

GAS LEAKAGE MONITORING AND ALERTING SYSTEM FOR INDUSTRIES

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TINKER CARD STIMULATION :

The screenshot shows the Tinkercad web interface for a circuit simulation. The circuit consists of an Arduino Uno R3 connected to a breadboard. The breadboard contains a sensor module, a buzzer, and an LCD display. The LCD display shows the word "SAFE". The code on the right is as follows:

```
1 #include <LiquidCrystal.h>
2 LiquidCrystal lcd(5,6,8,9,10,11);
3
4 int red = 2;
5 int green = 3;
6 int buzzer = 4;
7 int sensor = A0;
8 int sensorThresh = 100;
9
10 void setup()
11 {
12   pinMode(red, OUTPUT);
13   pinMode(green, OUTPUT);
14   pinMode(buzzer, OUTPUT);
15   pinMode(sensor, INPUT);
16   Serial.begin(9600);
17   lcd.begin(16,2);
18 }
19
20 void loop()
21 {
22   int analogValue = analogRead(sensor);
23   Serial.print(analogValue);
24   if(analogValue>sensorThresh)
25   {
26     digitalWrite(red,HIGH);
27     digitalWrite(green,LOW);
28     tone(buzzer,1000,10000);
29     lcd.clear();
30     lcd.setCursor(0,1);
31     lcd.print("ALERT");
32     delay(1000);
33     lcd.clear();
34   }
35 }
```

The code defines pins for red, green, and buzzer, and sets a threshold for the sensor. The LCD display shows "SAFE".

How the debugger works

1. Add breakpoints by clicking on the line numbers.
2. Hover over the variables while paused to see their value.
3. Use the buttons above to resume simulation or step one line at a time.

Circuit design Surprising Stantia | X

tinkercad.com/things/ibEaDVWxrc-surprising-stantia/editel?sharecode=zaDuSYxu_zWzWrrtVA2Pb0XNmPUWR-Lu0ZT0tU7S19M

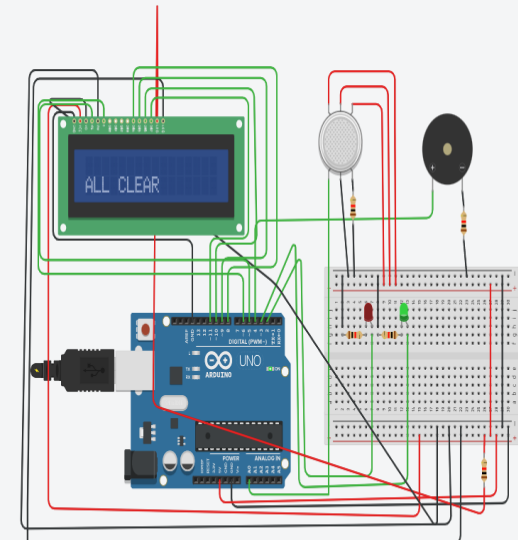
Gmail YouTube Maps News IBM

TINKERCAD Surprising Stantia All changes saved

Simulator time: 00:00:55

Code Stop Simulation Send To

1 (Arduino Uno R3)



```

21 {
22   int analogValue = analogRead(sensor);
23   Serial.print(analogValue);
24   if (analogValue > sensorThresh)
25   {
26     digitalWrite(red, HIGH);
27     digitalWrite(green, LOW);
28     tone(buzzer, 1000, 10000);
29     lcd.clear();
30     lcd.setCursor(0, 1);
31     lcd.print("ALERT");
32     delay(1000);
33     lcd.clear();
34     lcd.setCursor(0, 1);
35     lcd.print("PLEASE EVACUATE");
36     delay(1000);
37   }
38   else
39   {
40     digitalWrite(green, HIGH);
41     digitalWrite(red, LOW);
42     noTone(buzzer);
43     lcd.clear();
44     lcd.setCursor(0, 0);
45     lcd.print("SAFE");
46     delay(1000);
47     lcd.clear();
48     lcd.setCursor(0, 1);
49     lcd.print("ALL CLEAR");
50     delay(1000);
51   }
52 }
53 }

```

Serial Monitor

26°C
Haze

22:54
21-11-2022

https://www.tinkercad.com/things/ibEaDVWxrc-surprising-stantia/editel?sharecode=zaDuSYxu_zWzWrrtVA2Pb0XNmPUWR-Lu0ZT0tU7S19M