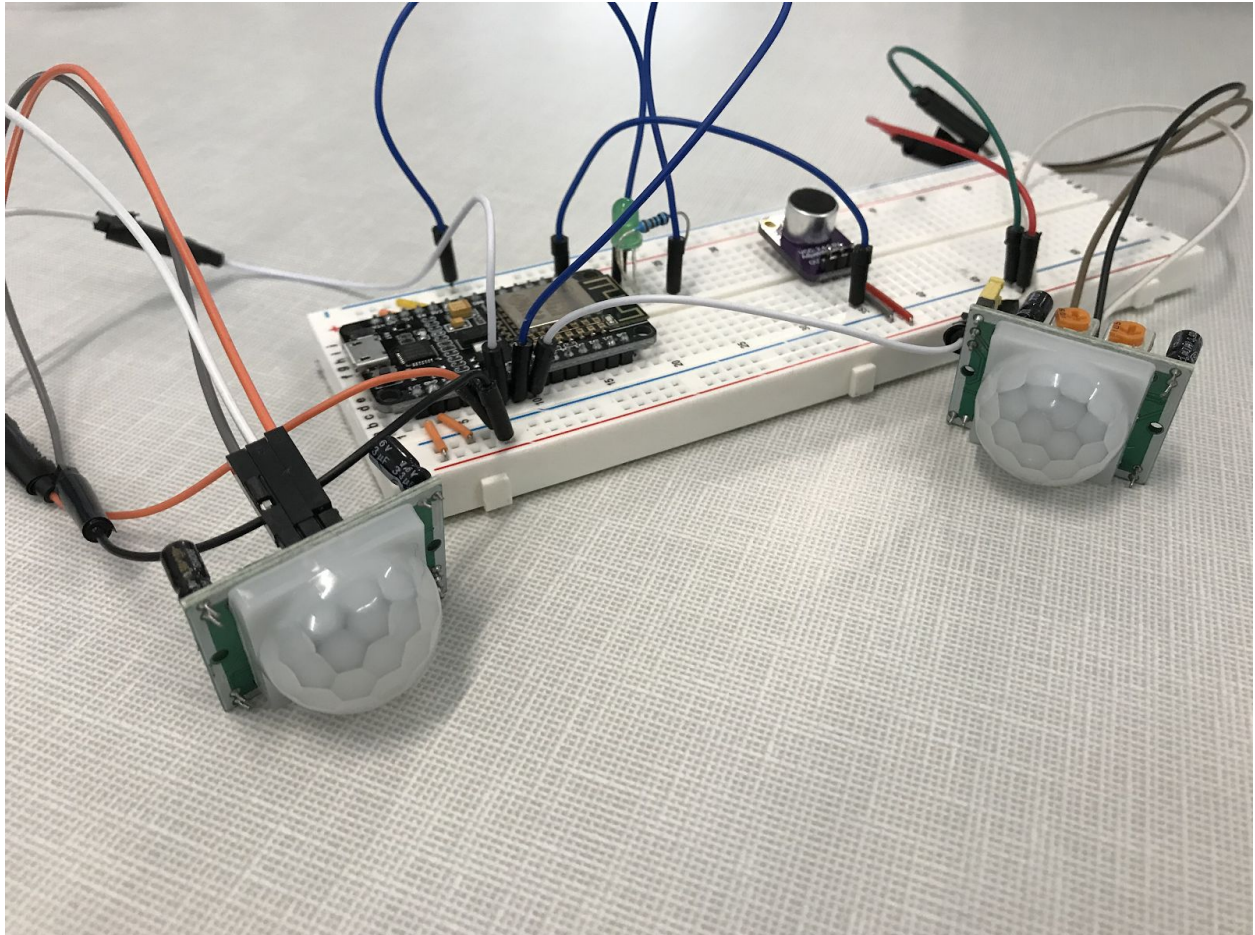


In TOOLS, go to BOARD and go to NodeMCU 1.0 (ESP-12E Module)
//we will be using this one for the wifi module

Window Sensor:



Notes:

We have used the nodeMCU module for implementation of using WiFi capability and GPIO pins. The sensors we have connected are 2 PIR Motion Sensors and an Electret Microphone Sensor. The design came from the idea of putting one motion sensor outside of the window and the other motion sensor on the inside of the window. The microphone sensor is inside the home, and if all sensors are triggered, we are sending a signal to the database.

During the design of this sensor, we first connected each sensor individually to tweak their sensitivity until we were satisfied with the results. We tested the motion sensor by letting it point in a direction with no motion, and then running our hand across it field of motion. For the microphone sensor, we used a youtube video with the sound of glass breaking at our phone's full volume (phone used: iPhone 7 Plus) to test and see if the sound we were receiving was loud enough to trigger our sensor. Then we combined all sensors to be used onto one nodeMCU and tested it similarly.

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Integration Testing:

This sensor is connected directly our Firebase database. We first made sure that it is connected to the WiFi. Then, by triggering our sensor, we had the Firebase database open and saw the instantaneous change on there.