   IBM ASSIGNMENT -1

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Real time communication system powered by AI for specially abled Using IoT:

Code:

// include the library code:

#include <LiquidCrystal.h>

// initialize the library with the numbers of the interface pins

LiquidCrystal lcd(12, 13, 11, 10, 9, 8);

int pirPin=7;

int pirInput=0;

int bulbPin=6;

int photoValue=0;

int tempReading=0,temp1=0,temperature=0;

int fanPin=5;

int gasReading=0;

int greenLed=4;

int yellowLed=3;

int redLed=2;

int piezoPin=0;

void scrollScreenSaver() {

// autoscroll https://www.arduino.cc/en/Tutorial/LiquidCrystalAutoscroll

lcd.clear() ;

lcd.setCursor(15, 0); // Set LCD cursor position (column 0, row 0)

lcd.print("Welcome");

lcd.setCursor(15, 1);

lcd.print("to my home");

// scroll 7 positions (display length - string length) to the left

// to move it back to center:

for (int positionCounter = 0; positionCounter < 22; positionCounter++) {

// scroll one position left:

lcd.scrollDisplayLeft();

// wait a bit:

delay(50);

}

}

void setup()

{

// set up the LCD's number of columns and rows:

lcd.begin(16, 2);

// Print a message to the LCD.

lcd.print("hello, world!");

pinMode(pirPin, INPUT);

pinMode(bulbPin, OUTPUT);

pinMode(greenLed,OUTPUT);

pinMode(yellowLed,OUTPUT);

pinMode(redLed,OUTPUT);

pinMode(piezoPin,OUTPUT);

Serial.begin(9600);//reading through serial monitor

}

void loop()

{

// set the cursor to column 0, line 1

// (note: line 1 is the second row, since counting begins with 0):

lcd.setCursor(0, 1);

// print the number of seconds since reset:

lcd.print(millis() / 1000);

pirInput=digitalRead(pirPin);

photoValue=analogRead(A0);

Serial.println(photoValue);

tempReading=analogRead(A1);

//temp1= (tempReading/1024\*5000/1700\*175)-50;

temperature=(5000.0/1024.0\*tempReading/10.0);

//Serial.println(tempReading);

//Serial.println(temp1);

Serial.println(temperature);

gasReading=analogRead(A2);

Serial.println(gasReading);

//gasReading = map(gasReading, 300, 750, 0, 100);

//Serial.println(gasReading);

Serial.println(".........................");

digitalWrite(greenLed,gasReading>100 ? HIGH : LOW);

digitalWrite(yellowLed,gasReading>200 ? HIGH : LOW);

digitalWrite(redLed,gasReading>300 ? HIGH : LOW);

if(pirInput==HIGH)

{

lcd.clear();

lcd.setCursor(0,0);

lcd.print("Motion Detected");

if(photoValue<300)//if light is less in room

{

digitalWrite(bulbPin,HIGH);

lcd.setCursor(0,1);

lcd.print("Light is on");

delay(1000);

}

if(temperature>25)

{

digitalWrite(fanPin,HIGH);

lcd.setCursor(0,1);

lcd.print(" ");

lcd.setCursor(0,1);

lcd.print("Fan is on");

delay(1000);

}

}

else

{

scrollScreenSaver() ;

}

/\*digitalWrite(13, HIGH);

delay(1000); // Wait for 1000 millisecond(s)

digitalWrite(13, LOW);

delay(1000); // Wait for 1000 millisecond(s) \*/

}