**Project Design Phase-II**

**Solution Requirements (Functional & Non-functional)**

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| Date | 03 October 2022 |
| Team ID | PNT2022TMID29821 |
| 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.

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| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| FR-1 | User Registration | Registration through Form  Registration through Gmail  Registration through LinkedIN |
| FR-2 | User Confirmation | Confirmation via Email  Confirmation via OTP |
| FR-3 | pH level detection | Ph sensor is used to detect and signals send to Arduino. This sends SMS to mobile UI |
| FR-4 | Turbidity Detection | Turbidity sensor is used to detect and signals send to Arduino. This sends SMS via mobile UI |
| 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.

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| **FR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | **Usability** | Efficient to use and has a simple monitoring system. |
| NFR-2 | **Security** | Mobile application is secured with firewall protection. |
| NFR-3 | **Reliability** | Real time sensor output values with future predicted data storage.98% efficient monitoring output and 100% clearance of algae production. Assurance for aquaculture safety |
| NFR-4 | **Performance** | Greater performance and environment 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. |