

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

|               |  |
|---------------|--|
| Date          | 20 October 2022                                      |
| Team ID       | PNT2022TMID37736                                     |
| Project Name  | Real Time River Water Monitoring And Control Systems |
| 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 Form<br>Registration through Gmail<br>Registration through product mobile UI |
| FR-2   | User Confirmation             | Confirmation via Email Confirmation<br>via OTP  |
| FR-3   | Ph level detection            | Ph sensor is used to monitor the water quality and the signals are send to Arduino.               |
| FR-4   | Turbidity detection           | Turbidity sensor TS-300B measures the turbidity in the water andthe signals are send to Arduino.  |
| FR-5   | Ultrasonic generator          | Waves generated at regular interval times to clear algae 25% ,50%, 100%                           |

**Non-functional Requirements:**

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

| <b>FR No.</b> | <b>Non-Functional Requirement</b> | <b>Description</b>   |
|---------------|-----------------------------------|--|
| NFR-1         | <b>Usability</b>                  | Efficient to use and has simple monitoring system.   |
| NFR-2         | <b>Security</b>                   | Mobile application is secured with firewall protection   |
| NFR-3         | <b>Reliability</b>                | Real time sensor output values with future predicted data storage.98% efficient monitoring output. It has assurance for aquaculture safety |
| NFR-4         | <b>Performance</b>                | Greater performance and environmentally safe model   |
| NFR-5         | <b>Availability</b>               | In form of mobile UI 24 x 7 monitoring system  |
| NFR-6         | <b>Scalability</b>                | Highly Scalable. It is capable to produce a best finaloutput.  |