

# Week 4: Sound Sensor

CSCI 3907: IoT using Raspberry Pi

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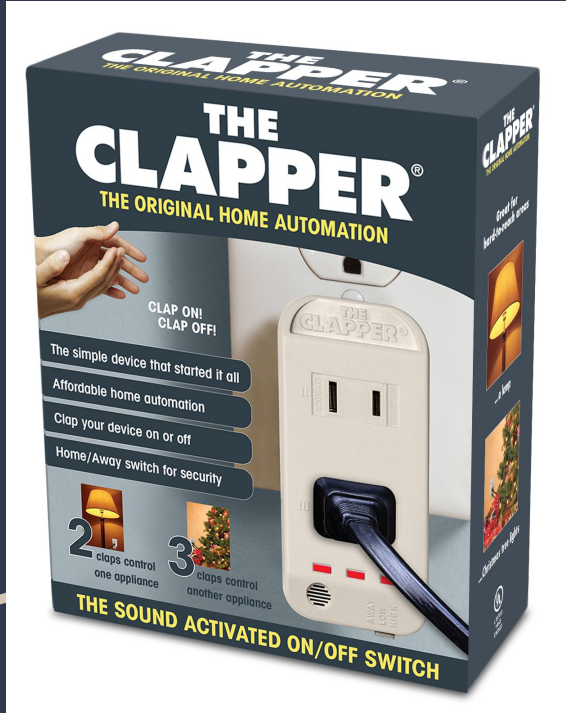
# Final Project Proposal Presentations

- Present final project idea in week 6
- Can use any and all sensors from the Sunfounder Kit
- No specific guidelines
- Does not have to be a new or novel idea
- Students will give each other feedback on their ideas in week 6

## **Deliverable:**

Please send us (over email or Slack) a slide(s) with your idea by 11:59PM on Thursday 2/17

# Assignment #3

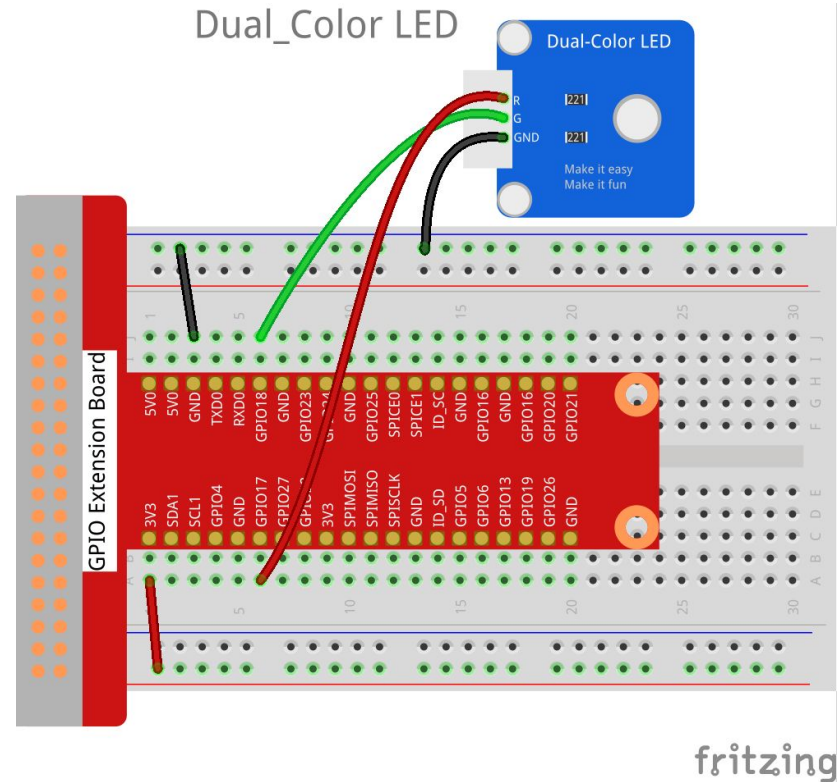
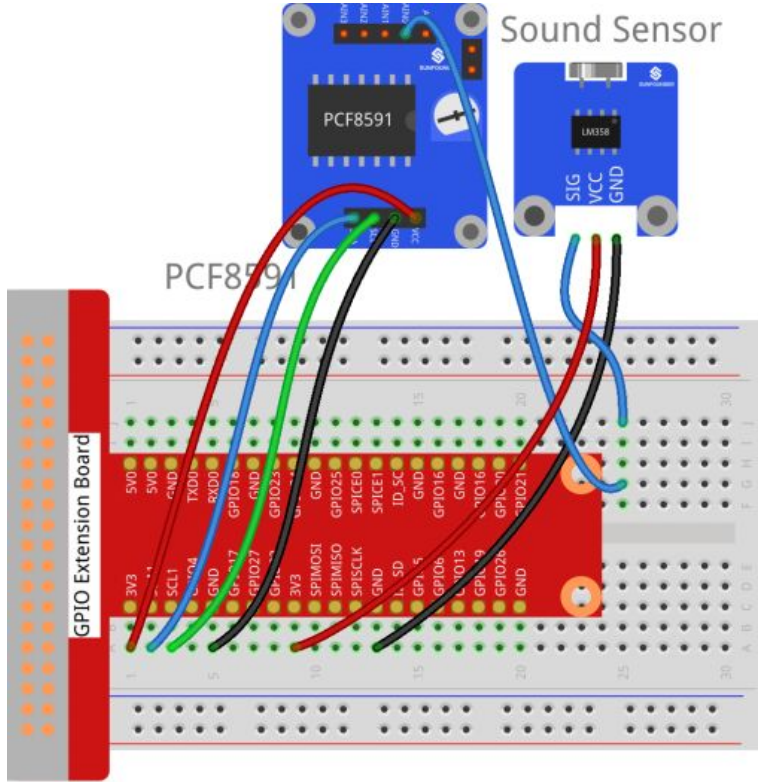


## Assignment (No part B this week):

- Using sound sensor, continuously poll for sound readings
- If a clap is heard (i.e. sound sensor reads value above a certain threshold), trigger dual color LED to light up for 3 seconds and then turn off again

## Steps to get started:

1. Wire up sound sensor
2. Continuously print sound sensor readings to find "threshold" of a clap
3. Wire up dual color LED (only need 1 color)
4. Trigger LED when a clap is heard



# Helpful Info

**Note:** If you did the assignment last week, you don't need to re-clone the git repo or install smbus2 again. Just make sure PCF8591.py is in the same directory as your code.

Working with GPIO Pins:

```
import RPi.GPIO as GPIO
GPIO.setmode(GPIO.BOARD)
GPIO.setup(<Pin Number>, GPIO.OUT)
GPIO.output(<Pin Number>, GPIO.LOW)
```

Working with sound sensor:

```
git clone https://github.com/sunfounder/SunFounder_SensorKit_for_RPi2.git
cp ./SunFounder_SensorKit_for_RPi2/Python/PCF8591.py ./
pip install smbus2 --user
```

Setup:

```
import PCF8591 as ADC

ADC.setup(0x48)
```

To read ADC:

```
input_val = ADC.read(0)
```