**Project Design Phase-II**

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

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| Date | 03 October 2022 |
| Team ID | PNT2022TMID07524 |
| Project Name | Project – 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 |
| FR-2 | User Confirmation | Confirmation via Email  Confirmation via OTP |
| FR-3 | pH level detection | Using the pH sensor the pH level of water is monitored and signals is sent to Arduino |
| FR-4 | Temperature detection | Signals from the temperature sensor is set to Arduino for temperature detection |
| FR-5 | Turbidity detection | Measure the cloudiness of water using turbidity sensor and signals are sent to Arduino |

**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** | System is used to monitor the water parameters and alert the user according to the collected data |
| NFR-2 | **Security** | Mobile application is secured from external threats  by using credentials so that respective user alone can access. |
| NFR-3 | **Reliability** | The sensed values are stored and compared with standard values and provides efficient output to users. No damage to the environment is caused. |
| NFR-4 | **Performance** | The response of the system is fast as it immediately alerts the user about the water condition and eco-friendly model |
| NFR-5 | **Availability** | The information of monitoring system is made available 24x7 through mobile application |
| NFR-6 | **Scalability** | The system is capable in producing optimised output |
| NRF-7 | **Efficiency** | It is a low powered and highly efficient system |