## SENSOR TUTORIALS

- 1. Pulse Sensor (Changes for Arduino Micro & Code walk through)
  - a. <a href="http://pulsesensor.myshopify.com/pages/pulse-sensor-amped-arduino-v1dot1">http://pulsesensor.myshopify.com/pages/pulse-sensor-amped-arduino-v1dot1</a>
  - b. Video: <a href="http://vimeo.com/58657081">http://vimeo.com/58657081</a>
- 2. Accelerometer: ADXL345
  - a. Adafruit Tutorial: <a href="http://learn.adafruit.com/adxl345-digital-accelerometer">http://learn.adafruit.com/adxl345-digital-accelerometer</a>
  - b. Analog Devices datasheet : <a href="http://www.analog.com/static/imported-files/data-sheets/ADXL345.pdf">http://www.analog.com/static/imported-files/data-sheets/ADXL345.pdf</a>
- 3. Temperature: TMP102
  - a. Bildr Tutorial <a href="http://bildr.org/2011/01/tmp102-arduino/">http://bildr.org/2011/01/tmp102-arduino/</a>
  - b. Datasheet for the TI part: <a href="https://www.sparkfun.com/datasheets/Sensors/Temperature/tmp1">https://www.sparkfun.com/datasheets/Sensors/Temperature/tmp1</a> <a href="https://www.sparkfun.com/datasheets/sensors/tmp1">https://www.sparkfun.com/datasheets/sensors/tmp1</a> <a href="https://www.sparkfun.com/datasheets/sensors/tmp

## **DISPLAY TUTORIALS**

- 1. Sharp Memory Display: Sharp LS013B4DN04
  - a. Adafruit Tutorial: <a href="http://learn.adafruit.com/adafruit-sharp-memory-display-breakout">http://learn.adafruit.com/adafruit-sharp-memory-display-breakout</a>
  - b. Sharp datasheet:
    <a href="http://www.adafruit.com/datasheets/LS013B4DN04-3V\_FPC-204284.pdf">http://www.adafruit.com/datasheets/LS013B4DN04-3V\_FPC-204284.pdf</a>

#### **ARDUINO**

- 1. Reference to Arduino commands (Reference slides were made from here) <a href="http://arduino.cc/en/Reference/HomePage">http://arduino.cc/en/Reference/HomePage</a>
- 2. Arduino Micro Specs <a href="http://arduino.cc/en/Main/ArduinoBoardMicro">http://arduino.cc/en/Main/ArduinoBoardMicro</a>

# BEST RESOURCES FOR FUTURE EXPERIMENTS:

- 1. http://arduino.cc
- 2. http://learn.adafruit.com
- 3. https://learn.sparkfun.com
- 4. <a href="http://bildr.org">http://bildr.org</a>

## NOTE ON READING DATASHEETS:

Adafruit Industries and Sparkfun Electronics both do a lot of work going through the details in datasheets when they build the breakout boards, so that the basic operation and protection of the device is taken care of. Therefore, you don't have to pay attention to all the datasheet details.

When you look at the datasheets, the best practice is to:

- 1) skim the description. The description in the Analog Devices datasheet for the accelerometer is well-written.
- Don't get lost in the details you don't understand: reading everything in a datasheet is overwhelming even for seasoned electrical engineers.
- 2) glance through the figures and table, to see what information they're offering, in case you need to refer to it later.
- 3) search for any specifications that you need to know; for example, temperature ranges if you expect to operate in cold or hot weather.