

# RASPBERRY PI PROJECTS

Presentation by @bencarpena for South Houston High School



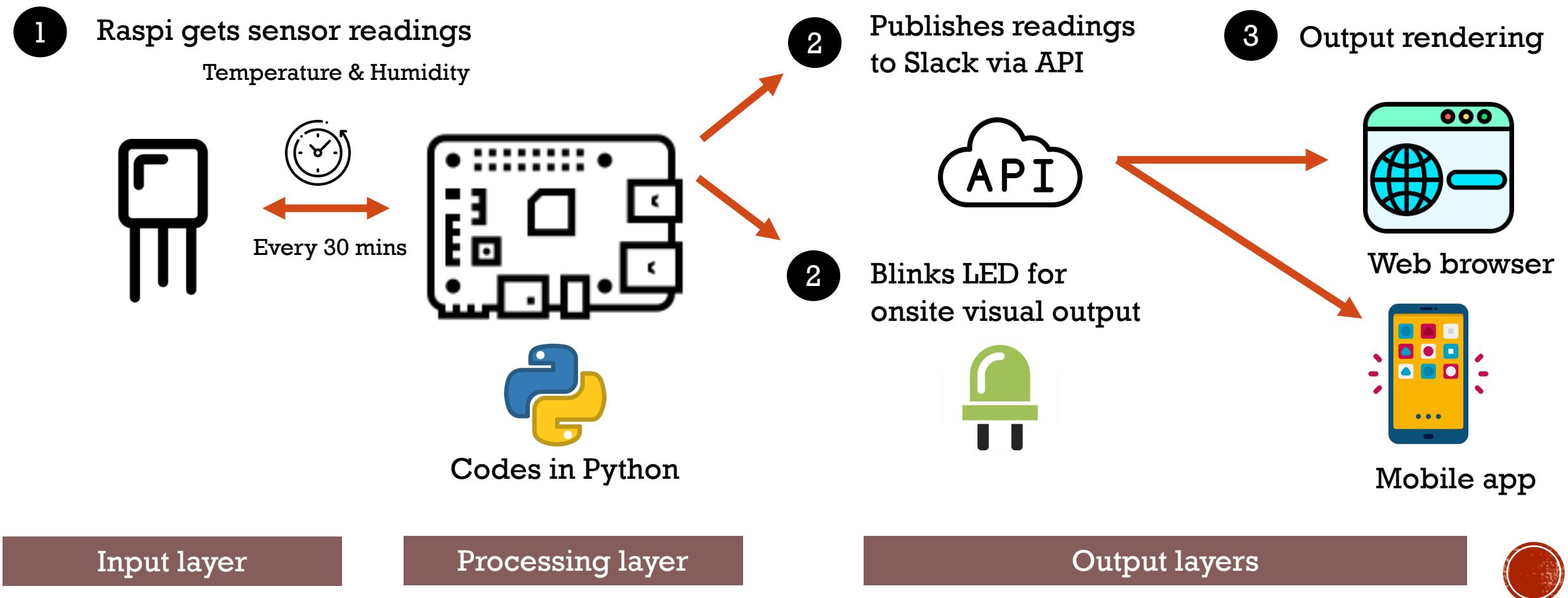


# HAGRID

A Raspberry PI integrated with  
AM2302 Digital Temperature and  
Humidity sensor module



# Hagrid : SOLUTION ARCHITECTURE



# HAGRID COMPONENTS

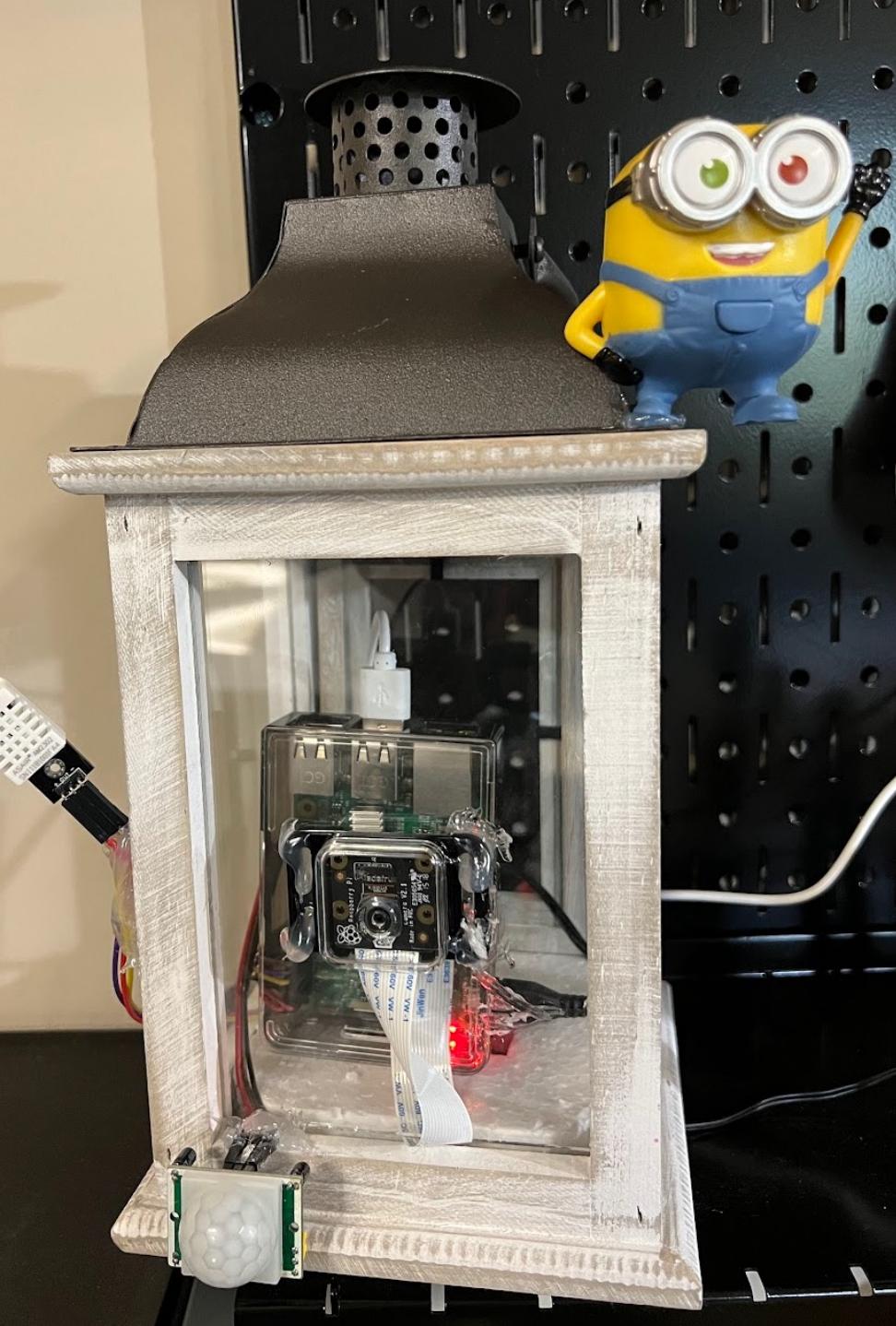
## Hardware

- Raspberry PI 3 Model B+
- AM2302 Digital Temperature and Humidity sensor [[amazon](#)]
- Light Emitting Diode (LED) [[amazon](#)]
- Raspi jumper wires [[amazon](#)]

## Software

- Operating system: Raspian GNU/Linux
- Python3
  - Sample codes [here](#)
- Slack API
  - Documentations [here](#)
  - Webhooks are event-driven APIs. Documentations [here](#)

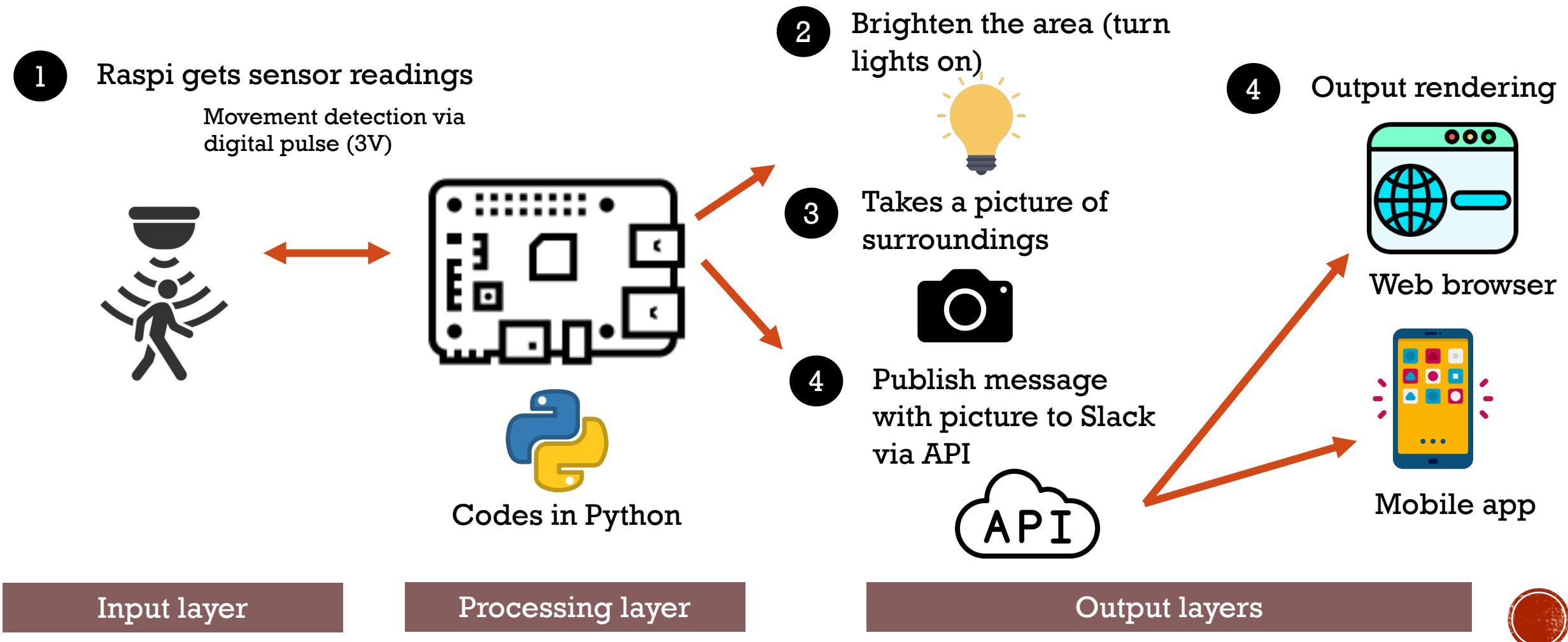




# BOB

- Raspberry Pi integrated with Pyroelectric (Passive) Infrared Sensor to detect motion and report on it.
- Sense, detect, and react.

# BOB : SOLUTION ARCHITECTURE



# BOB COMPONENTS

## Hardware

- Raspberry PI 3 Model B+
- Passive InfraRed (PIR) Sensor  
[[amazon](#)]
- Raspi camera [[amazon](#)]

## Software

- Operating system: Raspian  
GNU/Linux
- Python3
  - Sample codes [here](#)
- Slack API
  - Documentations [here](#)
  - Webhooks are event-driven APIs.  
Documentations [here](#)



# Hagrid

- Access the URL
  - <https://app.slack.com/huddle/T0558FTRAL8/C054JR44DGS>
- Sign-in with your email
- View the Raspberry Pi output

# Bob

- Access the URL
  - <https://app.slack.com/huddle/T0558FTRAL8/C054C7PC8H4>
- Sign-in with your email
- View the Raspberry Pi output

## PROJECTS IN ACTION

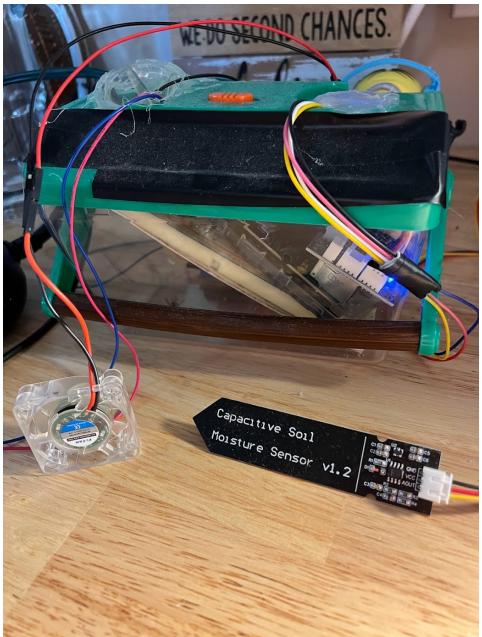
See output rendering



# OTHER PROJECTS

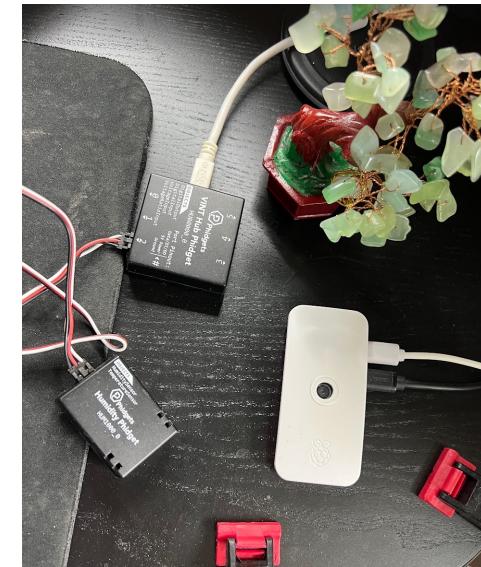
## Project Furion

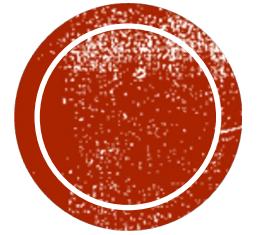
- Raspberry Pi that senses soil moisture and turns on water pumps if hydration is needed



## Project Zero

- Raspberry Pi Zero integrated with Phidget sensors and a camera





# RANDOMS

The making of

A horizontal film strip with two frames visible. The left frame shows a person's face, and the right frame shows a person's hand holding a small object. The film strip has a grainy texture and a light grey background.

## Hagrid

Raspi

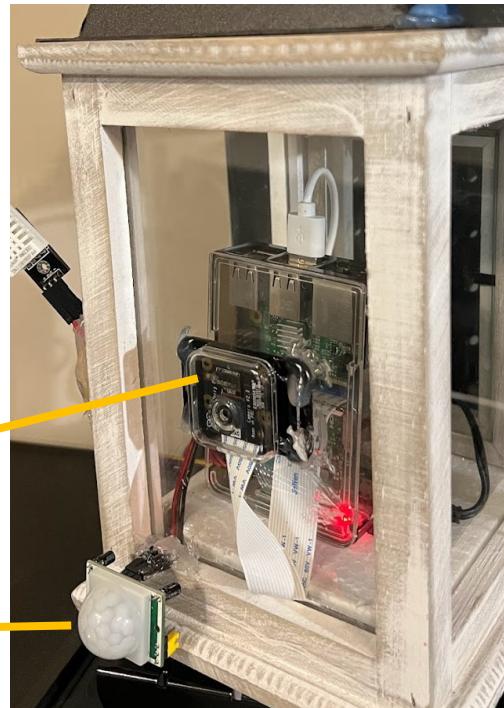


AM2302  
Sensor

Camera

PIR  
Sensor

## Bob



## Zero



Phidget  
Sensor



Camera  
output