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

Date	20 October 2022
Team ID	PNT2022TMID46726
Project Name	Project - 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	Information Gathering	The sensors will be can detect and the temperature radiation, Vibration of a particular area in real.
FR-2	Hazardous Detection	The monitoring device must be able to detect when a hazardous happened an area near it.
FR-3	Sensor Data Syncing	The sensor networks must be able to share its stored data with both the monitoring system and admin web UI through the cloud.
FR-4	WEB UI	The web user interface must be able to display the temperature radiation of the area where the worker is currently present.
FR-5	FSms alert	If the radiation,temperature of the area is found to reach dangerous levels, the worker should be informed via F SMS to their phone instructing them to leave the area.

FR-6	Web application	If the temperature of the area is found to reach dangerous levels the system is informed via the web alert and must take the necessary precautions.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usabilityse**	The Sensor device should be slim and not annoy or disturb the workers it will placed somewhere in the industry They should also reliably get alart the temperature without large delays and notifications should be clear in cases of detected danger.
NFR-2	**Security**	The connection of the sensors to the cloud based monitering device should be secure. The security of the database industry all the temperature data should also be controlled.
NFR-3	**Reliability**	The sensor device should be able to function and completely insulated without any faults even at dangerous temperatures If a fault is detected it should notify the industrialist and the monitoring system to be immediately repaired and replaced. The sensor should also be regularly maintained to ensure reliability.

NFR-4	**Performance**	The device should update temperature readings in real time and requires high end sensors and processors to do so. The time to send data to the cloud and other devices should also be made as small as possible.
NFR-5	**Availability**	The industrialist should be able to check the temperature of the area no matter where or at what time they are in the plant. The monitoring system should be constantly active so as to ensure safety precautions can be executed whenever danger is detected.
NFR-6	**Scalability**	If the area that needs to be monitored needs to be increased all one has to do is install new smart sensor devices and connect them to the same system as the previous sensors It can also be replicated in different plants with different factors to be monitored giving it highly scalability.