

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

|               |  |
|---------------|--|
| Date          | 18 October 2022  |
| Team ID       | PNT2022TMID052011  |
| Project Name  | IOT Based 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 confirmation             | Conformation via E mail confirmation via OTP.   |
| FR-2   | TDS Sensor                    | It is a small hand held devices used to indicate the TOTAL DISSOLVED SOLIDS in a solution,usually water |
| 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 (counter of suspended matter) in the wash water and the signals are send to Arduino. |
| FR-5 | Temperature sensor  | It is capable of measuring temperature in the range of - 5 degrees centigrade to +50 centigrade with a resolution of 0.1 degree.     |

#### **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 firewalls protection.   |
| NFR-3         | <b>Reliability</b>                | Real time sensor output values with future predicted data storage. 98% efficient monitoring output. 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 final output.   |

|       |                   |   |
|-------|-------------------|---|
| NFR-7 | <b>Stability</b>  | It is highly stable.  |
| NFR-8 | <b>Efficiency</b> | It is highly efficient and it has simple monitoring system. |