

1. Set up Raspberry Pi - WiFi
 2. Get, figure out, & test sensors - Display results
 • Internet of Things (UI, displaying results, connections, altering appliances)
~~Hardware and Programming~~
 3. Order parts
 4. Designing Web Interface UI

Sensors: Raspberry Pi:
 Smoke, Humidity,
 Light, Sound,
 Temp, Passive infrared,

Mouse
 Keyboard
 Joystick

Raspberry Pi Schematic:

Ideally I2C but SPI Bus is also fine

- Already have Light Sensor & temp. + humidity sensor
 so get it for the + air quality
- PIR motion sensor & sound sensor

Make block diagram & Bill of Materials

Make schematic

Light Sensor - TSL2561:

Going off of schematic

- ~~Connect Pi SDA & SCL directly to SDA_3V & SCL_3V lines and use common ground~~
- Solder wires
- Connect ADDRSEL to either VCC or GND or float

- * Draw reduced schematic w/ Pi, power supply, & TSL2561
- * I2C will sink current in - how much? 16mA
- * Play w/ TSL2561
- * Make an ^{web} app w/ one sensor

- * Omit sound sensor for now...
- * Decide on potential usage later...

Capstone Meeting
 1/17/17 - 5 PM

Current Progress:

1/23/18 - 5 PM to 6 PM

- Finished reduced schematic w/ light sensor
- Currently interfacing Raspberry Pi 3 & light sensor
- Thorson's backend: Server, subdomain, etc. → Mostly done
- Austin + Thorson frontend: user interface → In progress
- Web application

Current Goals:

- Can use any language for any sensor but ideally use one
- Use TSL2561 datasheet (Pg 14 to ...) for coding & libraries
- Try to min library before going through it
- Install necessary modules
- Get light sensor working by end of January
- Get data to web app

Notes:

- Most likely no screen on device
- Who's doing the controlling? Us
- Light control? Worry about later