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

Date	16 October 2022
Team ID	PNT2022TMID01194
Project Name	Hazardous Area Monitoring for Industrial Plant powered by IoT
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 Form Registration through Gmail Registration through LinkedIN
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	User Details	• Arduino Controller • Temperature Sensor • Gas Sensor • Humidity Sensor • Internet • Server • Cloud Platform
FR-4	User Requirements	• The two main entity which ensures effectiveness in any field is monitoring and control. • To design a low-cost, low-power Wi-Fi based industrial monitoring system that controls and monitors the remote manufacturing plants and industries using a web application. • There are certain sensors used to keep a check on temperature , humidity, gas leakage , pressure etc. in the work environment to ensure the workers safety.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Incredibly simple Architecture : The system requires just 3 core hardware components to run, and runs with minimal space and resource requirements. Cost Effective: Cheaper to implement than other options and it cover a large area and user-base with low maintenance costs.
NFR-2	**Security**	When developing industrial systems that will be situated in hazardous areas, engineers need to include functional safety aspects into their thought process. This cannot be left until that last minute; it should be a key consideration throughout the development cycle.
NFR-3	**Reliability**	The System uses encrypted notifications for sensitive notifications and communication with cloud service is also based on unique API keys. The platform also offers increased fleet visibility remotely, allowing engineers to monitor assets from anywhere in the world.
NFR-4	**Performance**	It is configured in such a way that it recovers and reconnects itself after a crash/power cut, and can resume working immediately
NFR-5	**Availability**	It can serve alerts than a million unique users and more new users can be added by just adding their API key to the system.
NFR-6	**Scalability**	Notification parameters and user access control can be adjusted to suit requirements. Periodic data collection gives a more thorough overview of asset condition, removing the need for maintenance teams to carry out observations and collect data manually.