Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	14 October 2022
Team ID	PNT2022TMID32788
Project Name	Efficient Water Quality Analysis and Prediction using Machine Learning
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

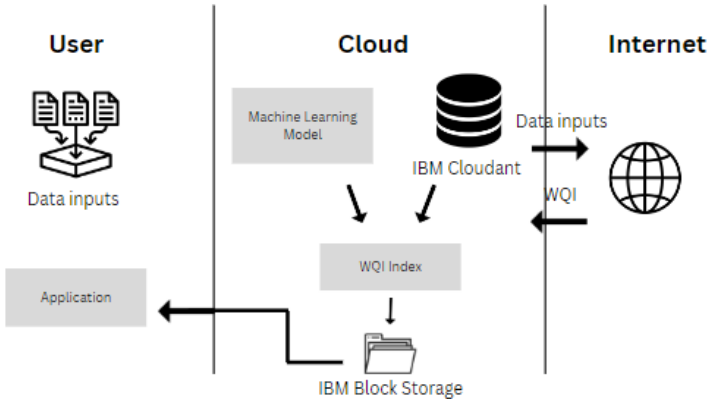

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web User Interface	HTML, CSS, JavaScript
2.	Secure Login	Login using 2 factor authentication	Google Authenticator
3.	Query Result	Help users get WQI quickly	IBM Watson Assistant
4.	Database	To store all the data inputs of the water sample.	MySQL
5.	Cloud Database	Database Service on Cloud	IBM DB2
6.	File Storage	File storage requirements	IBM Block Storage
7.	External API-1	To fetch user's location	Geo-Location API
8.	Machine Learning Model	Purpose of Machine Learning Model	Water Quality Measurement Model
9.	Infrastructure (Server / Cloud)	Application Deployment	Cloud Foundry

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Open-source framework	Flask
2.	Security Implementations	To provide a secure framework	SHA-256
3.	Scalable Architecture	To Ensure scalability of architecture	Customer reviews. feedbacks
4.	Availability	The availability of application for the users on the cloud	IBM Cloud
5.	Performance	To make sure the performance isn't compromised	Black and white testing