

## PROJECT DESIGN PHASE-II

### SOLUTION REQUIREMENTS (FUNCTIONAL&NON-FUNCTIONAL)

TEAM ID	PNT2022TMID35688
PROJECT NAME	Project - IOT Based Real-time River Water Quality Monitoring and Control System
MAXIMUM MARKS	2 MARKS

#### FUNCTIONAL REQUIREMENTS:

Following are the functional requirements of the proposed solution.

FR NO:	FUNCTIONAL REQUIREMENT (EPIC)	SUB REQUIREMENT (STORY/SUB-TASK)
FR 1	Arduino(control system)	Sensors are connected to Arduino, which takes measurement data from them on a regular basis.
FR 2	Ph level detection	Ph sensor is used to monitor the water quality and the signals are send to Arduino.
FR 3	Turbidity detection	The turbidity sensor TS-300B monitors the turbidity in the water and sends the results to Arduino.
FR 4	Ultrasonic generator	Waves created at regular intervals to remove algae at 25%, 50%, and 100%

## NON-FUNCTIONAL REQUIREMENTS:

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

NFR NO:	NON-FUNCTIONAL REQUIREMENT	DESCRIPTION
NFR 1	Usability	Water quality must be monitored to ensure that it is safe for humans to drink as well as for wildlife and marine life, as well as to understand environmental implications and to avoid harming sea life.
NFR 2	Security	IoT networks are extremely secure, and communication speeds are fast. All concerns are easily resolved with technology.
NFR 3	Reliability	The water quality and monitoring system is dependable, and its production is guaranteed. Because standardized hardware and software designs are employed.
NFR 4	Performance	Water quality is monitored in real time, and authorities are notified if the quality is poor.
NFR 5	Availability	The monitoring system is made accurate and ready for usage at any moment.
NFR 6	Scalability	The system with high scalability and low-powered system.