SMART SOLUTION FOR RAILWAYS

PROJECT TEAM MATES
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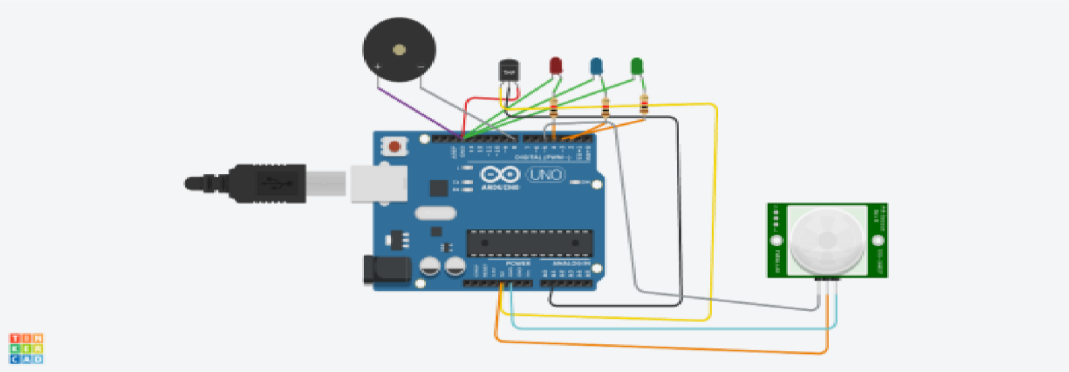
Project Description:
This is a connection setup of an Arduino Uno, LED lights(3),temperature sensor, humidity sensor and a buzzer. Initially the arduino is connected to the temperature sensor and with LEDs. When the temperature varies different LEDs glow. Then the arduino is connected to the PIR sensor which is connected to the buzzer. The PIR sensor senses the movement of humans and produces output according to the movement.

Apparatus Required:
- Arduino Uno
- LEDs(Green, Blue, Red)
- PIR sensor
- Temperature Sensor
- Buzzer

Model diagram:



CODE:

```
 const into hot = 87; //set hot parameter
const int cold = 75; //set cold parameter
int Buzz= 8; // Define Buzzer pin
int PIR= 5; // Define PIR pin
int val= 0; // Initializing the value as zero at the beginning
 void setup()
{
pinMode(A2, INPUT); //sensor
 pinMode(2, OUTPUT); //blue
 pinMode(3, OUTPUT); //green
pinMode(4, OUTPUT); //red
Serial.begin(9600);
 pinMode(Buzz, OUTPUT);
pinMode(PIR, INPUT);
Serial.begin(9600);
 }
void loop()
 {
int sensor = analogRead(A2);
 float voltage = (sensor / 1024.0) * 5.0;
 float tempC = (voltage - .5) * 100;
float tempF = (tempC * 1.8) + 32;
Serial.print("temp: ");
Serial.print(tempF); if (tempF < cold)
{
cold digitalWrite(2, HIGH);
digitalWrite(3, LOW);
digitalWrite(4, LOW);
Serial.println(" It's Cold.");
if(val == HIGH)
{
digitalWrite(Buzz, HIGH); // Turn Buzzer ON
Serial.println("Movement Detected"); // Print this text in Serial
Monitor
 } else if (tempF >= hot) { //hot
digitalWrite(2, LOW);
 digitalWrite(3, LOW);
digitalWrite(4, HIGH);
Serial.println(" It's Hot.");
 } else { //fine
```

```
40 digitalWrite(2, LOW);
41 digitalWrite(3, HIGH);
42 digitalWrite(4, LOW);
43 Serial.println(" It's Fine.");
44 digitalWrite(Buzz, LOW);
45 Serial.println("Movement not Detected");
46 }
47 delay(1000);
48 }
49 }
```