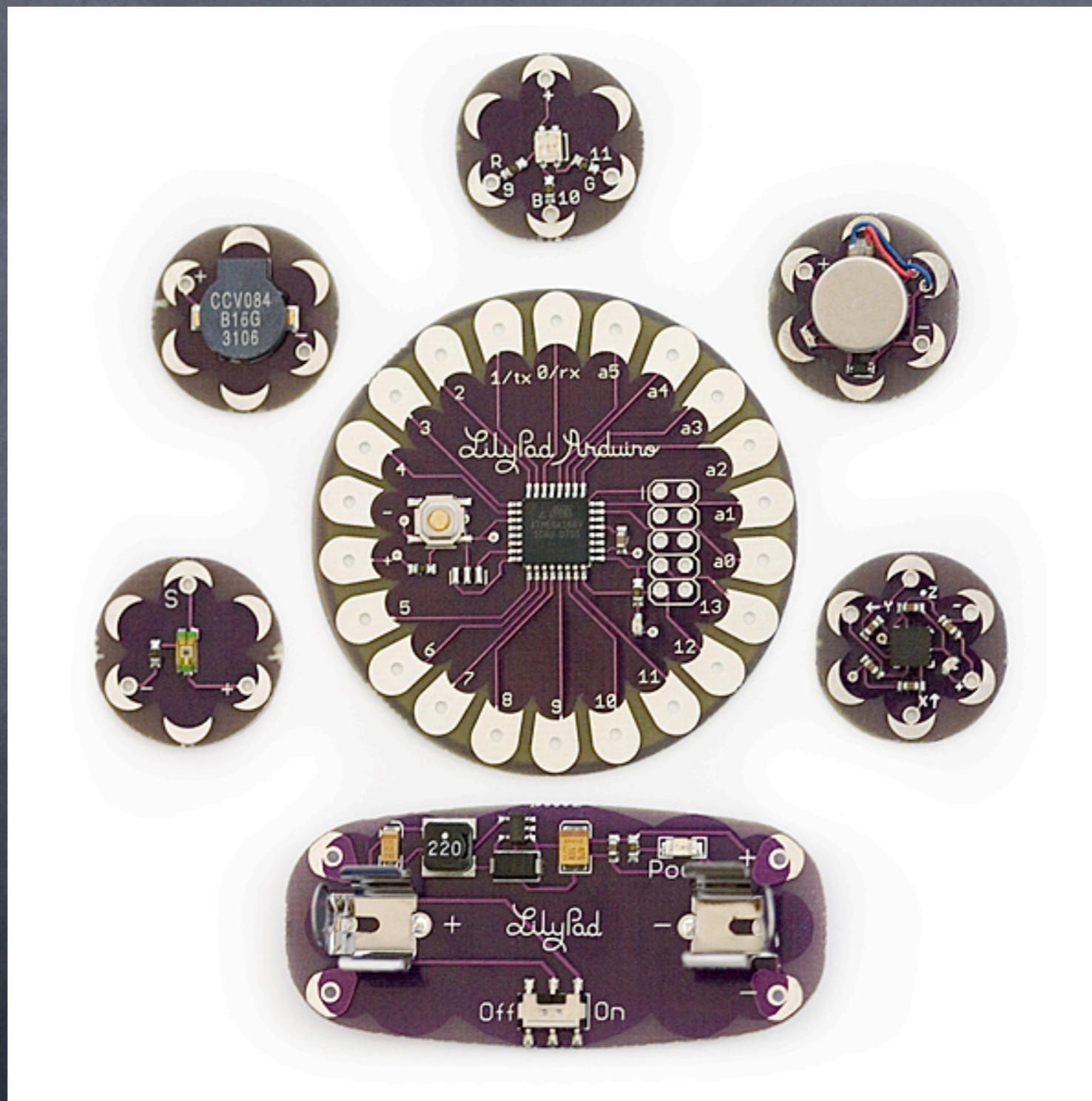
Arduino Stamp



Bluetooth Arduino

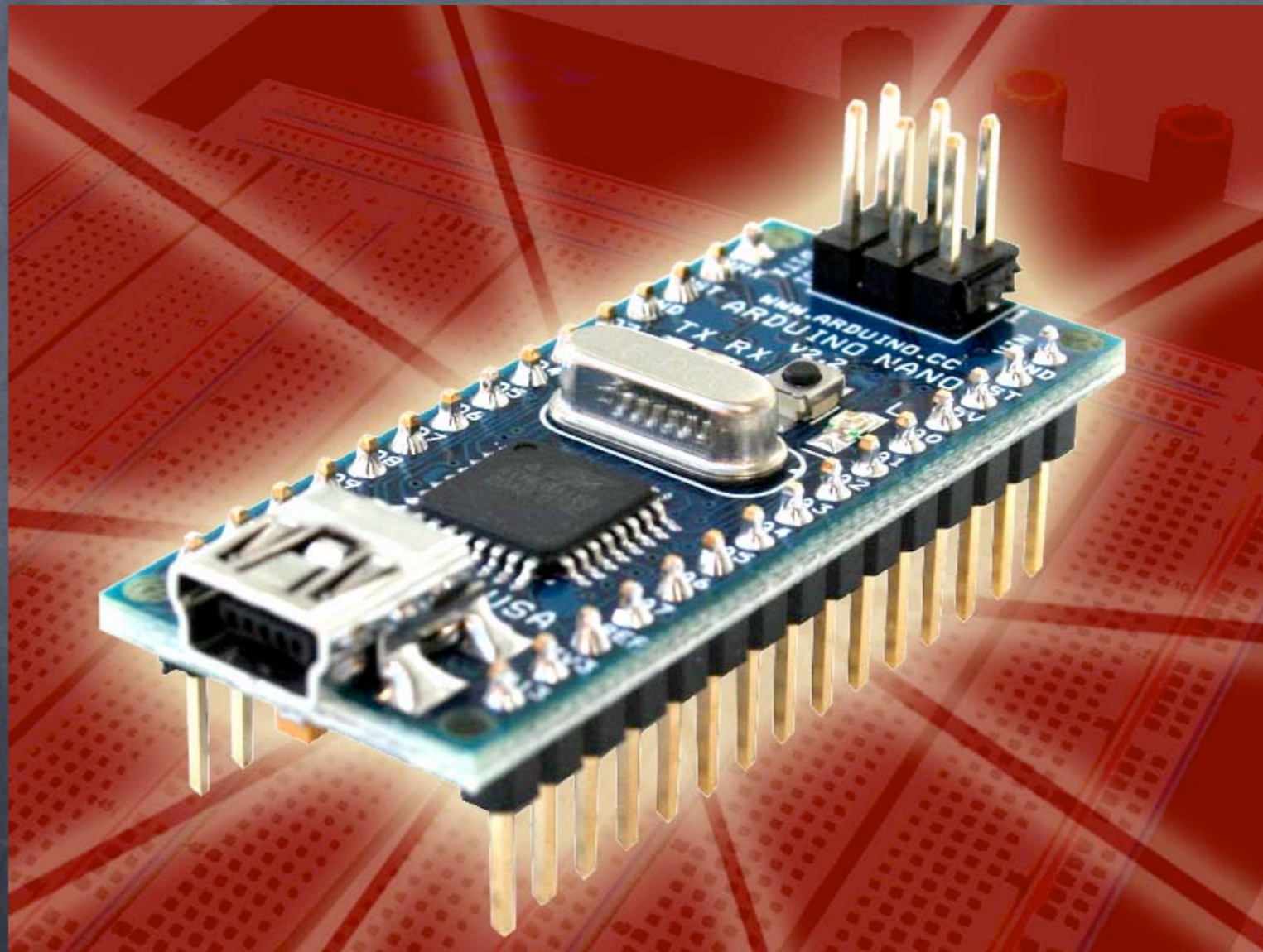


LillyPad



This just in...

Arduino Nano!



Shields

- ProtoShield
- XBee Shield
- Motor Control

Arduino IDE

- Works in Windows, Linux and OS X
- Open Source
- Syntax Highlighting
- Compile and Upload to Arduino
- Monitor and Send Serial Data



sketch_080519a §



```
/* Blinking LED
 * -----
 *
 * turns on and off a light emitting diode(LED) connected to a digital
 * pin, in intervals of 2 seconds. Ideally we use pin 13 on the Arduino
 * board because it has a resistor attached to it, needing only an LED
 *
 * Created 1 June 2005
 * copyleft 2005 DojoDave <http://www.0j0.org>
 * http://arduino.berlios.de
 *
 * based on an original by H. Barragan for the Wiring i/o board
 */

int ledPin = 13;           // LED connected to digital pin 13

void setup()
{
  pinMode(ledPin, OUTPUT); // sets the digital pin as output
}

void loop()
{
  digitalWrite(ledPin, HIGH); // sets the LED on
  delay(1000);                // waits for a second
  digitalWrite(ledPin, LOW);  // sets the LED off
  delay(1000);                // waits for a second
}
```

Lets Play!

Sites

- Arduino.cc
- Sparkfun.com
- store.gravitech.us

Thanks!
Questions?