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

Date	31 October 2022
Team ID	PNT2022TMID34542
Project Name	Project – Real-time River Water Quality Monitoring and Control System
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 Requirement	Monitoring river water quality in means of characters like DO, Ammonia, pH, etc.
FR-2	User Registration	Manual Sign-up using E-mail ID and Password Manual Sign-up using Mobile Number and Password
FR-3	User Confirmation	Confirmation via Email Confirmation via Message
FR-4	Product Delivery and Installation	Installed Wireless sensor Inline by river bed and Data representation using web UI
FR-5	Alert & Notification	Once the threshold value is crossed and then then process of alert begins

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Have clear and understandable instructions. Easier to use. Even illiterate farmers can use the product without any problems
NFR-2	**Security**	The application must be secured with a two-factor authentication password, and the access key will be assigned according to the user's need.
NFR-3	**Reliability**	Hardware requires regular inspection and service. The software may be updated over time as needed. An immediate notification is activated in case of any system failure.
NFR-4	**Performance**	The application must have a user-friendly user interface and logic. It should have minimal energy requirements. Reported data and alerts must be very accurate and up-to-date.

NFR-5	**Availability**	All functions will be available to the end user whenever they need them. Real-time graphical monitoring data will be available 24/7 through the web application.
NFR-6	**Scalability**	The product is available 24/7, Monitored data from the river is provided live to the user. Once the changes reach the threshold, it notifies the user through the web UI as well as an email or SMS to the provided mobile number.