

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

|               |   |
|---------------|---|
| Date          | 15 October 2022   |
| Team ID       | PNT2022TMID06437  |
| 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 with Gmail<br>Create an account<br>By the Follow the instructions   |
| FR-2   | User Authentication           | The credentials are accessible only to the authorized users to access the model.   |
| FR-3   | User Confirmation             | Confirmation via Alarm<br>Conformation via SMS   |
| FR-4   | Interface sensor              | Interface sensor-temperature sensor, turbidity sensor, etc. If contaminated water is present in the river, it gives alarm. |
| FR-5   | Accessing datasets            | Datasets are retrieved from Cloudant DB server   |
| FR-6   | Mobile application            | Can see water is contaminated or not.<br>Can control the motor to stop the flow of contaminated water.                     |

### Non-functional Requirements:

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

| FR No. | Non-Functional Requirement | Description   |
|--------|----------------------------|---|
| NFR-1  | <b>Usability</b>           | The smart protection system defines that this project helps people to protect the drinking water and agriculture.   |
| NFR-2  | <b>Security</b>            | We have designed this project to secure the water from contaminated water or chemical or sewage.  |
| NFR-3  | <b>Reliability</b>         | This project will help people's in protecting their water and save them from several diseases.  |
| NFR-4  | <b>Performance</b>         | IOT devices and sensors are used to alert the station control person by a message when water in the river is contaminated and not suitable for drinking.  |
| NFR-5  | <b>Availability</b>        | By developing and deploying resilient hardware and software we can protect the river from contamination chemicals, sewage etc.... and also thereby can alert the people about any contamination if happened and also can protect them from several diseases.<br>This project can be implemented in every river across the country |
| NFR-6  | <b>Scalability</b>         | This project used to collect real time information in water and measure quality.  |