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

Date	16 October 2022
Team ID	PNT2022TMID48179
Project Name	Real Time River Water Monitoring and Control system
Maximum Marks	4 Marks

Technical Architecture:

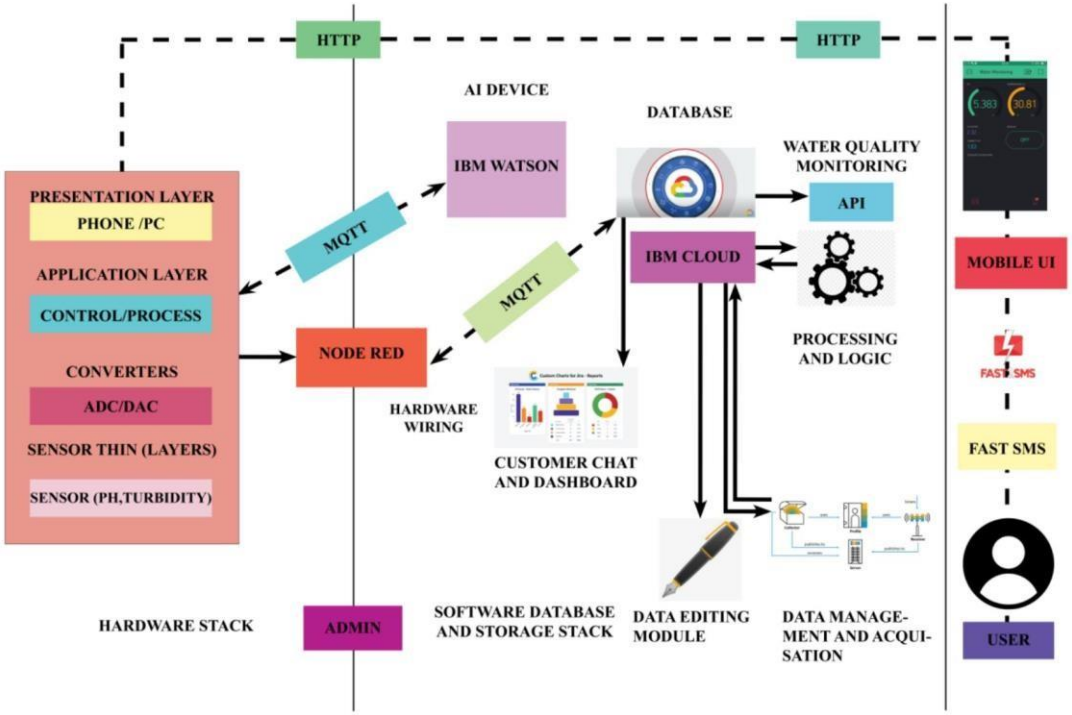

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Mobile UI	HTML, CSS, java script
2.	Application Logic-1(mobile application)	Scale meter is introduced to monitor the water parameters	Java
3.	Application Logic-2(AI Application)	For predicting future values of water quality range	IBM Watson Assistant
4.	Database	Data Type	NOSQL.
5.	Cloud Database	Database Service on Cloud	IBM Cloudant
6.	File Storage	File storage requirements: Container Platform Version 4.6	IBM Block Storage
7.	External API-1	The data is used to compare the values for sensor with threshold values	IBM water quality API
8.	External API-2	For the locals and authorities to know the water quality	mobile API,
9.	Machine Learning Model(node-red)	For interfacing hardware and software application(a virtual wiring tool)	Platform: Node.js
10.	Infrastructure (Server / Cloud)	Application Deployment on cloud Cloud Server Configuration : application-client-bnd	IBM cloud

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Bootstrap	CSS
2.	Security Implementations	MQTT,CoAP,DTLS,6LoWPAN	Encryptions, OWASP
3.	Scalable Architecture	The scalability of architecture (3 – tier)	IOT and mobile application
4.	Availability	Distributed servers	IBM cloud and Watson
5.	Performance	Use of cache,better performance	Fast SMS application