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# # Plant-health-monitoring-system-based-on-IOT-sensor-technologies

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#Author: your name

#Description:

#This project typically uses sensors like

**#DHT11/DHT12+**Soil Moisture Sensor

#================================================

#include <ESP8266WiFi.h>

#include <DHT.h>

#include <ThingSpeak.h>

// WiFi credentials

const char\* ssid = "YOUR\_WIFI\_SSID";

const char\* password = "YOUR\_WIFI\_PASSWORD";

// ThingSpeak credentials

unsigned long myChannelNumber = YOUR\_CHANNEL\_NUMBER;

const char \* myWriteAPIKey = "YOUR\_WRITE\_API\_KEY";

// Sensor pins

#define DHTPIN D2

#define DHTTYPE DHT11 // Or DHT22

#define SOIL\_PIN A0

#define LIGHT\_PIN D1 // For LDR

DHT dht(DHTPIN, DHTTYPE);

WiFiClient client;

void setup() {

Serial.begin(115200);

dht.begin();

WiFi.begin(ssid, password);

ThingSpeak.begin(client);

Serial.print("Connecting to WiFi");

while (WiFi.status() != WL\_CONNECTED) {

delay(1000);

Serial.print(".");

}

Serial.println("Connected!");

}

void loop() {

// Read sensors

float temperature = dht.readTemperature();

float humidity = dht.readHumidity();

int soilMoisture = analogRead(SOIL\_PIN);

int lightLevel = analogRead(LIGHT\_PIN);

// Print to serial

Serial.println("Temp: " + String(temperature) + " C");

Serial.println("Humidity: " + String(humidity) + " %");

Serial.println("Soil Moisture: " + String(soilMoisture));

Serial.println("Light: " + String(lightLevel));

// Upload to ThingSpeak

ThingSpeak.setField(1, temperature);

ThingSpeak.setField(2, humidity);

ThingSpeak.setField(3, soilMoisture);

ThingSpeak.setField(4, lightLevel);

int statusCode = ThingSpeak.writeFields(myChannelNumber, myWriteAPIKey);

if (statusCode == 200) {

Serial.println("Data sent to ThingSpeak!");

} else {

Serial.println("Problem sending data. HTTP error code: " + String(statusCode));

}

delay(15000); // 15 seconds delay (ThingSpeak limit)

}