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

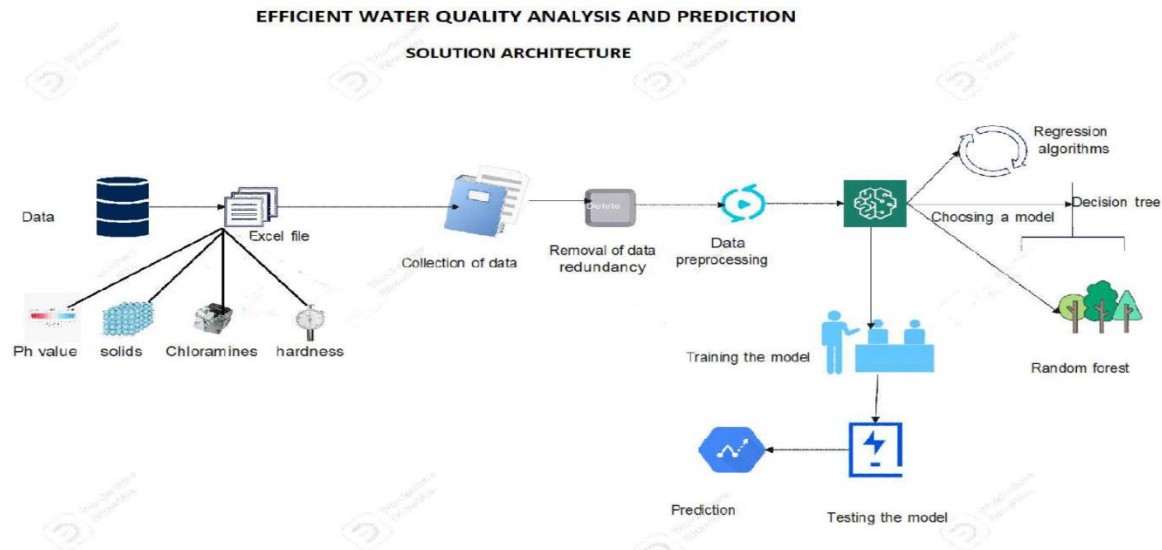| Date	03 October 2022
Team ID	PNTPNT2022TMID13654
Project Name	Project – Efficient Water quality analysis and prediction using machine learning
Maximum Marks	4 Marks

Technical Architecture:

EFFICIENT WATER QUALITY ANALYSIS AND PREDICTION
SOLUTION ARCHITECTURE

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript
2.	Application Logic-1	Logic for a process in the application	ML/Decision Tree,SVM
3.	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5.	Database	Data Type, Configurations etc.	MySQL
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage requirements	Local Filesystem
8.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model, etc.
9.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	e.g. SHA-256, Encryptions, IAM Controls, OWASP etc.
2.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Jupiter
3.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	Web application to access the system
4.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Convolutional Neural Network