**Project Design Phase-II**

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

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| Date | 17 October 2022 |
| Team ID | PNT2022TMID22083 |
| 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 | Configure IBM cloud services | Create IBM cloud account  Create IBM Watson IoT Platform and device  Create Node-RED service |
| FR-4 | A web Application using Node-RED Service | Create node-RED flow to get data from device  Use dashboard nodes for creating UI(Web App)  Create an HTTP requests to communicate with Mobile App |
| FR-5 | Develop the python script | Develop a python script  Publish data to the IBM cloud |
| FR-6 | Building Mobile App | Design your UI to display the Water Turbidity, pH values  Configure the application to receive the data from cloud. |

**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** | Used to get the data and display the data. |
| NFR-2 | **Reliability** | Predefined codes are used. |
| NFR-3 | **Performance** | Receive the data from the sensors and display it in the web application and mobile application. |
| NFR-4 | **Availability** | Easily available for every one as it is cost free. |
| NFR-5 | **Scalability** | It depends upon the data. |