**Project Design Phase-II**

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

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| Date | 22 October 2022 |
| Team ID | PNT2022TMID22872 |
| 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 | Arduino (Control system) | It is used to interconnect and interface with other devices for transferring the data. |
| FR-2 | WSN Sensor | Monitoring water quality with WSN employs nodes that can detect physico-chemical parameters such as pH, conductivity, turbidity and chlorine |
| FR-3 | Software Design Requirements | WSN requires an IoT platform.IoT integrated big data analytics to store data in the cloud and analyse it constantly. |
| FR-4 | LCD/PC/Mobile display | It Displays the final result,Temperature and turbidity. |
| FR-5 | Ultrasonic Generator | Waves are Generated at regular interval times to clear algae. |

**Non-Functional Requirements:**

Following are the Non-functional requirements of the proposed Solution.

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| **NFR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | Usability | Water-quality monitoring is used to alert us to current, ongoing, and emerging problems. |
| NFR-2 | Security | IoT Networks are highly safe and communication speed is high. |
| NFR-3 | Reliability | The sensor produces accurate results and is 100%reliable. |
| NFR-4 | Performance | The performance is so fast that it will alert the authorities if the water is not pure. |
| NFR-5 | Availability | It can be available at any places where the river water is used. |
| NFR-6 | Scalability | It will produce the best output with low power ,high frequency and high mobility. |