

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

Date	03 October 2022
Team ID	PNT2022TMID35932
Project Name	Hazardous Area monitoring in 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	Temperature Sensing	Sensors sensing the temperature in DC Voltage(0-5V).
FR-2	Gas Sensing	Sensors measuring composition and concentration of gases.
FR-3	Cloud based database	Able to collect data from sensor nodes.
FR-4	Web UI	Display the collected data in a website.
FR-5	Mobile App	Mobile interface for administrative uses.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	Temperature sensors are interfaced with a light weight microcontroller, which will make the monitoring devices wearable.
NFR-2	Security	The solution makes use of secured cloud based data collection , so that the data will not be lost and a third party member cannot interfere in communication with the workers.
NFR-3	Reliability	Since the proposed solution makes use of wearable sensors , the workers will be alerted in case of any emergency (e.g., Very high temperature due to gas leakage) in the particular area where they are working.
NFR-4	Performance	The proposed solution communicates with the workers using the data being collected in the cloud based database. The efficiency of communication is high.
NFR-5	Availability	The sensors now available in market are costly. The solution can make use of mobile sensors to monitor temperature in the industrial areas.
NFR-6	Scalability	The solution can be scaled to include gas sensors and other wide variety of sensors improving the safety measures.