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

Date	15 October 2022
Team ID	PNT2022TMID00516
Project Name	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 Registration	Registration through Gmail. Registration through mobile number
FR-2	User Confirmation	Confirmation via Email. Confirmation via OTP.
FR-3	User access	Accepting all the terms and conditions. Confirmation of recaptcha.
FR-4	PH level detection	To monitor the water quality PH sensor is used and the signals are sent to Arduino.
FR-5	Software requirements	IOT cloud platform , IBM IOT platform , IBM CLOUDANT DB, node - RED

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	To monitor the water quality and to ensure that it is safe for humans to drink, as well as for wild life and marine life.
NFR-2	**Security**	The user account is password protected. The networks used in this project are incredibily safe.
NFR-3	**Reliability**	Great user interface. Software operating without failures in a specified environment over a specified duration of time.
NFR-4	**Performance**	High performance and fast loading of the result. The water quality will be monitored continuously using high quality sensors and SMS alert will be sent to the specified customer if the water quality is poor.
NFR-5	**Availability**	It can be made available at any places where river water is used and can be accessed 24x7.
NFR-6	**Scalability**	The main advantage of this project is its scalability. It is very compact in size such that it can be taken anywhere easily to measure the water quality.

		The system can produce best final output with low power, high frequency and high mobility. System can handle about 1000 users at any given time.