Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	15 October 2022
Team ID	PNT202022TMID35159
Project Name	Efficient Water Quality Analysis and PredictionUsing Machine Learning
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Users can enter their details using the login form.
FR-2	User Confirmation	Confirmation via Email
FR-3	Authorization level	A Security question will be displayed to the user to verifythe details.
FR-4	Reporting	1. Result of the water quality analysis will be sent amessage to the user. 2. The real-time water quality report is collected and thedataset is used to predict the water quality for future works.
FR-5	Business rules	Water Quality Index(WQI) formula will be used forthe water quality analysis and prediction.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Allows users to identify missing data elementsavailable in the water quality portal data.
NFR-2	**Security**	Authorization via Email.
NFR-3	**Reliability**	Our model will accurately report the uncertainty inthe prediction.
NFR-4	**Performance**	The system effectively compares the input parameters given by the users with the dataset.
NFR-5	**Availability**	Our model will keep working and be available forwork even if there is an infrastructure failure.

NFR-6	**Scalability**	High mineral levels are found in water as well asWater Quality Index (WQI) and Water Quality Classification (WQC) are accurately predicted.