Project Title

ROOM SPECIFIC AIR QUALITY MONITORING

Project Objectives

- To design a **Monitoring System** in which we will **monitor the Air Quality over a web server using internet.**
- This will trigger a alarm when the air quality goes down beyond a certain level.
- To enable notification through BLYNK cloud.

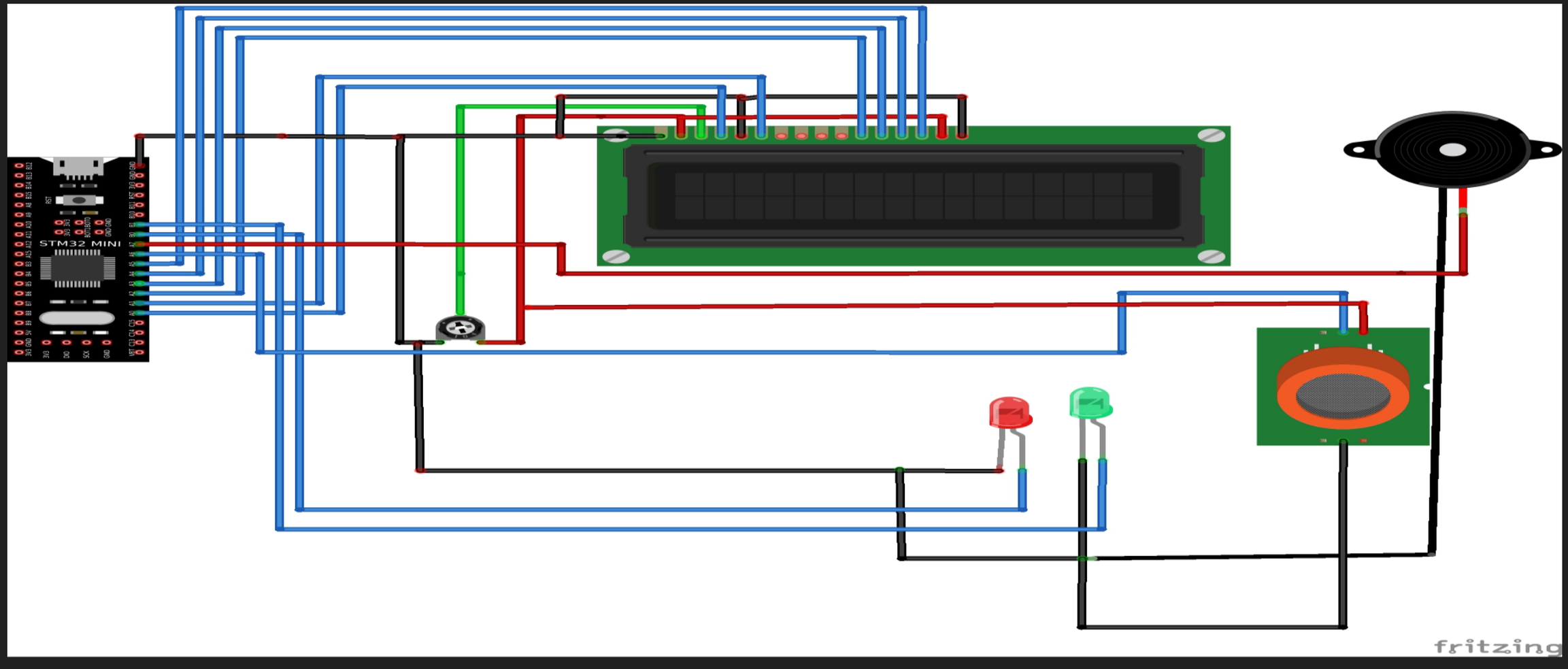
Components Used

- STM32
- Buzzer
- Led
- MQ135 Gas sensor
- Wi-Fi module ESP8266
- 16X2 LCD
- Breadboard
- 10K potentiometer
- 1K ohm resistors
- 220 ohm resistor

SOFTWARE TOOLS:

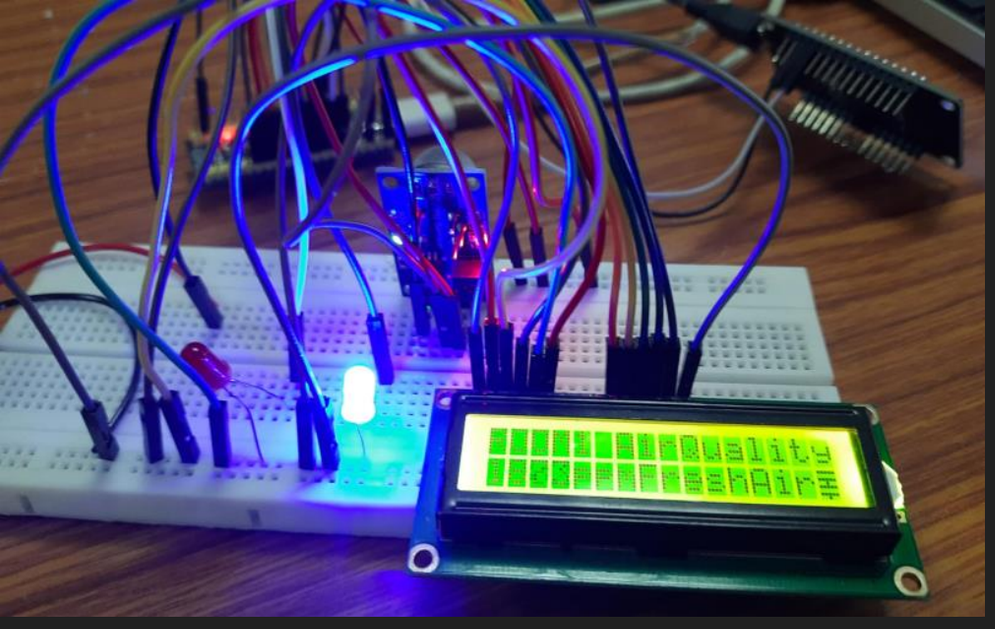
- Arduino IDE
- Embedded

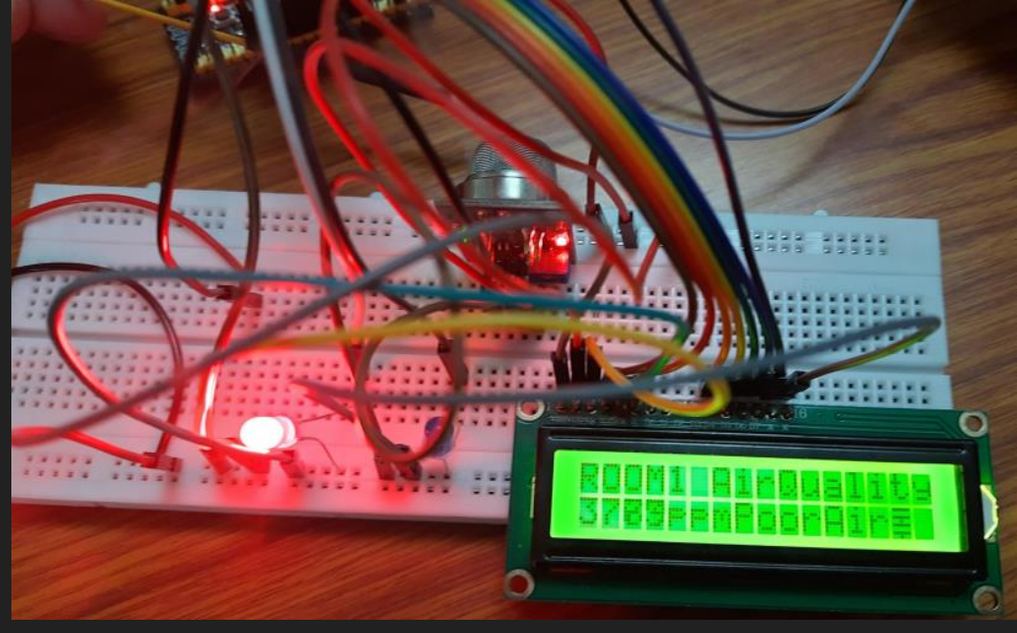
Circuit connection

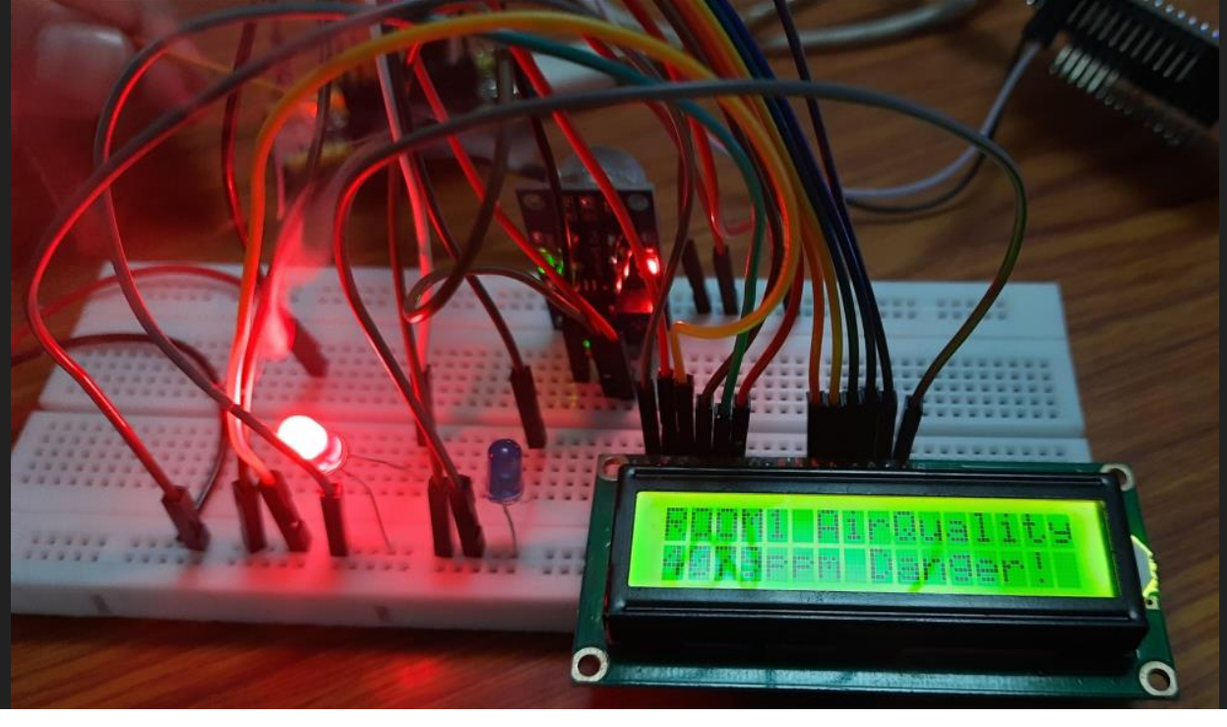


Expected output

- When we will connect it to STM32 then it will sense the gases, and we will get the Pollution level in PPM (parts per million). MQ135 gas sensor gives the output in form of voltage levels and we need to convert it into PPM.
- Sensor was giving us value of 1000 when there was no gas near it and the safe level of air quality is 1500 PPM and it should not exceed 2500 PPM.
- When the value will be less than 1500 PPM, then the LCD and webpage will display “Fresh Air”. If it will increase 2000 then the buzzer will keep beeping and the LCD and webpage will display “Danger! Move to fresh Air”.







What did you learn as part of ET course ?

- We had an opportunity to learn the in and out of STM32 microcontroller. We learnt its specifications , uses, in different projects.
- Programming with STM32CubeIDE and arduino IDE.
- Using STM32F411CEU6 board for designing the project.
- Interfacing the ESP8266 with STM32.
- Working on BLYNK app for notification.
- Time management.