

PROJECT DEVELOPMENT PHASE

SPRINT 1

Date	29 October 2022
Team ID	PNT2022TMID17444
Project Name	IoT Based Smart Crop Protection System for Agriculture

WOKWI

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Docs

sketch.ino • diagram.json • libraries.txt • Library Manager

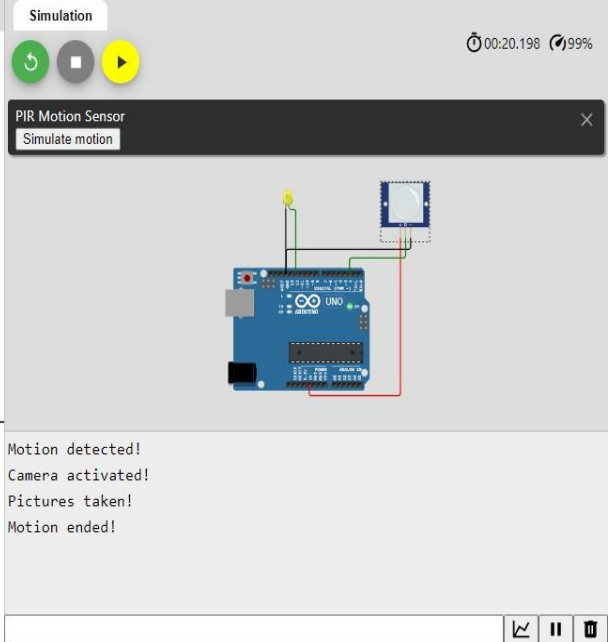
```
1  /*
2  PIR sensor tester
3  */
4  #include <Wifi.h>
5  #include <PubSubClient.h>
6  WifiClient wifiClient;
7  String data3;
8  #define ORG "z22obn"
9  #define DEVICE_TYPE "Project"
10 #define DEVICE_ID "123456789"
11 #define TOKEN "y6Lb71znBD&Iv9euq"
12 char server[] = ORG ".messaging.internetofthings.ibmcloud.com";
13 char publishTopic[] = "iot-2/evt/manimd/fmt/json";
14 char topic[] = "iot-2/cmd/led/fmt/String";
15 char authMethod[] = "use-token-auth";
16 char token[] = TOKEN;
17 char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID;
18 PubSubClient client(server, 1883, wifiClient);
19
20 int ledPin = 12; // choose the pin for the LED
21 int inputPin = 2; // choose the input pin (for PIR sensor)
22 int pirState = LOW; // we start, assuming no motion detected
23 int val = 0; // variable for reading the pin status
24
25
26 void setup() {
27   pinMode(ledPin, OUTPUT); // declare LED as output
28   pinMode(inputPin, INPUT); // declare sensor as input
29   Serial.begin(9600);
30 }
```

Simulation

00:20.198 99%

PIR Motion Sensor

Simulate motion



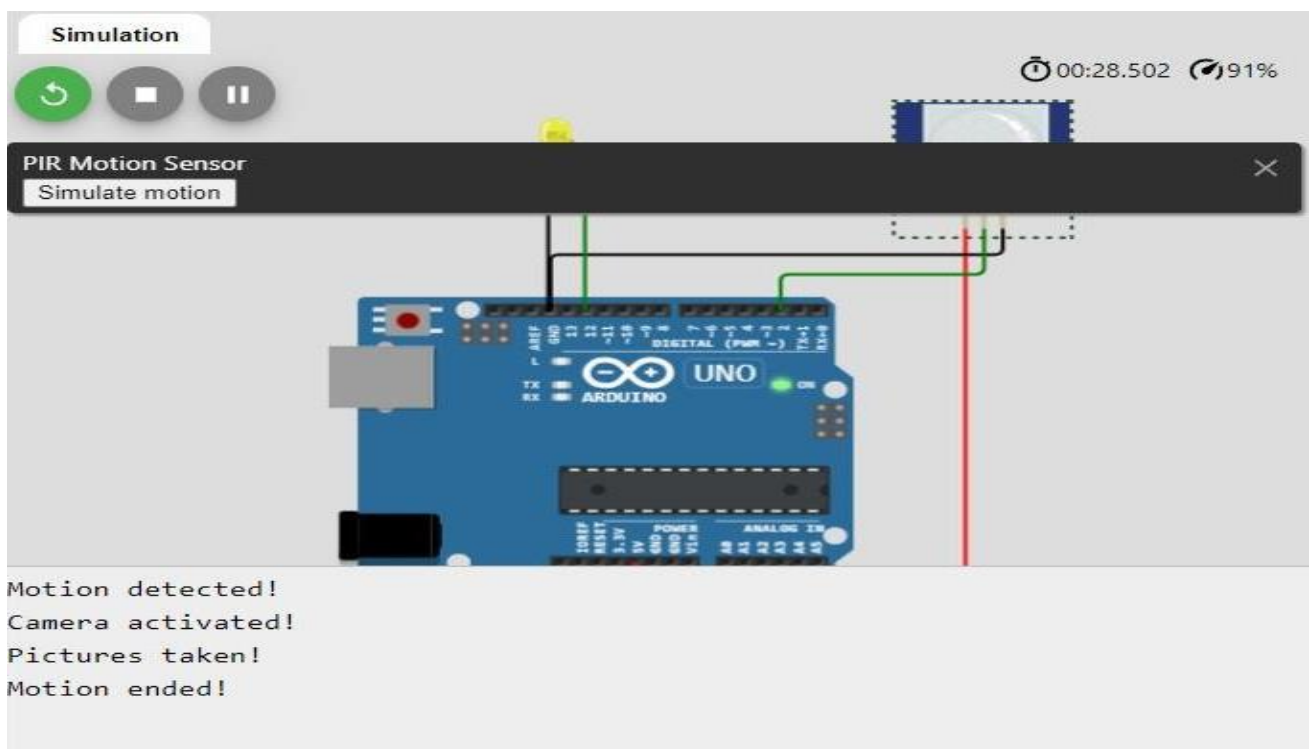
Motion detected!
Camera activated!
Pictures taken!
Motion ended!

Simulation

00:28.502 91%

PIR Motion Sensor

Simulate motion



Motion detected!
Camera activated!
Pictures taken!
Motion ended!

PYTHON CODE:

```
/*PIR sensor tester*/
#include <WiFi.h>
#include <PubSubClient.h>
WiFiClient wifiClient;
String data3;
#define ORG "z22obn"
#define DEVICE_TYPE "Project"
#define DEVICE_ID "123456789"
#define TOKEN "y6Lb7IznmBD&Iv9euq"
int ledPin = 12; // choose the pin for the LED
int inputPin = 2; // choose the input pin (for PIR sensor)
int pirState = LOW; // we start, assuming no motion detected
int val = 0; // variable for reading the pin status
void setup() {
  pinMode(ledPin, OUTPUT); // declare LED as output
  pinMode(inputPin, INPUT); // declare sensor as input
  Serial.begin(9600);
}
void loop() {
  val = digitalRead(inputPin); // read input value
  if (val == HIGH) { // check if the input is HIGH
    digitalWrite(ledPin, HIGH); // turn LED ON
    //void publishData();
    if (pirState == LOW)
    {
      // we have just turned on
      Serial.println("Motion detected!");
      Serial.println("Camera activated!");
      delay(1000);
      Serial.println("Pictures taken!");
      // We only want to print on the output change, not state
      pirState = HIGH;
    }
  }
}
```

```
else {  
  digitalWrite(ledPin, LOW); // turn LED OFF  
  //void publishData();  
  if (pirState == HIGH) {  
    // we have just turned of  
    Serial.println("Motion ended!");  
    // We only want to print on the output change, not state  
    pirState = LOW;  
  }  
}
```

WOKWI LINK:

<https://wokwi.com/projects/347392355240772180>

