ProjectDesignPhase-II
SolutionRequirements(Functional&Non-functional)

Date	05 NOVEMBER 2022
Team ID	PNT2022TMID48690
ProjectName	Project - Hazardous Area Monitoring for Industrial Plant powered by IoT
MaximumMarks	4 Marks

FunctionalRequirements:

Followingarethefunctional requirementsoftheproposedsolution.

FR No.	**FunctionalRequirement (Epic)**	**SubRequirement(Story/Sub-Task)**
FR-1	**DataGathering**	The smart beacon must be able to accurately determine the temperature of a specific area.
FR-2	**LocationDetection**	A wearable device entering a dangerous region must be recognised by the smart beacon.
FR-3	**BeaconDataSyncing**	The smart beacon must be able to share itsstored data with both the wearable deviceandadmindashboardthroughthecloud.
FR-4	**WearableDeviceDisplay**	The temperature of the location where the worker is present must be displayed by the wearable device.
FR-5	**SMSNotification**	The workers should be informed through SMS to their phone that they need to leave the location if it is determined that the temperature has reached dangerous levels.
FR-6	**AdminDashboard**	The admin is notified via the dashboard if the temperature is found to have reached dangerous levels, and they must then take the appropriate safety measures.

Non-functionalRequirements:

Followingarethenon-functionalrequirementsoftheproposedsolution.

FR No.	Non-FunctionalRequirement	Description
NFR-1	**Usability**	The wearable device should be slim and shouldn't irritate or distract the workers who are wearing it. They should also clearly notify the workers when danger is identified and show the temperature consistently without significant delays.
NFR-2	**Security**	The connection of the beacons to the cloudandwearabledevicesshould besecure. The security of the database that stores all of the temperature data needs to be strengthened.
NFR-3	**Reliability**	Even at harmful temperatures, the wearable device should be able to operate without any issues. If a problem is found, it should alert the user and the admin so it can be fixed immediately. For reliability, the beacons should also get routine maintenance.
NFR-4	**Performance**	High end sensors and processors are needed for the device to update temperature values in real time. It is important to minimise the time it takes for data to be sent to the cloud and other devices.

NFR-5	**Availability**	Regardless of where they are or what time it is, the user should be able to monitor the temperature of the region. In order to guarantee that safety measures may be taken when danger is recognised, the dashboard should be enabled at all times.
NFR-6	**Scalability**	Installing more smart beacon devices and connecting them to the same system as the existing beacons is all that is required to expand the area that needs to be watched. It is also extremely scalable because it may be repeated in several plants with various variables to be tracked.