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

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|---|---|
| Date | 3 October 2022 |
| Team ID | PNT2022TMID19515 |
| Project Name | Project – Real time river water quality monitoring and Control System |
| Maximum Marks | 4 Marks |

Project Title : Real-Time River Water Quality Monitoring And Control

Faculty Mentor : Mohanapriya A

Team ID: PNT2022TMID19515

Team Members:

1. Harish V - Team Leader
2. Nirmalkumar V S - Team Member
3. Mohammed Adhil H - Team Member
4. Jaisherma J Team - Member

## 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 |
| **FR-2** | **User confirmation** | • Confirmation via SMS<br>• Confirmation via OTP |
| **FR-3** | **Wave generator** | In order to remove algae, waves are produced on a regular schedule. |
| **FR-4** | **Ph level detection** | Water quality is monitored using a PH sensor, and signals are relayed to an Arduino. |
| **FR-5** | **Turbidity detection** | The turbidity sensor detects turbidity in the water and sends the data to the Arduino. |

## Non-functional Requirements:

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

| FR No. | Non-Functional Requirement | Description |
|---|---|---|
| **NFR-1** | **Usability** | It is crucial to regularly check the water's quality to ensure that it is safe to drink. By doing so, we can also guarantee the protection of marine life and lessen water pollution. |
| **NFR-2** | **Security** | The model is created in a secure and safe method to protect the privacy and The networks employed for this project have an incredibly high level of safety and transmission speed. |
| **NFR-3** | **Reliability** | In order to achieve the required results, standardized software components are employed in this project. This increases the project's dependability and ensures that the most recent data is kept in a default fashion even if there are firmware problems. |
| **NFR-4** | **Performance** | In order to simplify the customers' task, high-quality sensors are employed. |
| **NFR-5** | **Availability** | The model's availability, usability, accessibility, and ability to be adjusted at any moment are all built into its design. |
| **NFR-6** | **Scalability** | Highly scalable and capable to produce high reliable output |