# PROJECT DESIGN PHASE-II SOLUTION REQUIREMENTS

**(FUNCTIONAL & NON-FUNCTIONAL REQUIREMENTS)**

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| **DATE** | 16 October 2022 |
| **PROJECT NAME** | Real Time River Water Quality Monitoring  and Control System |
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| **TEAM MEMBERS** | Suresh. S  Sasi kumar. K  Mathan Kumar T |

# 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 | Analyze River to be Moniterized. | Analyze weather.  Analze living organism in River. |
| FR-2 | Prepare Setup | Based on weather  Based on living oraganism |
| FR-3 | System installation | System Installed on River  Make an Trial of Working |
| FR-4 | Settings values | Setting value for Trial Calculation |

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| FR-11 | NODE-RED | Node-RED is a flow-based development tool for visual programming developed originally by IBM for wiring together hardware devices, APIs and online services as part of the Internet of Things. |

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| FR-12 | IBM WATSON IOT PLATFORM | It provide a clean and simple UI where you can simply and easily add and manage your devices, control access to your **IoT** service, and monitor your usage. |
| FR-13 | IMPLEMENTING USING PYTHON | Implement python code for detecting  pH level  Conductivity  Temperature |
| FR-14 | Quality History | The Quality history will help to track the Quality so that the aren't will be  updated. Quality history will be there for 30 days.  For example if the Water Quality is low due to weather the aren't can  track down their water Quality and also can find their Quality of measurement. |

# NON-FUNCTIONAL REQUIREMENTS

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

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| **FR No.** | | **Non-functional Requirements** | | **Description** | |
| NFR-1 | | Usability | | This setup has to check the ph level of the water and quality of the river water which helpful for people and industrial places etc. | |
| NFR-2 | | Security | | The security provides in the water level of the river water in industrial and factories etc.. | |
| NFR-3 | | Reliability | | Portable ,Easy to use Flexibility | |
| NFR-4 | | Performance | | Create a System which helps the people and industries with continuously monitoring the river water quality .  The notification will be sent according to the  Quality of water is Very Poor.  The entire Water System data will be stored in  the database. | |
| NFR-5 | | Availability | | Track the quality of the water. | |
| NFR-6 | | Scalability | | Able to adopt with various environment and Surroundings . | |
| NFR-7 | | Evaluability | | The system should be able to deliver promptly to the financing authority.  In the case of non-profit  organizations, the  solution should be 'advancing the mission'. | |
| NFR-8 | | Dynamicity | | IoT devices may have the capability to  adapt dynamically and change based  on their conditions. | |
| NFR-9 | | Desirability | | Navigation should be made easy.  The user should be able to search and find the information he needs without much hassle. | |