Project Design Phase-II

Solution Requirements (Functional & Non-functional)

Date	30 October 2022
Team ID	PNT2022TMID33687
Project Name	Gas leakage monitoring and alerting system for industries
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	User Visibility	Gas levels can be monitored by the users if there is a increase in level of gas in the surroundings.
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 ofthe data. If there is an increase in gas level then the alert will be given through messages or sound and light.
FR-4	User Convenience	Through message we can easily get data of gas level and in case of gas leakage, it can directly send notifications to the concerned management to rectify it immediately.
FR-5	User Performance	When the user gets notified, he could turn on the exhaust fan/sprinkler to avoid destruction.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	It updates the data regularly as well as protects the workers.
NFR-2	**Security**	As a result of emergency alert, we can be able to protect both the humans and properties prior to destruction.
NFR-3	**Reliability**	Provide accurate values. It might have a capacity to recognize the gas level accurately and remains as a trust worthy one.
NFR-4	**Performance**	High performance and good to use. Sprinklers and exhaust fans can be used in case of emergency.
NFR-5	**Availability**	Can be used all over the day and on everytime to provide constant checking.
NFR-6	**Scalability**	Sensors and other devices can be replaced every time even it fails and enabled to work as before.

Solution Requirements

Business Requirements	User Requirements	Product Requirements
This system can be deployed in homes, hotels, factory units, LPG cylinder storage areas, and so on. The main advantage of this IoT and Arduino-based application is that it determines the gas leakage and sends the alert to the people. It monitors and prevents prior to destruction.	The gas leakage detection system can be optimized for detect gas leakage to avoid destruction. Ensuring worker safety is important and also right use of technology.	Detecting gas is necessary regardless of your business role or individual purpose. Certain technologies such as IOT play a important role in achieving it.