Project Design Phase - 2

Date	9st November 2022
Team ID	PNT2022TMID03078
Project Name	Gas Leakage monitoring & Alerting system for Industries
Maximum Marks	4 Marks

FUNCTIONAL REQUIREMENTS:

The proposed solution's functional requirements are listed below.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Monitoring	The gas level is monitored by a sensor, and if there is a leak, an alert can be sent via messages or a buzzer.
FR-2	User Reception	Messages can be used to send data like the gas level.
FR-3	User Understanding	With the help of the data, the user can keep track of the gas level. The message or buzzer sound will alert you if there is an increase in gas level.
FR-4	User Performance	To avoid serious accidents, the user can take preventative measures such as turning off the gas and turning on the exhaust fan/sprinkler when they are notified.

NON – FUNCTIONAL REQUIREMENTS:

The proposed solution's non-functional requirements are listed below.

FR No.	Non-Functional	Requirement Description
FR-1	Usability	The sensors that are used to find gas leaks help to reduce the high risk of gas explosions and prevent injuries both inside and outside the industries' coverage area. It safeguards employees and regularly updates the data.
FR-2	Security	We can safeguard both people and property with the help of emergency alerts. Taking precautions could be taken.
FR-3	Reliability	A gas leakage detecting system immediately notifies users via SMS of any gas leakage, even if it is only a small amount, in factories or industries.
FR-4	Performance	An alarm-setting device is the gas leakage detecting system. The built-in sensor detects and alerts the user within a minute whenever there is a gas leak that is greater than the threshold level, significantly prior to any accidents occurring.
FR-5	Availability	There is a gas leakage detection system on the market, but it is very expensive. Here, however, we offer a circuit that is inexpensive and easy to use for gas leakage detection. It tends to be utilized for everyday; Nights and days are included.
FR-6	Scalability	The system is cost-effective, simple, and easy to maintain. In the event of a power outage, the design will incorporate a backup power supply. It can function for some time without causing damage to the system's components. Every time a sensor fails, it can be replaced.