

Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	03October 2022
Team ID	PNT2022TMID21380
Project Name	Project – Gas Leakage and Monitoring System
Maximum Marks	4 Marks
Team Members	1. Mahalakshmi C - 19D047 2. Laila B G - 19D043 3. Raji Santhoshi T G - 19D070 4. Durga Devi G - 19D117

Functional Requirements:

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration in the web application	Registration through (Google,Apple,Microsoft)or password registration.
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	Account creation in the IBM Watson Cloud	Registration through (Google,Apple,Microsoft)or password registration.
FR-4	Account creation in Red Node	Registration through (Google,Apple,Microsoft)or password registration.
FR-5	Gas sensor,Raspberry PI board,Connections	Hardware Requirements for Gas leakage monitoring and alerting system.
FR-6	GSM Module	For sending FAST SMS to the user.

Non-functional Requirements:

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	Gas Detectors can be used to detect combustible,flammable and toxic gases,and oxygen depletion.This type of device is used widely in industry and can be found in locations,such as on oil rigs,to monitor manufacturing processes and emerging technologies such as photovoltaic.
NFR-2	Security	Gas detection and monitoring Systems are used as safety devices to alert workers of the potential danger of poisoning by toxic gas exposure,asphyxiation due to lack of oxygen or explosion caused by combustible gases.
NFR-3	Reliability	The Flammability indicator shows the percentage within a safety range of 0-10% of the Lower Explosive Limit(LEL) and,ideally,should read

		0%.Combustible gas detectors have normally two measuring ranges 0-100% LEL and 0-10%LEL.
NFR-4	Performance	If the gases can be leaked in industries or home, then it will detect by using gas sensor after that it gives alert sound to the people by using buzzer. In this way we avoid the huge explosion.
NFR-5	Availability	The gas detectors can be used for the detection of combustible,flammable and poisonous gases and for the loss of oxygen,and also to detected a gas leak or other pollutants.It makes the area where the leak occurs an warning sound and instructs operators to leave the area.