INTERNET OF THİNGS

Sending light measurement using ESP8266

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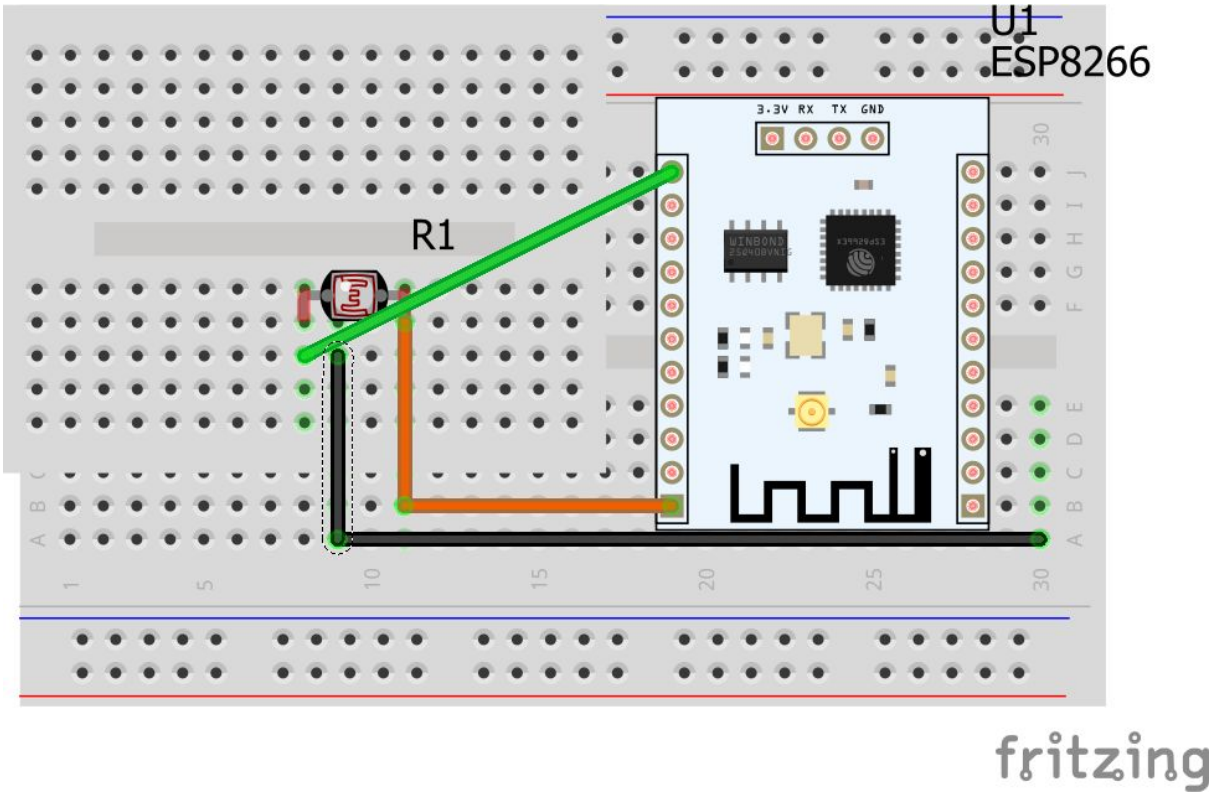
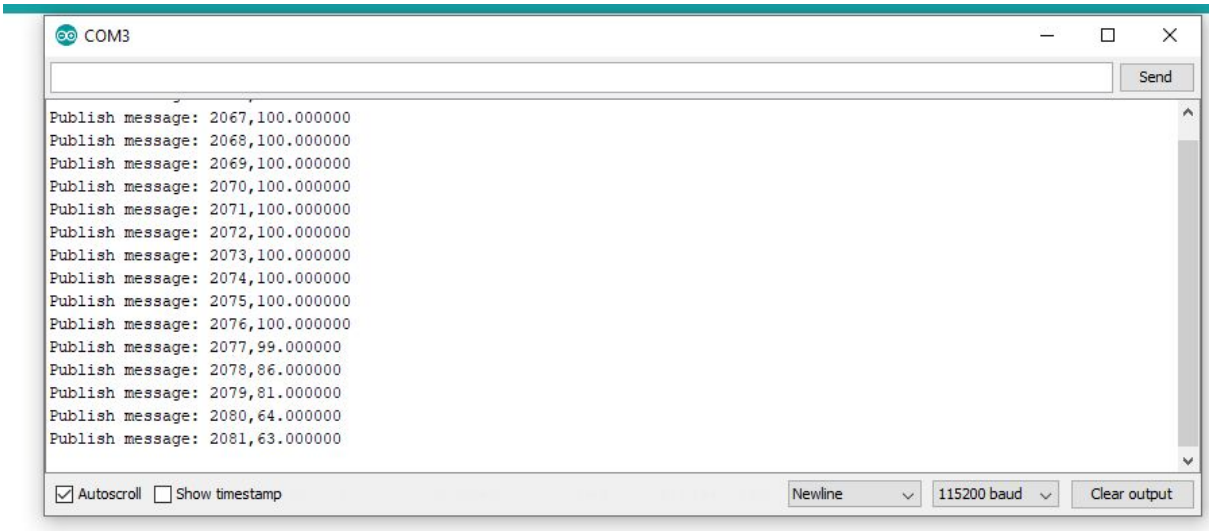
Description:
This project is detecting light level then sending this data MQTT server. This system using detection for the photoresistor as well as ESP8266 for communication with the MQTT server.Our purpose is taking light level then send MQTT server then visualization from data

Circuit Design:



Output Values:



Code:

light.ino

```
#include <PubSubClient.h>
#include <ESP8266WiFi.h>

const char *ssid = "mqtt";  //ENTER YOUR WIFI ssid
const char *password = "password";  //ENTER YOUR WIFI password
const char *mqtt_server = "192.168.137.1"; // mqtt server

WiFiClient espClient;
PubSubClient client(espClient);

unsigned long lastMsg = 0;
#define MSG_BUFFER_SIZE 500
char msg[MSG_BUFFER_SIZE];

int i =0;

void setup() {
  Serial.begin(115200);
  connectWifi();
  client.setServer(mqtt_server, 1883);
}

void loop() {
  int sensorValue = analogRead(A0);

  float percentage = sensorValue * 100 / 1024;

  if (!client.connected()) {
          reconnect();
  }
  client.loop();

  unsigned long now = millis();
  /*
  if (now - lastMsg > 1000) {
          lastMsg = now;
          */
          //if (i == 100) i = 0;
          snprintf (msg, MSG_BUFFER_SIZE, "%d,%f",i, percentage);
          i++;
   // snprintf (msg, MSG_BUFFER_SIZE, "%f", percentage);
          Serial.print("Publish message: ");
          Serial.println(msg);
          client.publish("room/light", msg);
```

```
        delay(1000);
  //}
}

void connectWifi(){
  delay(1000);
  WiFi.mode(WIFI_OFF);        //Prevents reconnection issue (taking too long to connect)
  delay(1000);
  WiFi.mode(WIFI_STA);        //This line hides the viewing of ESP as wifi hotspot
  WiFi.begin(ssid, password);             //Connect to your WiFi router
  Serial.println("");
  Serial.print("Connecting");
  // Wait for connection
  while (WiFi.status() != WL_CONNECTED) {
        delay(500);
        Serial.print(".");
  }

  randomSeed(micros());

  //If connection successful show IP address in serial monitor
  Serial.print("Connected to ");
  Serial.println(ssid);
  Serial.print("IP address: ");
  Serial.println(WiFi.localIP());  //IP address assigned to your ESP
}

void reconnect() {
  // Loop until we're reconnected
  while (!client.connected()) {
        Serial.print("Attempting MQTT connection...");
        // Create a random client ID
        String clientId = "ESP8266Client-";
        clientId += String(random(0xffff), HEX);
        // Attempt to connect
        if (client.connect(clientId.c_str())) {
        Serial.println("connected");
        // Once connected, publish an announcement...
        } else {
        Serial.print("failed, rc=");
        Serial.print(client.state());
        Serial.println(" try again in 5 seconds");
        // Wait 5 seconds before retrying
        delay(5000);
        } } }
```