

# **Problem Statement**

- **SAFETY FROM FIRE  
HAZARDS AND SPREAD  
OF HAZARDOUS GASES**



```
//Team name : Protocol6
//Team Leader : B Zahid Hussain
//problem statement number : 9
#include <SoftwareSerial.h>
#define DEBUG true
SoftwareSerial wifi_module(2,3);
int red_led_pin = 9;
int green_led_pin = 8;
int buzzer_pin = 10;
int smoke_sensor_pin = A0;
void setup()
{
  Serial.begin(9600);
  wifi_module.begin(9600); // Set the baudrate according to your esp8266
  pinMode(red_led_pin, OUTPUT);
  pinMode(green_led_pin, OUTPUT);
  pinMode(buzzer_pin, OUTPUT);
  pinMode(smoke_sensor_pin, INPUT);
  esp8266_command("AT+RST\r\n",2000,DEBUG); // reset module
  esp8266_command("AT+CWMODE=2\r\n",1000,DEBUG); // configure as access point
  esp8266_command("AT+CIFSR\r\n",1000,DEBUG); // get ip address
  esp8266_command("AT+CIPMUX=1\r\n",1000,DEBUG); // configure for multiple
  esp8266_command("AT+CIPSERVER=1,80\r\n",1000,DEBUG); // turn on server on port 80
}
void loop()
{
  int analogSensor = analogRead(smoke_sensor_pin);
  if (analogSensor > 350)
  {
    digitalWrite(red_led_pin, HIGH);
    digitalWrite(green_led_pin, LOW);
    tone(buzzer_pin, 1000, 200);
  }
  else
  {
    digitalWrite(red_led_pin, LOW);
    digitalWrite(green_led_pin, HIGH);
    noTone(buzzer_pin);
  }
  if(wifi_module.available())
  {
    if(wifi_module.find("+IPD,")
    {
      delay(1000);
      int connectionId = wifi_module.read()-48;
      String webpage = "<h1>IOT Smoke Detection System</h1>";
    }
  }
}
```



# FEASIBILITY

**01** Easy to setup

**02** Low Cost

**03** Quick Response

**04** Intuitive Dashboard



**01** Arduino

**01** ESP8266 WiFi Module  
attached with ESP01 module

**01** MQ2 gas sensor

**01** Green & Red LED

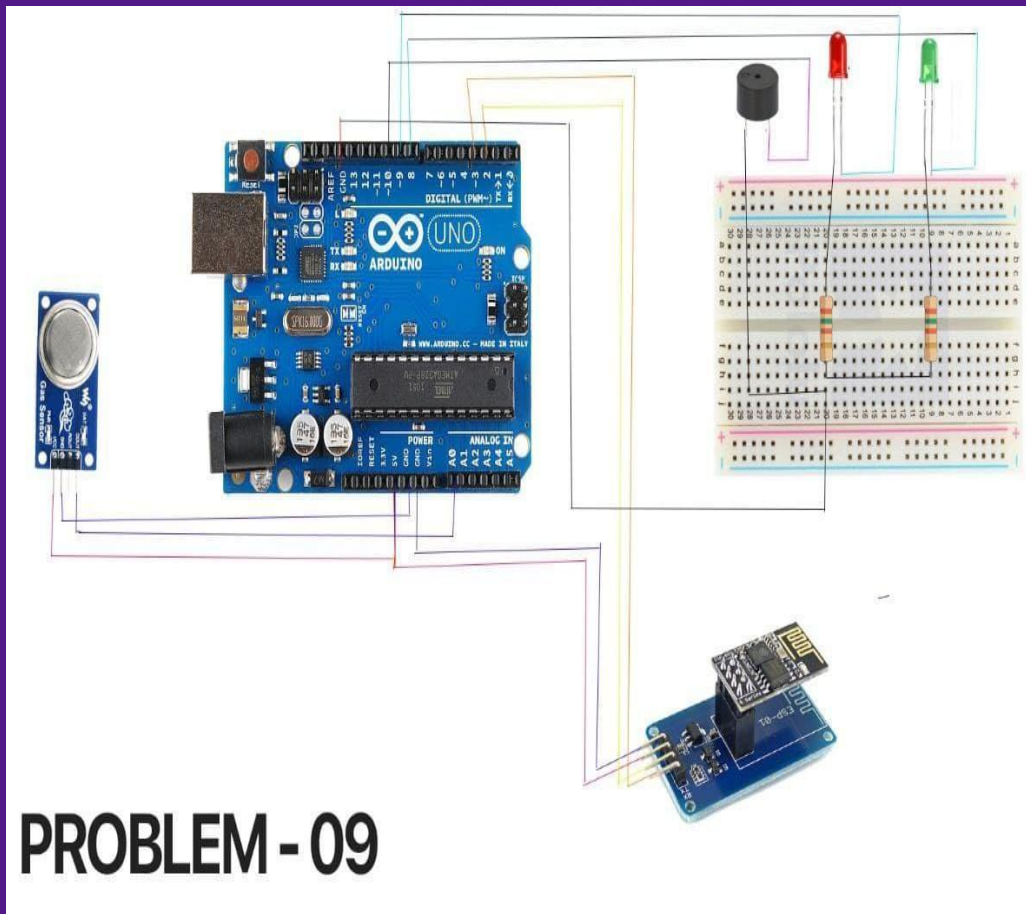
**01** Buzzer

**02** 220 OHM Resistors

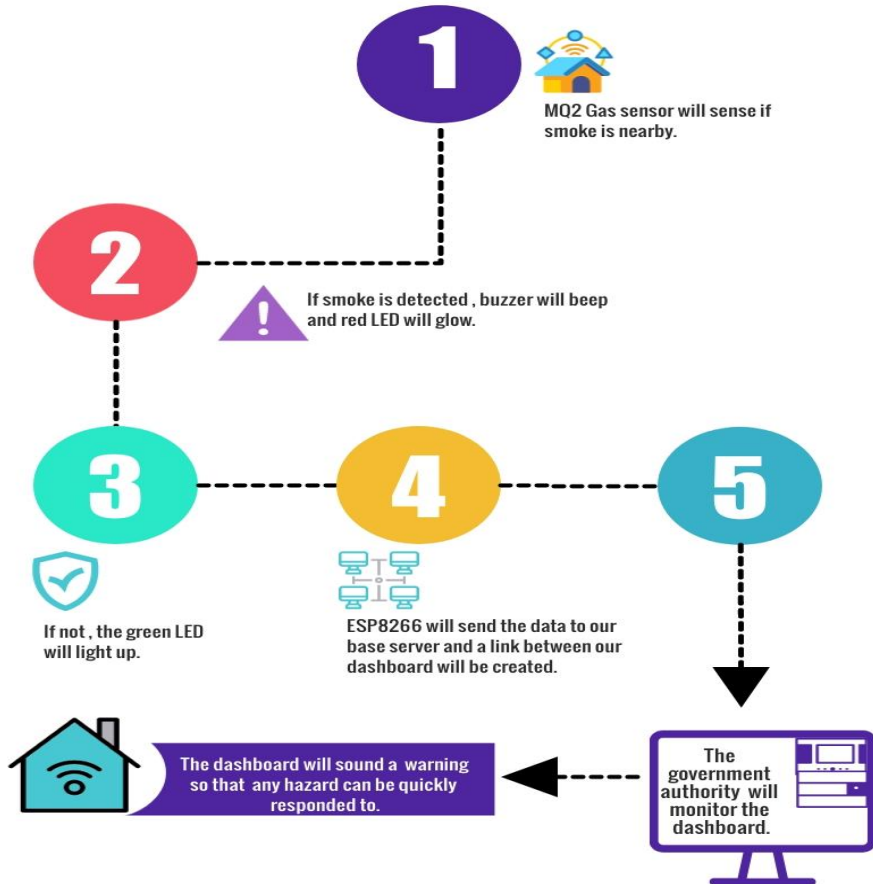
**01** Breadboard

**Many** Connecting Wires

# Components:



## DATA FLOW



# HOW IT WORKS

Get instant alert when the gas concentration increases to specified level

## Protocol6 Hazardous Gas analytic dashboard

Number of Gases being Monitored +10%

7

10+ Target Gases

Actively Monitored Houses +10%

50M

Full Population Targeted

Past Incidents -1.5%

73

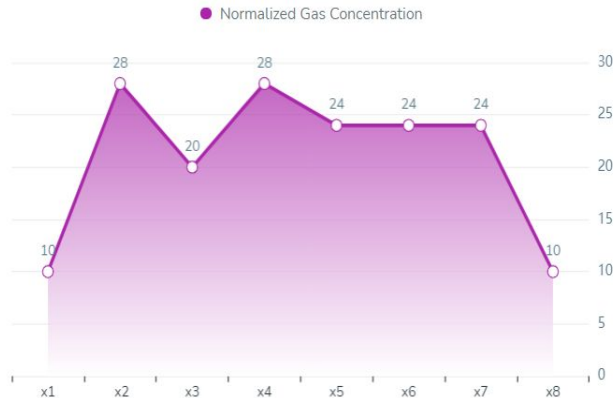
Less than 1%

Average Concentration +6%

225ppm

upto 10000ppm covered

### INDIVIDUAL USER STATISTICS



## Dashboard will Contain

**01** Number of actively monitored houses

**02** Total number of past incidents

**03** Number of gases that are being monitored

**04** Individual user statistics



# Dashboard will Contain

**05** Yearly statistics `

**06** Individual gas concentration percentage



## Protocol6

Dashboard

Application 4

Pages

GETTING STARTED

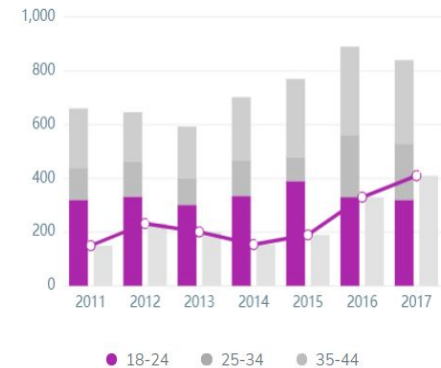
Documentation

Changelog V1.0

Support

## Protocol6 Hazardous Gas analytic dashboard

### YEARLY STAT



Carbon Monoxide

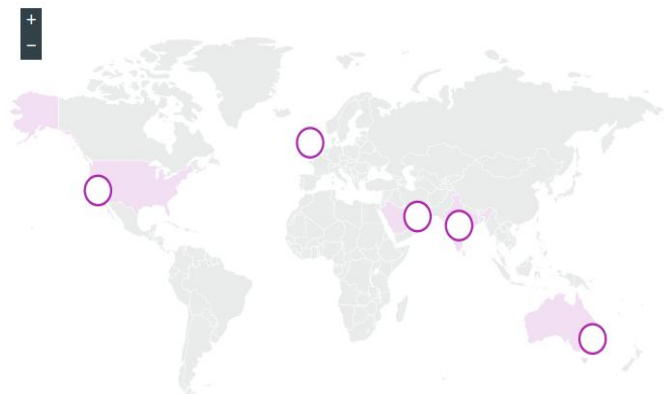


<

% Percentage

>

## COUNTRY STATS



States	Number Of Total Cases	Number Of Past Cases	Number Of Active Cases	Average Response Time
Uttar Pradesh	55,555	210	2	2.6 min
Rajasthan	24,152	135	0	4.3 min
Tamil Nadu	15,640	324	5	2.4 min
Assam	12,148	854	4	1.1 min
Uttarakhand	11,258	453	8	1.4 min
Delhi	10,786	376	5	4.5 min
Maharashtra	9,485	63	3	9 min

# Dashboard will Contain

**07** Interactive country map

**08** State wise statistics

**“The future belongs to those who believe in  
the beauty of their dreams”**



**THANK YOU !**

**Questions Are  
Welcome!**

