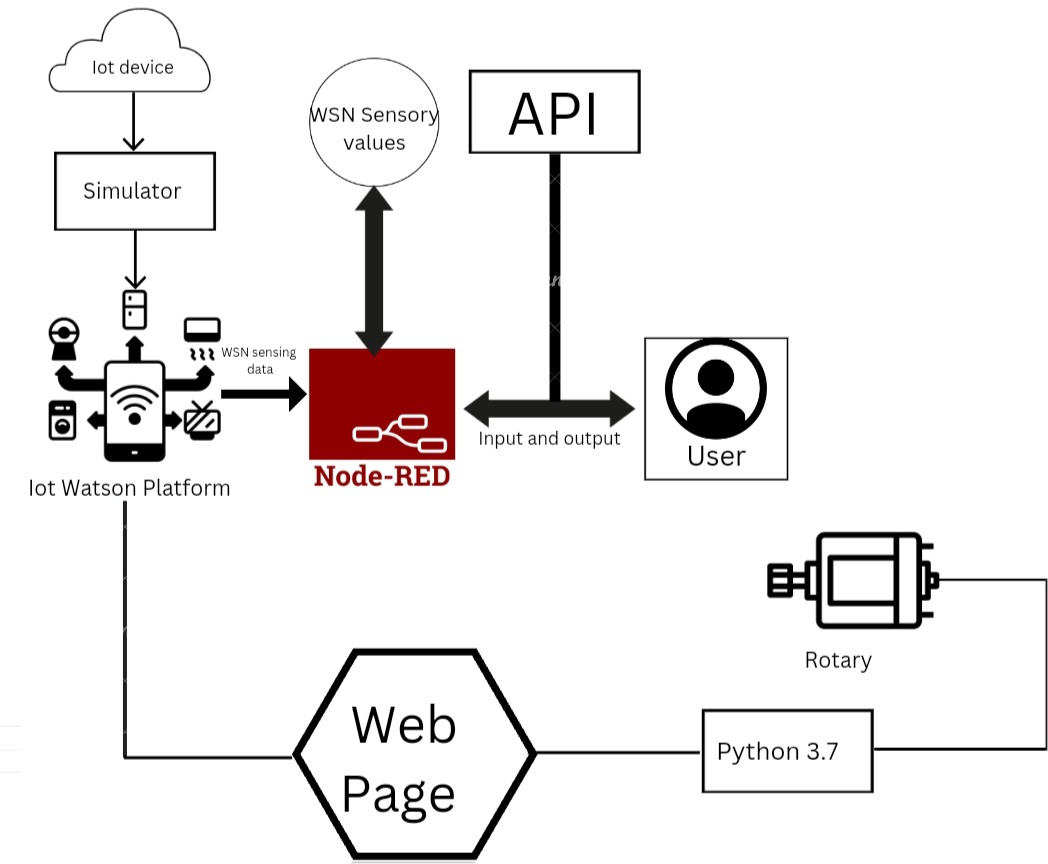
Project Design Phase-II Technology Stack (Architecture & Stack)

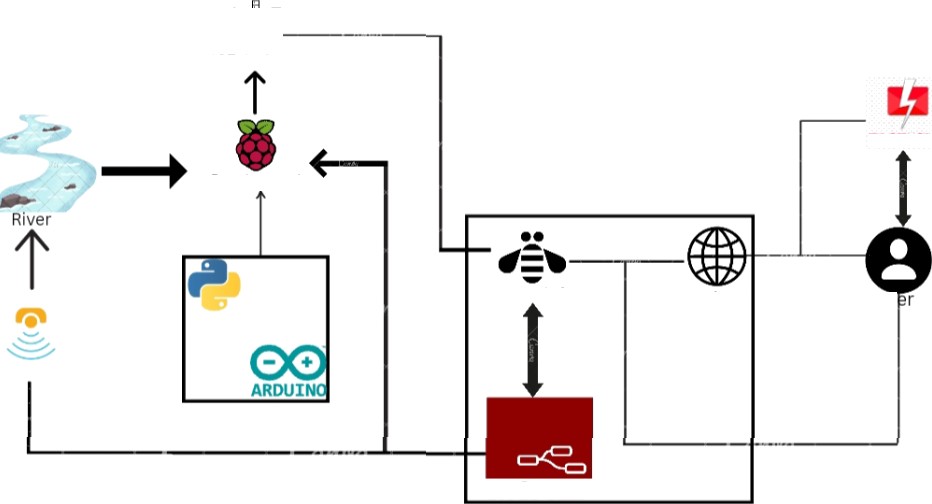
|  |  |
| --- | --- |
| Date | 18 October 2022 |
| Project Name | Project -Real time river water quality monitoring  and control system |
| Maximum Marks | 4 Marks |

# Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2



I lou services



IOT device

Raspberry pi

Not Wa\son plan fprm

Web UI

U0

Software Block

WSN

Node-RED

# 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 / Angular Js /  React Js 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 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 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,  Micro-services) | Technology used |
| 4. | Availability | Justify the availability of application (e.g. use of load  balancers, distributed servers etc.) | Technology used |
| 5. | Performance | Design consideration for the performance of the  application (number of requests per sec, use of Cache, use of CDN’s) etc. | Technology used |