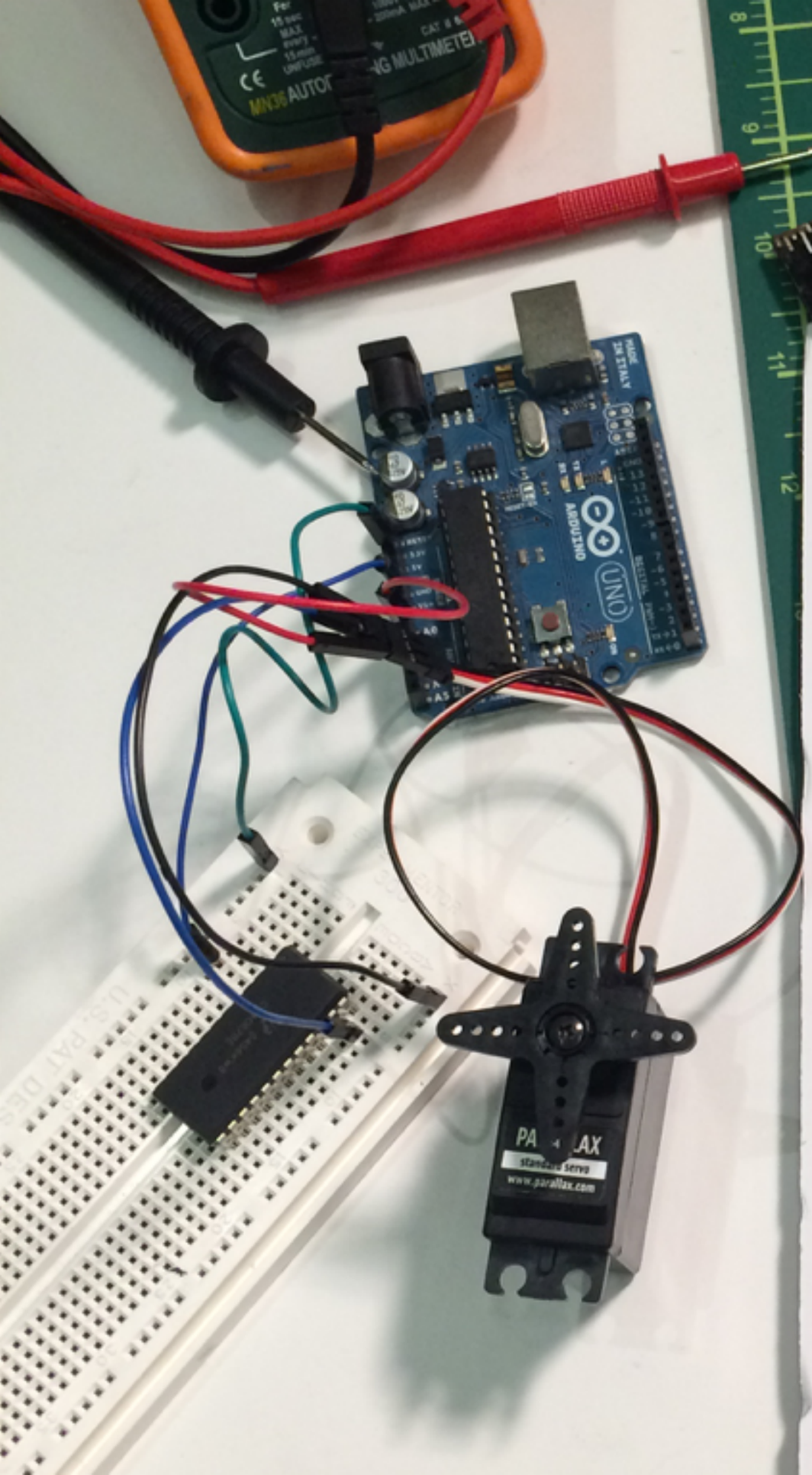


Intermediate Electronics

2S97 | January 15, 2015

Grades

Lab Project ***Group***

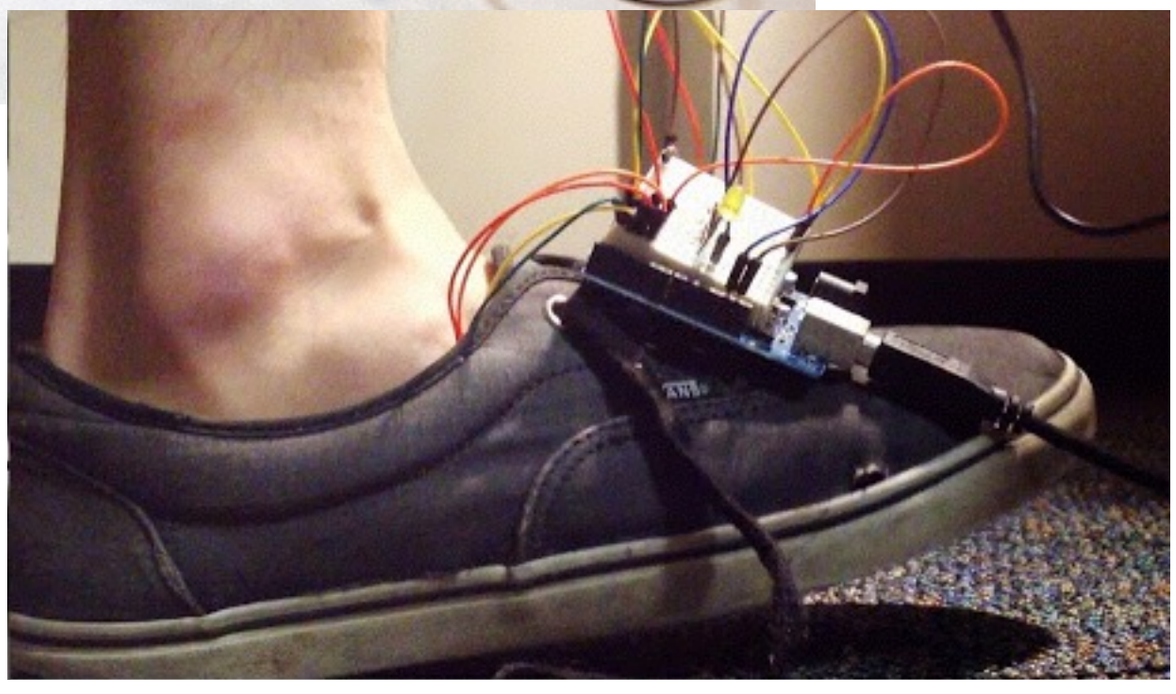
Iteration 1: Week 1 ***Individual***
Culmination of Week 1 assignments (ending with Storyboards)

Includes: Observation, Ideation (3 ideas), Concept Sketches (sketch of 1 idea), and Storyboard

Graded based on completeness, quality, and timeliness

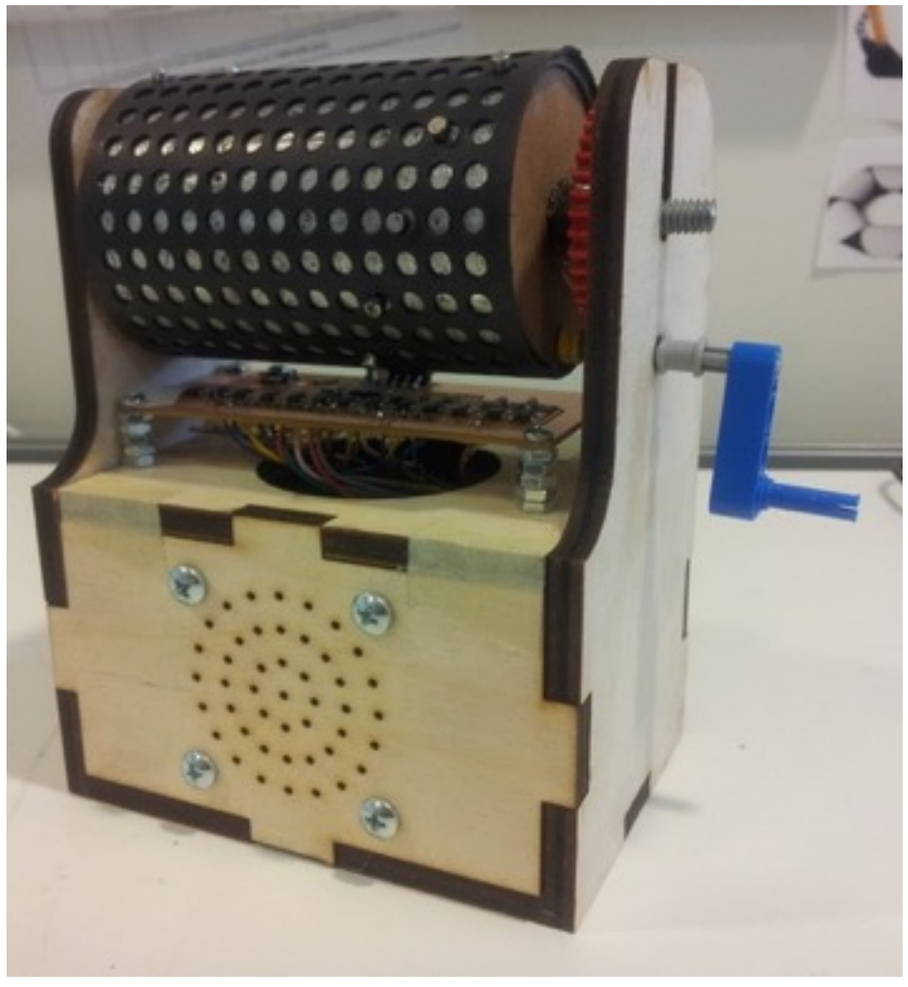
Prototyping Examples of the Day

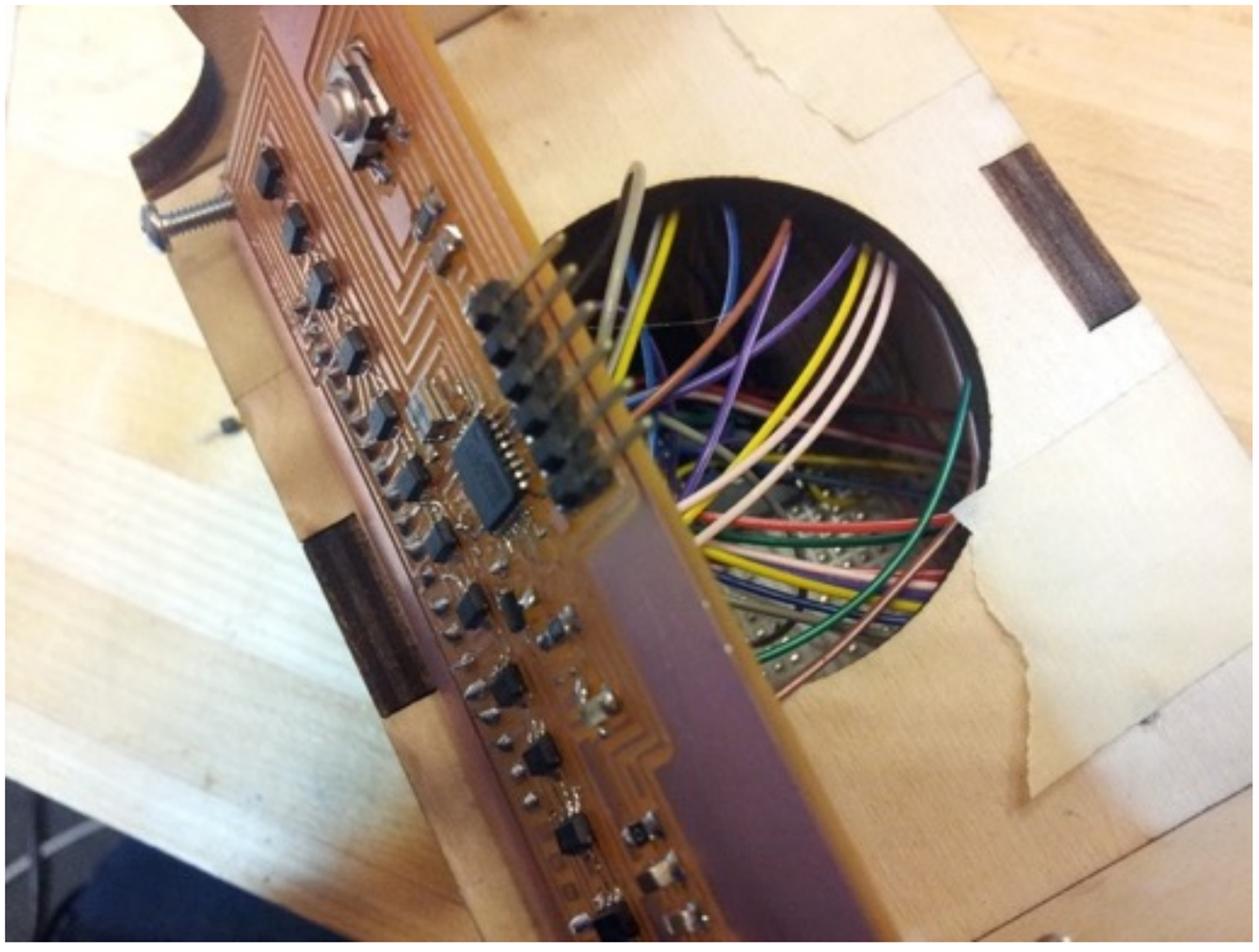
“Works Like”



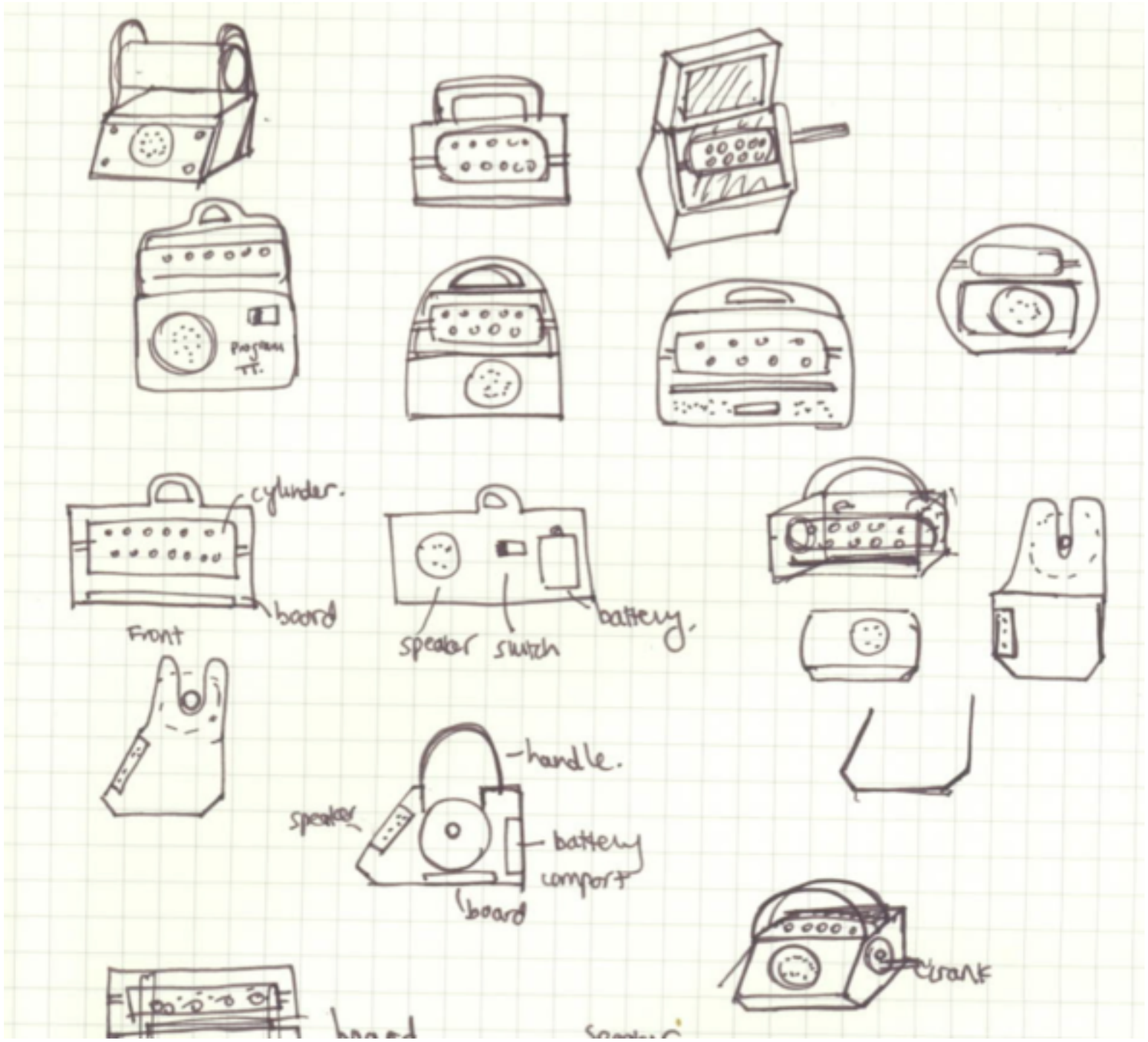
Michael Cheung

Prototyping Examples of the Day

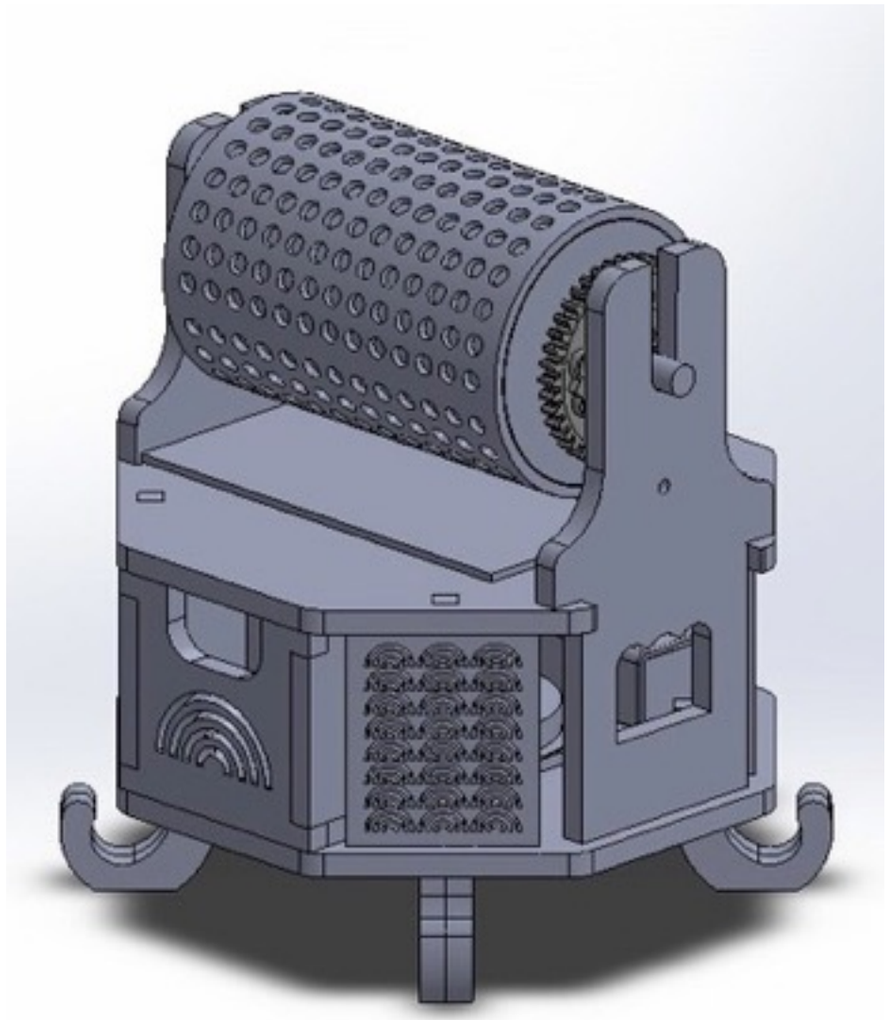




Prototyping Examples of the Day



Prototyping Examples of the Day



“Looks Like”

Iteration 2

Create 3 Prototypes of a ***single concept***:

- Works-like
  - Addresses technical questions
- Looks-like
  - Addresses issues of look and feel
- Experience-like
  - Addresses user experience questions

Intermediate Arduino

Electronics Resources

Where to buy?

In Person	Online
Radio Shack (basic sensors, components)	Digikey
Microcenter (kits and shields)	Sparkfun
	Adafruit

New Products
Top Sellers
Open Hardware
SparkFun Originals
Actobotics
Sale
Gift Certificates
Arduino +
Audio
Books
Breakout Boards
Cables +
Cellular +
Components +
Development Tools +
Dings and Dents
Educators
GPS +
Intel® Edison
Kits
LCDs +
Programmers +

SparkFun BLE Mate 2

WRL-13019 ROHS

SHARE

Description: This is the SparkFun BLE Mate 2, an efficient and reliable Bluetooth 4.0 development board. The BLE Mate 2 closely resembles a breakout board, in that nearly every pin on the on-board BC118 module is made available to access. This board is actually a close cousin to our Gold and Silver Bluetooth Mates and functions in a very similar way but, as the name implies, operates as Bluetooth Low Energy instead of Bluetooth 2.0.

The BLE Mate 2 offers a six-pin header on the end opposite the BC118 module which is used as a "host" serial pinout, the same as that on the FTDI Basic boards, which allows the BLE Mate 2 to be connected directly to any device with a matching header, such as the SparkFun Arduino Pro and Pro Mini. Coupled with the FTDI SmartBasic, you can even develop your code without having to swap cables! The board has built-in level translation, so it can be used with boards of higher voltage than the 3.3V default used by the BC118.

Each BLE Mate 2 offers BC118 module that is capable of accepting and transmitting via the UART at 9600bps (default) with a frequency band of 2,402 MHz to 2,480 MHz.

The SparkFun BLE Mate 2 only supports Bluetooth 4.0; it won't connect to older devices. It's also worth noting that BLE does not support a Serial Port Protocol as older versions of Bluetooth did; that makes interoperability between BLE dongles, devices, and modules harder than

$29.95

ADD TO CART

1	quantity
	131 in stock
$29.95	1+ units
$26.96	10+ units
$23.96	100+ units

ADD TO WISH LIST

Questions?

Chat with one of our gurus!

Skills

Features:

- Bluetooth Certified 4.0 (BLE)
- Supply Voltage: 3.3V to 4.7 VDC
- Low power consumption : 16mA avg
- Frequency Band: 2,402 MHz to 2,480 MHz
- Operating Range: 30m
- Built-in antenna

Documents:

- Schematic
- Eagle Files
- Hookup Guide
- Datasheet (BC118)
- Command Set Manual
- GitHub (Example Code & Design Files)

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Bourns Inc.	Bulk	10	0.001	±0.001%	0.05W, 1/20W	Carbon Film
Caddock Electronics Inc	Cut Tape (CT)	100/SM/PC	0.002	±0.002%	0.063W, 1/16W	Ceramic
Ohmite	Digi-Reel®	14A	0.0025	±0.0025%	0.1W, 1/10W	Metal Elemen
Panasonic Electronic Components	Tape & Box (TB)	20	0.003	±0.005%	0.125W, 1/8W	Metal Film
Riedon	Tape & Reel (TR)	30	0.004	±0.01%	0.15W	Metal Foil
Stackpole Electronics Inc	Tray	50	0.005	±0.02%	0.167W, 1/6W	Metal Oxide F
Stackpole Electronics Inc	Tray - Waffle	5063JD Spacemiser	0.006	±0.05%	0.175W	Thick Film
TE Connectivity	Tube	60	0.007	±0.1%	0.2W, 1/5W	Thin Film
TT Electronics/IRC		90	0.008	±0.2%	0.25W, 1/4W	Wirewound
Reset	Reset	Reset	Reset	Reset	Reset	Reset

☐ **In stock**
☐ **Lead free**
☐ **RoHS Compliant**

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Electronics Resources

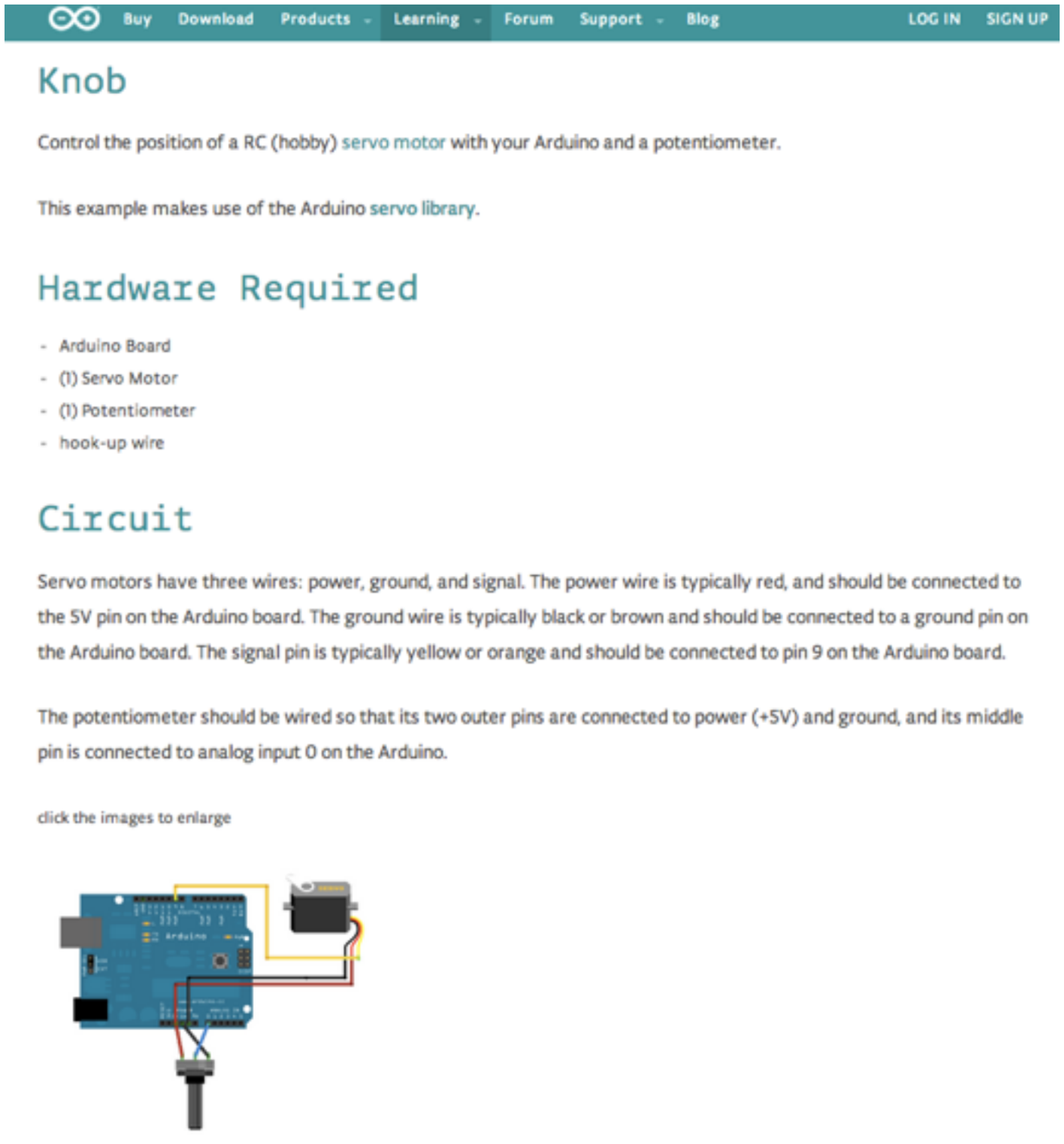
Ordering from Digikey

- through-hole (NOT SMD)
- minimum quantity
- In stock

Electronics Resources

Tutorials

- arduino
- Sparkfun.com
- ladyada.net
- bildr.org
- itp.nyu.edu/physcomp



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Knob

Control the position of a RC (hobby) servo motor with your Arduino and a potentiometer.

This example makes use of the Arduino servo library.

Hardware Required

- Arduino Board
- (1) Servo Motor
- (1) Potentiometer
- hook-up wire

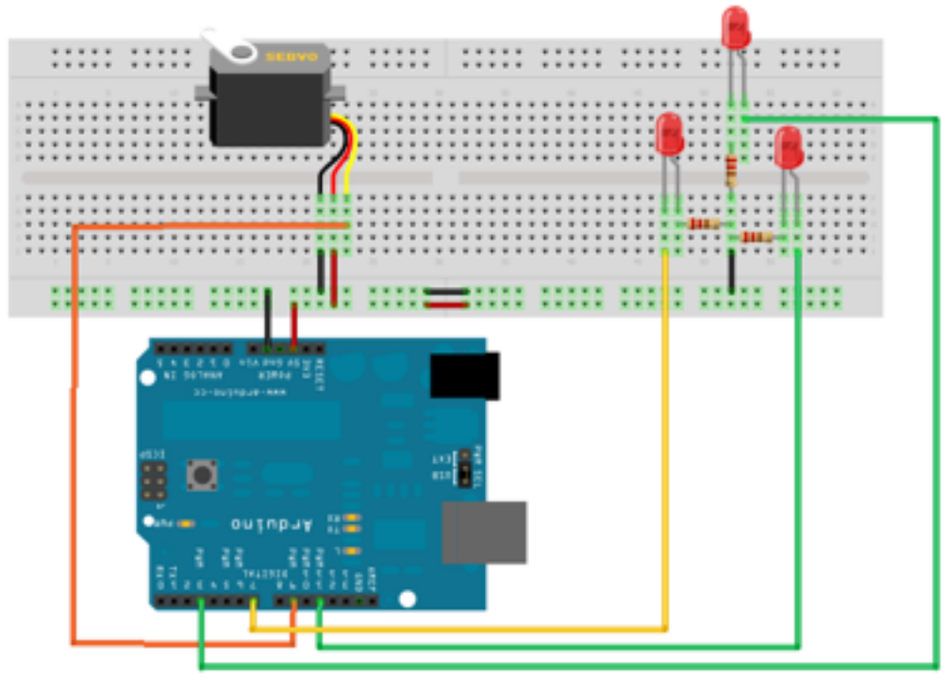
Circuit

Servo motors have three wires: power, ground, and signal. The power wire is typically red, and should be connected to the 5V pin on the Arduino board. The ground wire is typically black or brown and should be connected to a ground pin on the Arduino board. The signal pin is typically yellow or orange and should be connected to pin 9 on the Arduino board.

The potentiometer should be wired so that its two outer pins are connected to power (+5V) and ground, and its middle pin is connected to analog input 0 on the Arduino.

click the images to enlarge

CHOOSE EXPEDITED SHIPPING



Peter’s Lecture

Fritzing Tutorial

Project Consultations

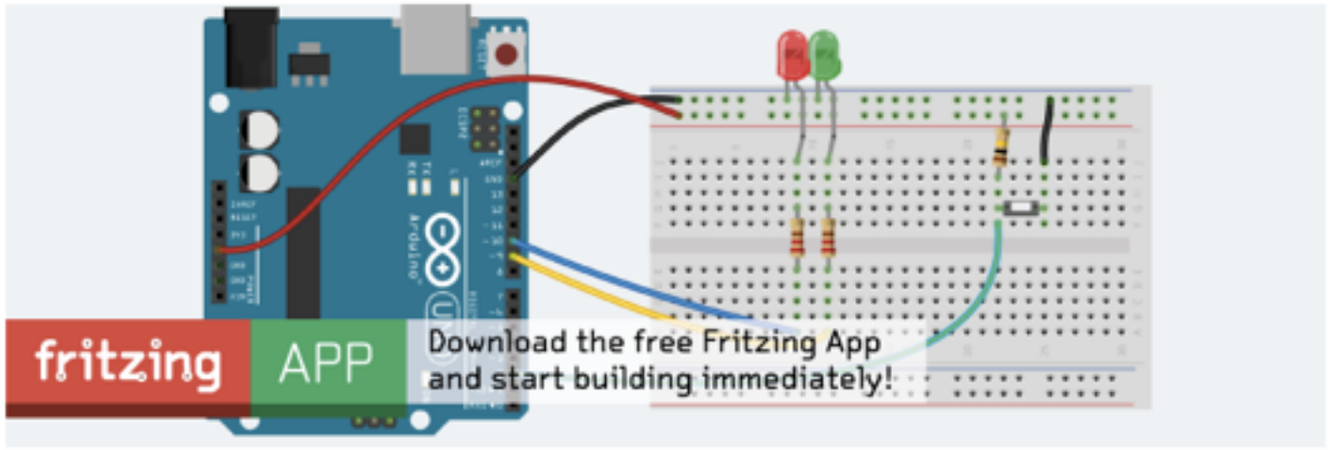
Soldering Tutorial - Tomorrow

Time	Team
12:00	Living Room
12:10	Bedroom
12:20	Kitchen
12:30	Bathroom
12:40	Workspace

fritzing

electronics made easy

Projects Parts Download Learning Forum Services Contribute FAB SHOP SIGN UP LOGIN



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FAQ ABOUT CONTACT

Fritzing is an open-source hardware initiative that makes electronics accessible as a creative material for anyone. We offer a software tool, a community website and services in the spirit of Processing and Arduino, fostering a creative ecosystem that allows users to **document** their prototypes, **share** them with others, **teach** electronics in a classroom, and layout and **manufacture** professional pcbs.

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An Intel Galileo Shield: Data Monster
Nov. 24, 2014

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Nov. 18, 2014

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