

HINDUSTHAN COLLEGE OF ENGINEERING AND TECHNOLOGY
(AUTONOMOUS)

Date	1 st November 2022
Team ID	PNT2022TMID10014
Project Name	IOT Gas Leakage Monitoring and Alerting System.
Maximum Marks	4 Marks

FUNCTIONAL REQUIREMENTS:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Monitoring	Level of gas is monitored using sensor and if there is any leakage, alert can be sent through messages and with a buzzer sound.
FR-2	User Reception	The data like the level of gas can be send through messages
FR-3	User Understanding	The user can monitor the level of gas with the help of the data. If there is an increase in gas level then the alert will be given by message or buzzer sound.
FR-4	User Performance	When the user gets notified, they could take precaution steps like turning the gas off, turn on the exhaust fan/sprinkler and avoid serious accidents.

NON – FUNCTIONAL REQUIREMENTS:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional	Requirement Description
FR-1	Usability	The sensors used to detect the gas leakage which helps to prevent the high risk of gas explosion and also can prevent the causalities within and outside the covering area of the industries. It updates the data regularly as well as protects the workers.
FR-2	Security	As a result of emergency alert, we can be able to protect both the humans and properties. Precaution steps could be taken.
FR-3	Reliability	Gas leakage detecting system detects the gas leakage at industries or factories which detects the small amount of gas leakage as soon and sends the alerting SMS to users.
FR-4	Performance	The Gas leakage detecting system is a device with an alarm setting. Whenever there is a gas leak, which is greater than the threshold level, the in-built sensor detects and alerts the user within a minute much before it can cause any accidents.
FR-5	Availability	The gas leakage detecting system is readily available in the market which is extremely expensive, but here we are providing a low-cost circuit for gas leakage detecting system and also it is user friendly. It can be used for everyday; it includes day and nights.
FR-6	Scalability	The system is very simple and easy to maintain with cost efficient. A backup power supply will be included in the design to prevent from the power failure conditions. It has the capability to work for a period of time without any damage in the system components. Sensors can be replaced every time it fails.