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

Date	12 May 2023
Team ID	NM2023TMID10876
Project Name	industrial Workers Health and Safety System Based on Internet of Things

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Sensor Integration	The system should be able to integrate sensors with the shoes of the workers to collect data about the temperature measure, altitude parameters, and distance walked.
FR-2	Data Collection and Storage	The system should be capable of collecting data from the sensors and storing it in a cloud-based platform.
FR-3	Real-time Data Visualization	The system should provide real-time data visualization to the workers via a mobile application to help them track their status.
FR-4	Authority Access	The system should enable authorized authorities to access the collected data through a web application.
FR -5	User Management	The system should have user management functionality to allow the authorities to manage user accounts and access rights.
FR -6	Data Analysis	The system should provide tools for data analysis and reporting, which can help the authorities to gain insights into the workers' activity patterns, such as the amount of time they spend working, the distance they cover, and the altitude they climb.
FR-7	Notification	The system should have the capability to send notifications to the workers and the authorities in case of any critical information such as an emergency or an alarm.
FR-8	Data Security	The system should have robust security features to ensure the confidentiality, integrity, and availability of the collected data. The system should use authentication and encryption techniques to prevent unauthorized access to the data.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	The system should be easy to use and understand, with a user-friendly interface and clear instructions

		for accessing and interpreting the data. It should be accessible on a variety of devices and platforms, and provide relevant and actionable insights.
NFR-2	**Security**	The system should ensure the security and privacy of the data being collected, transmitted, and stored. This includes measures such as encryption, access control, and data anonymization to protect sensitive information and prevent unauthorized access.
NFR-3	**Reliability**	The system should be dependable and consistently provide accurate and timely data. It should be able to handle large volumes of data and operate continuously without downtime or data loss.
NFR-4	**Performance**	The system should be fast and responsive, with minimal latency and delay in transmitting and processing data. It should be able to handle concurrent users and traffic spikes without degradation in performance.
NFR-5	**Availability & Maintainablity**	The system should be easy to maintain and update, with clear documentation and modular architecture that enables easy troubleshooting and debugging. It should be able to adapt to changing requirements and new technologies without major rework or disruption.
NFR-6	**Scalability**	The system should be able to accommodate increasing amounts of data and users as the organization grows and expands. It should be able to scale up or down easily and cost-effectively as needed.