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

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|---|---|
| Date | 18 October 2022 |
| Team ID | PNT2022TMID20019 |
| 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) | Description (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 (counter of suspended matter) in the wash water and the 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.

| NFR No. | Non-Functional Requirement | Description |
|---|---|---|
| NFR-1 | Usability | Efficient to use and has simple monitoring system. |
| NFR-2 | Security | Mobile application is secured with firewalls protection. |
| NFR-3 | Reliability | Real time sensor output values with future predicted data storage. 98% efficient monitoring output. Assurance for aquaculture safety |
| NFR-4 | Performance | Greater performance and environmentally safe model. |
| NFR-5 | Availability | In form of mobile UI 24 x 7 monitoring system. |
| NFR-6 | Scalability | Highly Scalable. It is capable to produce a best final output. |
| NFR-7 | Stability | It is highly stable. |
| NFR-8 | Efficiency | It is highly efficient and it has simple monitoring system. |