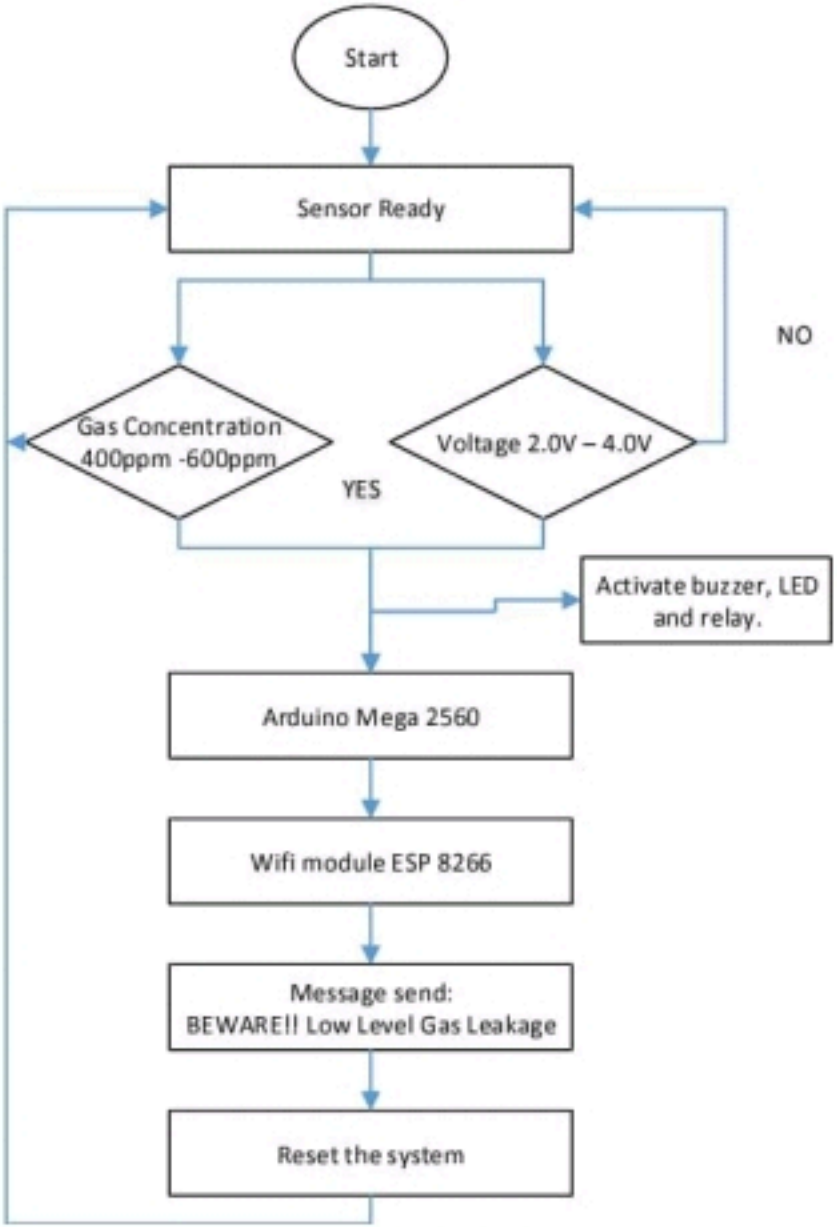
**Project Development phase**

**Project Development -Delivery of sprint -3**

| | |
|---|---|
| Team ID | PNT2022TMID50840 |
| Project Name | Gas leakage monitoring and alerting system |

**Flow chart :**


Start
Sensor Ready
NO
Gas Concentration
400ppm -600ppm
Voltage 2.0V – 4.0V
YES
Activate buzzer, LED
and relay.
Arduino Mega 2560
Wifi module ESP 8266
Message send:
BEWARE!! Low Level Gas Leakage
Reset the system

**Concept :**

- The gas sensor (MQ-5) captured information is posted into a data cloud.
- The sensor detects the leakage of gas under most atmospheric conditions.
- All the components are controlled by an Arduino (UNO-1) that acts as a central processor unit in the setup t.
- As soon as a gas leakage is detected by the sensor, the alarm is raised in the form of a buzzer.
- This alarm is supported by an LCD to display the location of leakage, alert the observer, and activate the exhaust fan in the particular section to extract leaked gas.
- The requirement of a gas detection system is not only to monitor continuously the surroundings but also to help prevent the gas leakage hence minimizing the chances of fire and damage.

# Advantage and Disadvantages

- Advantages:
  - Easily implemented with existing fittings
  - No requirement to close service take offs or laterals
  - No requirement to alter the flow in the pipe
  - Can 'see' leaks many km away; will find largest leaks first
  - Will find small leaks (typical results 2 LPM on 1500mm pipe at 3.5 bar, 1100m)
- Disadvantages:
  - Will not find very small leaks (<1LPM)
  - Accuracy of location needs to be carefully verified