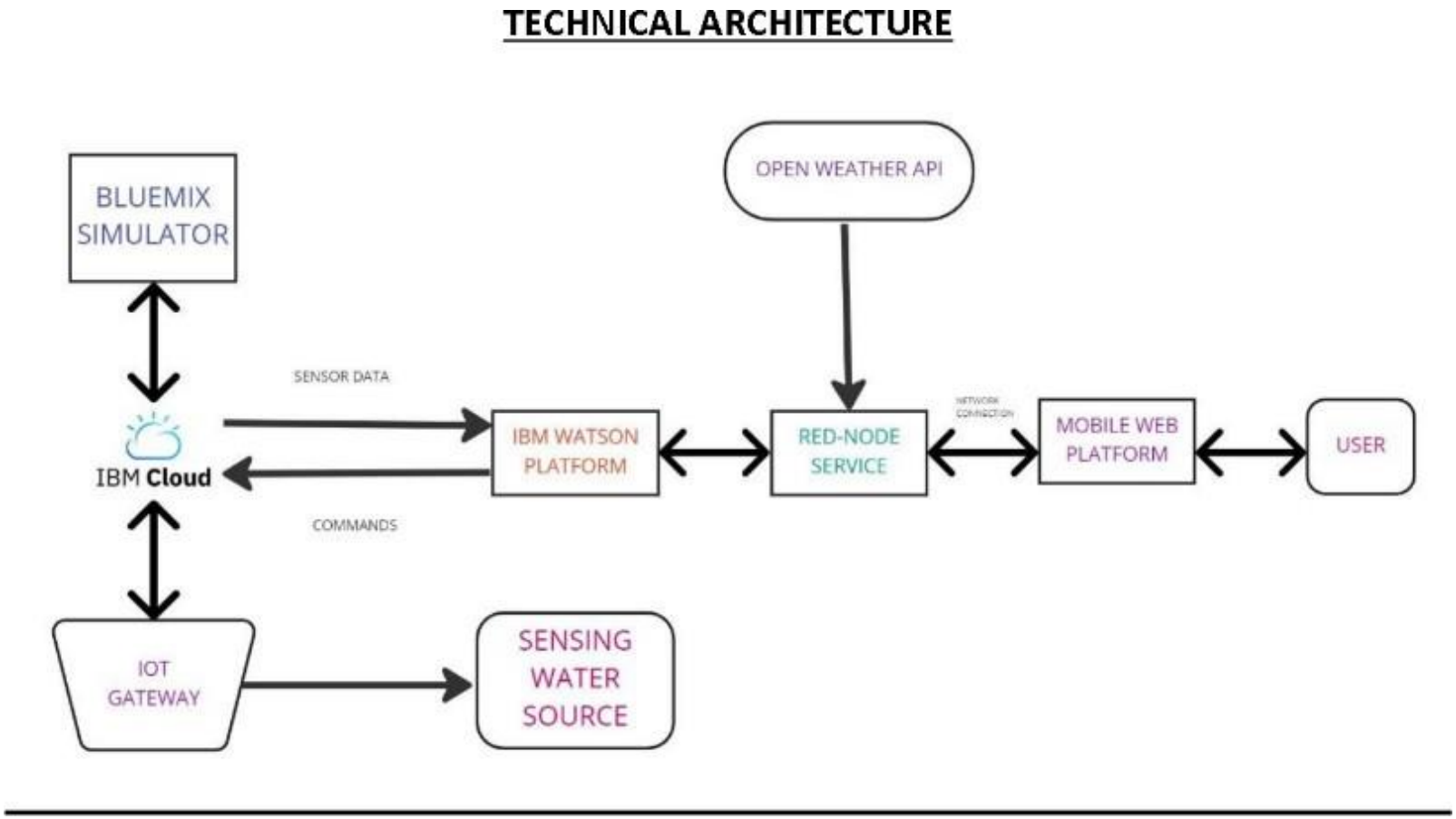
Project Design Phase-II

Technology Stack (Architecture & Stack)

Date	7 November 2022
Team ID	PNT2022TMID05141
Project Name	Project - Real time River water monitoring and control system
Maximum Marks	4 Marks

Technical Architecture:



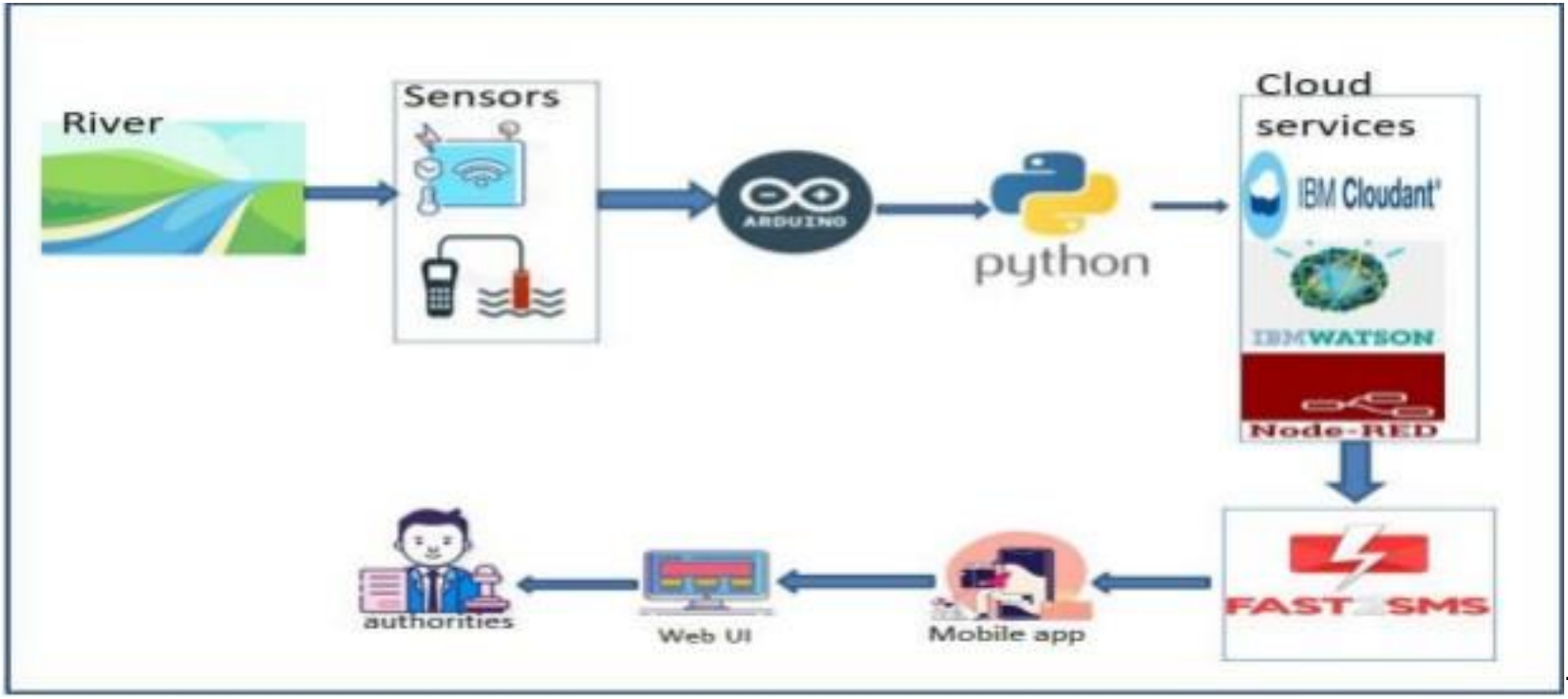

River
Sensors
ARDUINO
python
Cloud
services
IBM Cloudant
IBMWATSON
Node-RED
FAST SMS
Mobile app
Web UI
authorities

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, Node-Red, Cloud, etc.
2.	Application Logic-1	Logic for a process in the application	Java / Python
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, NoSQL, etc.
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloud ant etc.
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	Purpose of External API used in the application	IBM Weather API, etc.
9.	External API-2	Purpose of External API used in the application	Aadhar API, etc.
	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model, etc.

11. 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.	Open-Source Frameworks	List the open-source frameworks used	Technology of Opensource framework
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	e.g., SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Microservices)	Technology used
4.	Availability	Justifytheavailabilityofapplication(e.g., use of loadbalancers, distributedserversetc.)	Technologyused
5.	Performance	Designconsiderationfortheperformanceof theapplication(numberofrequestspersec, use of Cache, use of CDN's) etc.	Technologyused