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

Date	22 October 2022
Team ID	PNT2022TMID07790
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	River water sensing	The sensing parameters are PH, Turbidity, temperature.
FR-2	Data collection	The accurate value of pH, Temperature, Turbidity are Collected from various samples.
FR-3	Monitor	The collected data can be monitored by using quality monitoring system by using Arduino and python code.
FR-4	Control	The system controls the utilization of degraded water.
FR-5	Data storage	The data can be stored by using cloud service such as (IBM Watson IoT, IBM Cloud.)
FR-6	Intimation to Authority	The stored data can be sent to the Corporation using Short Message Service or email services.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	To measure water parameters such as pH, dissolved oxygen, turbidity, conductivity, etc. using available sensors at a remote place
NFR-2	**Security**	This data can be accessed by the authorized users by logging into their accounts using a User ID and password to view data. The data is collected, processed, analyzed, and transmitted and displayed all in real time
NFR-3	**Reliability**	Wireless sensor networks with low power consumption, low-cost and high detection accuracy in pH, conductivity, turbidity level, etc.
NFR-4	**Performance**	Creating a system that uses wireless sensor networks to continuously monitor river water quality at remote locations with low power consumption, low cost and highly efficient for montoring
NFR-5	**Availability**	The system is available for 24/7 for the regular monitoring of quality water.
NFR-6	**Scalability**	This project is scalable for a small area.