#include <LiquidCrystal.h>

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

LiquidCrystal lcd(12, 8, 5, 4, 3, 2);

int count=0;

int k=0;

long time1=0;

int sensorValue1=0;

#define led 7

#define ledldr 6

#define fan 9

#define gate\_clock 11

#define fan2 13

#define gate\_anticlock 10

char user=0;

void setup() {

// put your setup code here, to run once:

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

lcd.begin(16, 2);

pinMode(ledldr,OUTPUT);

pinMode(led,OUTPUT);

//pinMode(gate,OUTPUT);

pinMode(fan,OUTPUT);

//pinMode(gate2,OUTPUT);

pinMode(fan2,OUTPUT);

Serial.begin(9600);

delay(1000);

lcd.clear();

lcd.print("Home Automation");

//TO get Temperature

temp();

}

void loop() {

// put your main code here, to run repeatedly:

// set the cursor to column 0, line 1

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

//IR GATE (Counting Persons)

roomauto();

if(k==1)

ldr();

counter();

wifi\_control();

// print the number of seconds since reset:

//lcd.print(millis() / 1000);

}

void counter()

{

//int sensorValue = analogRead(A0);

// Serial.println(sensorValue);

//Serial.println(sensorValue1);

if(analogRead(A0)>=650)

{

//delay(1000);

time1=millis();

while((sensorValue1 = analogRead(1))<650)

{

if ((millis()-time1)>3000)

break;

}

if(sensorValue1>=650)

{

count++;

door();

fanmotor();

lcd.setCursor(0, 1);

lcd.print("Cnt=");

lcd.print(count);

}

}

else if(analogRead(1)>=650)

{

//delay(1000);

time1=millis();

while((sensorValue1 = analogRead(0))<650)

{

if ((millis()-time1)>3000)

break;

}

if(sensorValue1>=650)

{

count--;

door();

fanmotor();

lcd.setCursor(0, 1);

lcd.println("Cnt=");

lcd.println(count);

}

}

// print out the value you read:

//lcd.setCursor(0,1);

//Serial.println("count=");

//Serial.println(count);

//delay(1000);

}

void temp()

{

lcd.setCursor(0,1);

int tsensor= analogRead(2);

float tempe = (tsensor\*500)/(float)1024;

lcd.print("Tmp");

lcd.print(tempe);

delay(8000);

lcd.clear();

}

void ldr()

{

lcd.setCursor(0,1);

lcd.print("LDRon");

int ldrsensor= analogRead(A3);

int ldrsensor2=1024/ldrsensor;

if(ldrsensor<200)

analogWrite(ledldr,240);

else

analogWrite(ledldr,40\*ldrsensor2);

}

void door()

{

//digitalWrite(gate,HIGH);

analogWrite(gate\_clock,56);

delay(1450);

analogWrite(gate\_clock,0);

delay(1000);

analogWrite(gate\_anticlock,56);

delay(1450);

analogWrite(gate\_anticlock,0);

}

void fanmotor()

{

//digitalWrite(fan2,HIGH);

if((count>0)&&(user!='C'))

{digitalWrite(fan2,HIGH);

analogWrite(fan,40+(count\*20));

lcd.setCursor(0,1);

lcd.print("FANon");

}

}

void fanmotor1()

{

digitalWrite(fan2,HIGH);

analogWrite(fan,80);

lcd.setCursor(0,1);

lcd.print("FANon");

}

void fanmotor2()

{

digitalWrite(fan2,HIGH);

analogWrite(fan,160);

lcd.setCursor(0,1);

lcd.print("FANon");

}

void fanmotor3()

{

digitalWrite(fan2,HIGH);

analogWrite(fan,250);

lcd.setCursor(0,1);

lcd.print("FANon");

}

void ledglow()

{

digitalWrite(led,HIGH);

lcd.setCursor(0,1);

lcd.print("LEDon");

}

void wifi\_control(){

if(Serial.available())

{

//char user=Serial.read();

user=Serial.read();

if(user=='a') ledglow();

if( user=='A')

{

digitalWrite(led,LOW);

lcd.setCursor(0,1);

lcd.print("LEDof");

}

if(user=='b')

{

k=1;

ldr();

}

if(user=='B')

{

k=0;

digitalWrite(ledldr,LOW);

lcd.setCursor(0,1);

lcd.print("LDRof");

}

if(user=='c') fanmotor1();

if(user=='C')

{

digitalWrite(fan2,LOW);

lcd.setCursor(0,1);

lcd.print("FANof");

}

if(user=='d') fanmotor2();

if(user=='e') fanmotor3();

}

}

void roomauto()

{

lcd.setCursor(0,0);

lcd.print("Home Automation");

}