**TOPIC: Smart Farming**

#include <Servo.h>

int Photosensor = 0;

int DetectorState = 0;

int Thermostat = 0;

Servo servo\_2;

long readUltrasonicDistance(int triggerPin, int echoPin)

{

pinMode(triggerPin, OUTPUT);

digitalWrite(triggerPin, LOW);

delayMicroseconds(2);

digitalWrite(triggerPin, HIGH);

delayMicroseconds(10);

digitalWrite(triggerPin, LOW);

pinMode(echoPin, INPUT);

return pulseIn(echoPin, HIGH);

}

void setup()

{

pinMode(A4, INPUT);

servo\_2.attach(2, 500, 2500);

pinMode(A0, INPUT);

Serial.begin(9600);

pinMode(11, OUTPUT);

pinMode(7, OUTPUT);

}

void loop()

{

Thermostat = (-40 + 0.488155 \* (analogRead(A4) - 20));

if (Thermostat < 18) {

servo\_2.write(45);

} else {

servo\_2.write(0);

}

Photosensor = analogRead(A0);

Serial.println(Photosensor);

analogWrite(11, map(Photosensor, 0, 1023, 0, 255));

DetectorState = 0.01723 \* readUltrasonicDistance(8, 8);

if (DetectorState< 260) {

digitalWrite(7, HIGH);

} else {

digitalWrite(7, LOW);

}

delay(1000);

}

**OUTPUT:**

**Diagram, schematic

Description automatically generated**