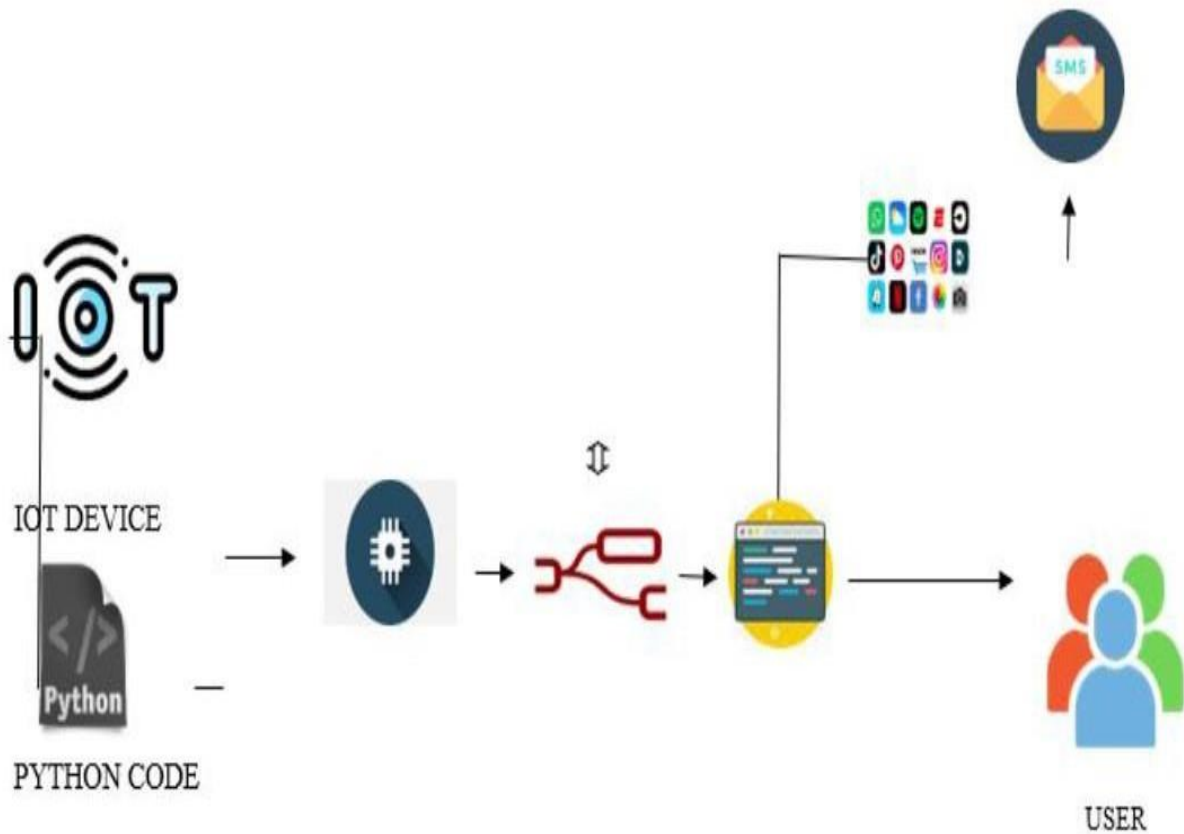


**Project Design**  
**Phase**

**Technology Stack (Architecture & Stack)**

Date	03 November 2022
TEAM ID	PNT2022TMID10541
PROJECT NAME	Real-Time River Water Quality Monitoring and Controlling System

**TECHNICAL ARCHITECTURE**



**Table-1: Components & Technologies:**

S. No	Component	Description	Technology
1.	User Interface	How user interacts with application	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 services
4.	Application Logic-3	Logic for a process in the application	BM WATSON Assistant
5.	Database	Data Type, Configurations etc.	MySQL, Postgres SQL
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM, Cloudant 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.
10.	Machine Learning Model	Purpose of External API used in the application	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.	Eg. SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Technology used
4.	Availability	Justify the availability of application	Technology used
5.	Performance	Design consideration for the performance of the application	Technology used