MAKE SKILLED IoT INTERNSHIP

ASSIGNMENT – 12

ARDUINO LOGICAL THINKING TASK

**when someon enters in prohibited area get an alert(like buzzer sound).**

* HERE WE WILL BE USING ARDUINO INTERFACE.
  + COMPONENTS REQUIRED:
  1. ARDUINO UNO BOARD
  2. PC / LAPTOP INSTALLED WITH ARDUINO IDE SOFTWARE
  3. ULTRASONIC SENSOR OR PIR SENSOR
  4. BUZZER
  5. JUMPING WIRES
* CIRCUIT DIAGRAM 1
* Graphical user interface, diagram

  Description automatically generated
* PROGRAM 1

int trigPin = 9;

int echoPin = 8;

int buzz = 2;

float duration\_us, distance\_cm;

void setup() {

Serial.begin (9600);

pinMode(buzz, OUTPUT);

pinMode(trigPin, OUTPUT);

pinMode(echoPin, INPUT);

}

void loop() {

digitalWrite(trigPin, HIGH);

delayMicroseconds(10);

digitalWrite(trigPin, LOW);

duration\_us = pulseIn(echoPin, HIGH);

distance\_cm = 0.017 \* duration\_us;

Serial.print("distance: ");

Serial.print(distance\_cm);

Serial.println(" cm");

delay(1000);

if (distance\_cm > 20)

digitalWrite(buzz, HIGH);

delay(3000);

digitalWrite(buzz, LOW);

}

**OR**

* CIRCUIT DIAGRAM 2

Graphical user interface, application

Description automatically generated

* PROGRAM 1

#define pirPin 2

int calibrationTime = 30;

int buzz = 3;

long unsigned int lowIn;

long unsigned int pause = 5000;

boolean lockLow = true;

boolean takeLowTime;

int PIRValue = 0;

void setup() {

Serial.begin(9600);

pinMode(buzz, OUTPUT);

pinMode(pirPin, INPUT);

}

void loop() {

PIRSensor();

}

void PIRSensor() {

if(digitalRead(pirPin) == HIGH) {

if(lockLow) {

PIRValue = 1;

lockLow = false;

Serial.println("Motion detected.");

digitalWrite(buzz, HIGH);

delay(3000);

digitalWrite(buzz, LOW);

delay(3000);

}

takeLowTime = true;

}

if(digitalRead(pirPin) == LOW) {

if(takeLowTime){

lowIn = millis();takeLowTime = false;

}

if(!lockLow && millis() - lowIn > pause) {

PIRValue = 0;

lockLow = true;

Serial.println("Motion ended.");

delay(50);

} } }

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