|  |
| --- |
| #include <LiquidCrystal.h> |
|  |  |
|  | LiquidCrystal lcd(6, 7, 8, 9, 10, 11); |
|  | float gasPin = A0; |
|  | float gasLevel; |
|  | int ledPin = 2; |
|  | int buttonPin = 3; |
|  | int buzzPin = 4; |
|  | int buttonState; |
|  | int fan = 5; |
|  |  |
|  | void setup(){ |
|  | pinMode(ledPin, OUTPUT); |
|  | pinMode(buttonPin, INPUT); |
|  | pinMode(gasPin,INPUT); |
|  | pinMode(fan,OUTPUT); |
|  | Serial.begin(9600); |
|  | lcd.begin(16, 2); |
|  | lcd.setCursor(0,0); |
|  | lcd.print(" Welcome"); |
|  | lcd.setCursor(0,2); |
|  | lcd.print("GAS LEAKAGE SYSTEM"); |
|  | delay(500); |
|  | lcd.clear(); |
|  | } |
|  |  |
|  | void loop(){ |
|  | // Read the value from gas sensor and button |
|  | gasLevel = analogRead(gasPin); |
|  | buttonState = digitalRead(buttonPin); |
|  |  |
|  | // call the function for gas detection and button work |
|  | gasDetected(gasLevel); |
|  | buzzer(gasLevel); |
|  | exhaustFanOn(buttonState); |
|  | } |
|  |  |
|  | // Gas Leakage Detection & Automatic Alarm and Fan ON |
|  | void gasDetected(float gasLevel){ |
|  | if(gasLevel >= 300){ |
|  | digitalWrite(buzzPin,HIGH); |
|  | digitalWrite(ledPin,HIGH); |
|  | digitalWrite(fan,HIGH); |
|  | lcd.setCursor(0,0); |
|  | lcd.print("GAS:"); |
|  | lcd.print(gasLevel); |
|  | lcd.setCursor(0,2); |
|  | lcd.print("FAN ON"); |
|  | delay(1000); |
|  | lcd.clear(); |
|  | }else{ |
|  | digitalWrite(ledPin,LOW); |
|  | digitalWrite(buzzPin,LOW); |
|  | digitalWrite(fan,LOW); |
|  | lcd.setCursor(0,0); |
|  | lcd.print("GAS:"); |
|  | lcd.print(gasLevel); |
|  | lcd.setCursor(0,2); |
|  | lcd.print("FAN OFF"); |
|  | delay(1000); |
|  | lcd.clear(); |
|  | } |
|  | } |
|  | //BUZZER |
|  | void buzzer(float gasLevel){ |
|  | if(gasLevel>=300) |
|  | { |
|  | for(int i=0; i<=30; i=i+10) |
|  | { |
|  | tone(4,i); |
|  | delay(400); |
|  | noTone(4); |
|  | delay(400); |
|  | } |
|  | } |
|  | } |
|  | // Manually Exhaust FAN ON |
|  | void exhaustFanOn(int buttonState){ |
|  | if(buttonState == HIGH){ |
|  | digitalWrite(fan,HIGH); |
|  | lcd.setCursor(0,0); |
|  | lcd.print("Button State:"); |
|  | lcd.print(buttonState); |
|  | lcd.setCursor(0,2); |
|  | lcd.print("FAN ON"); |
|  | delay(10000); |
|  | lcd.clear(); |
|  | } |
|  | } |