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

Date	03 October 2022
Team ID	PNT2022TMID19515
Project Name	Real-Time River Water Quality Monitoring And Control
Maximum Marks	4 Marks

Project Title : Real-Time River Water Quality Monitoring And Control

Faculty Mentor : Mohanapriya A

Team ID: PNT2022TMID19515

Team Members:
1. Harish V - Team Leader
2. Nirmalkumar V S - Team Member
3. Mohammed Adhil H - Team Member
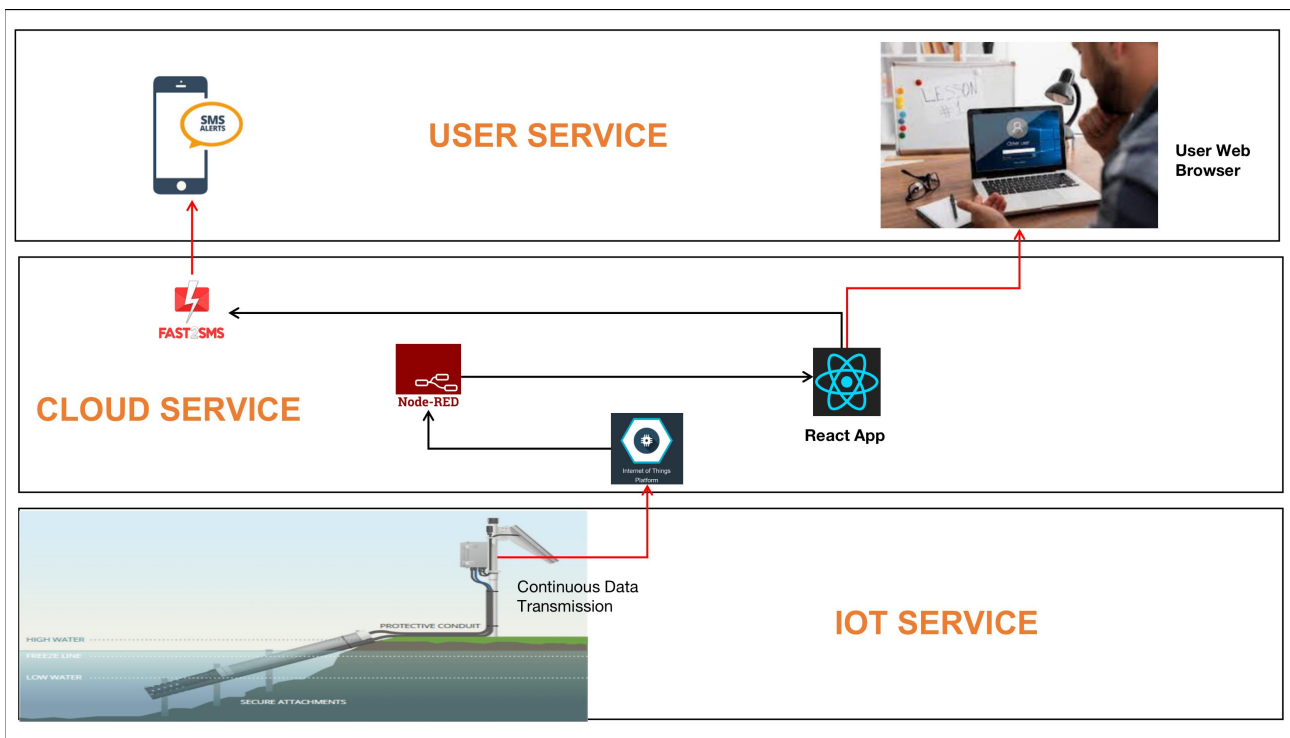4. Jaisherma J Team - Member

Technical 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,React Js
2.	Generating random values	Generating river water attribites for complex values	Python
3.	Collecting Data	Fetching Data from river water, which is done by iot devices	Sensors, Arduino Board, Node MCU
4.	Transfering Sensed Data	Transfers sensed data from river to Cloud Database	Arduino IDE
5.	Cloud Database	Storing sensed values from river	IBM Watson IOT cloud
6.	Cloud Service	Fetch data from IBM Watson IOT cloud and continuously monitor the values and trigger sms to authorities when the values exceed the threshold values	NODE RED
7.	External API-1	Purpose of this API is to send sms to the provided phone niumber	Fast API
8.	External API-1	Sending, Tracking, Validating Emails	SendGrid API

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	React js
2.	Security Implementations	Securing React and Node Red Services	Authentication token
3.	Performance	number of requests per sec, use of Cache, use of CDN's.	AWS Cloud