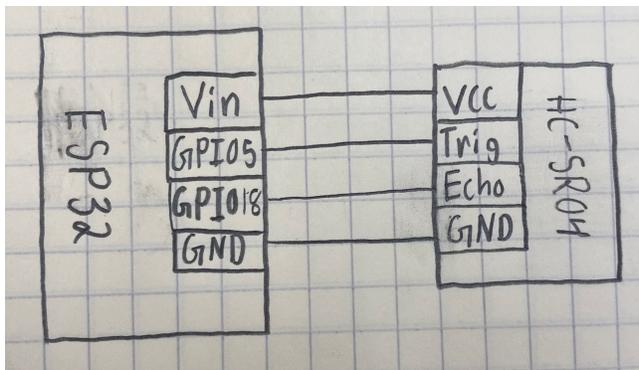


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Final Assignment Planning

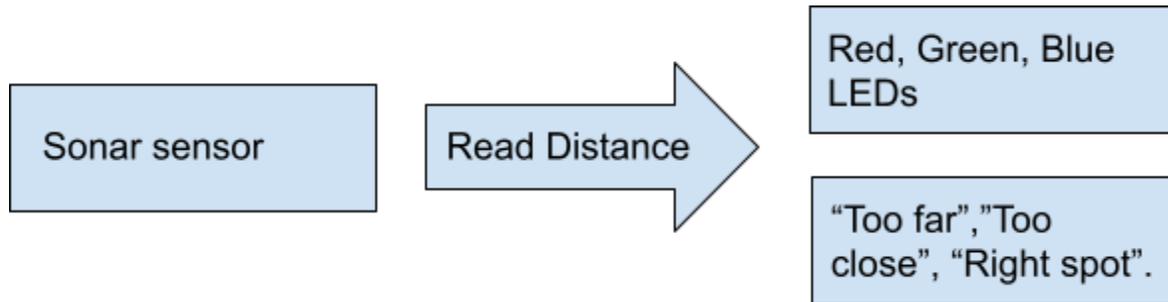
Overall Project: Our team is trying to make a better method for taking pictures. We will use a sonar sensor to determine how far a person is from the sensor (camera) to ensure they are in the correct position. We will use LEDs as our outputs so the person getting their picture taken can see whether or not they are in the correct position.

Overall Picture:



Program Overview: For this assignment we are to make a code that uses at least 2 ESP32 boards. We will have one board with the HC-SR04 ultrasonic sensor and the other board with LEDs. The sensor will take the distance of a person and send that information to the ENGR webspace that will then tell the person will LEDs if they are too far, too close, or in the correct position from the sensor. There will also be outputs sent to the ENGR webspace that will say that they are too close or too far or in the correct position.

Picture:



Inputs: The inputs for the code will be the sonar which takes measurements of how far someone is from the sensor and sends that information to the ENGR webspace.

Outputs: The outputs will be a red LED if the person is not at the correct distance such as too close. There will be a blue LED if the person is not in the correct spot and the distance is too far away. Then there will be a green LED that will indicate that the person is in the correct spot away from the sensor. There will also be messages that will tell the person that they are either too far, too close, or in the correct spot.

Test Plan:

Input 1: `ini_set('display errors', 1);`

Output 1: This will allow the code to tell me possible errors in my code

Input 2: `echo("You are too far away");`

Output 2: "You are too far away" will display on the web page to help the person get into the correct position, with a blue LED light.

Input 3: `Serial.print("Dawg")`

Output 3: This will display an error because I am missing the semicolon.

Steps for PHP:

- Set up html Doctype
- Open PHP code
- Set up error codes to display error messages
- Put in php code that will display weather you are to close, to far, or in the correct spot
- Put in code the tell the color of the LED indicating your position
- Open file connected to arduino
- Write file for sonar and Led lights
- Close file connected to arduino
- Close PHP Code

Steps for Arduino:

- Include arduino, wifi, wifimulti, and httpclient
- Begin by setting the baud rate for the code
- Set up the code to allow arduino to send information to the php file
- Define what ports each LED color is in
- Define what ports that connect to the HC-SR04 ultrasonic sensor
- Gather the information from the sensor and send it to the PHP file
- Set up the http end
- Set up delay