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**GitHub:**

**Background**

We, freshman CS majors, first wanted to see if we could get output from the motion sensor as we liked the example given by Travis for how it could be used to detect motion from something like a laundry machine.

**Overview**

Alexa will confirm or deny that the ESP32 is detecting motion when asked. LEDs on the breadboard also light up when the ESP32 detects motion.

**Detailed Design**

1. Detect motion using the AM312 PIR motion sensor and print “Motion detected” to the console.
2. Connect the LEDs to the breadboard and have them light up when the motion sensor detects motion.
3. Set up the Alexa Skill that will handle data from the ESP32.
4. Have the ESP32 send its data to the shadow-state.
5. Enable Alexa to receive motion data from the shadow-state and interpret that data.
6. Write Intents and Alexa’s responses based on the data received from the ESP32.

**Alternatives Considered**

We debated using he proximity sensor instead of the motion sensor, but as we already had the motion sensor working, we decided to build on that.

**Competition in the Space**

There are other wifi-capable motion sensors available on the market.

The advantage of using our system is that it is cheaper.

**Appendix**

We would like to set up some way to have Alexa wake up on a ping from the ESP32 and give a notification. Currently we have to ask Alexa something to get any kind of notification, but it would nice to be able to set up Alexa to *tell us* when something happens (like the motion detector ceasing to detect motion) without us asking it to give us an update on the status of the motion sensor.