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

Date	17 October 2022
Team ID	PNT2022TMID45791
Project Name	Project- 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 Registration	Registration through Gmail Registration through Mobile
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	Detection	The said system can be deployed in homes, hotels, factory units, LPG cylinder storage areas, and so on. The main advantage of this Arduino based application is that it can determine the leakage and send the data over to a site.
FR-4	Monitoring	The leakage can be monitored and can be optimized for detecting toxic gasses.
FR-5	Alerting	Along with monitoring the leakage it can alert the registered user and people in the vicinity are alerted by sounding the buzzer this can help in preventing any disaster.
FR-6	Communication	The registered user is able to get alert from the system through a SMS and can also be able to get notification in app.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	This tool verifies that usability is a special and important perspective to analyses user requirements, which can further improve the tool quality. In the model process with user experience as the core, the analysis of users' usability can indeed help designers better understand users' potential needs, behavior and experience.
NFR-2	**Security**	By identifying the danger of hazardous gas leakage with prior notification people can evacuate in time.
NFR-3	**Reliability**	By the use of various sensors we can detect various gas leakage and can identify the location of the Leakage
NFR-4	**Performance**	In this technique the gas sensor sends the signal to the Arduino UNO after detecting the gas leakage. Arduino to other externally connected devices such as buzzer and GSM send vigorous signals. SMS is sent by GSM module to the provided mobile number as a result. IN practice, results are noticed by the people surrounding by the area are alerted by buzzer sound indicate the danger to the people by making beep sound.
NFR-5	**Availability**	By developing & deploying resilient tool we alert the user by sounding the alarm and sending a SMS to a registered user.
NFR-6	**Scalability**	By using this system that detects the gas leakage applicable usefully in the industrial and domestic purpose. In danger situations we are able save lives by using this system.