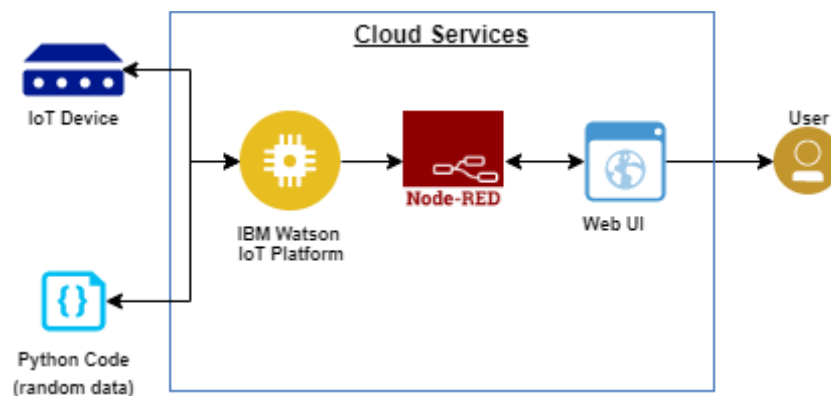


PROJECT PHASE II

TECHNOLOGICAL ARCHITECTURE

| | |
|---------------|---|
| Date | 8 November 8, 2022 |
| Team ID | PNT2022TMI25311 |
| Project name | Smart waste management system for metropolitan cities |
| Maximum marks | 4 marks |

Technical Architecture:



| S.NO | COMPONENT | DESCRIPTION | TECHNOLOGY |
|------|----------------|---|-------------------------|
| 1 | User Interface | User can interact with the application through mobile phones. | HTML , CSS ,JavaScript. |

| | | | |
|---|---------------------|--|--|
| 2 | Application Logic-1 | Logic process for the application | python |
| 3 | Application Logic 2 | Logic process for the application | IBM Watson STT service |
| 4 | Database | To store the data. | MySQL etc., |
| 5 | sensor | Measures the distance between the smart bins lid and the garbage filled in the bins. Measures the distance between the smart bins lid and the garbage filled in the bins. | Ultra sonic sensor |
| 5 | Cloud database | Information about the location and the amount of waste in the smart bins are recorded and stored in the separate memory space. Information about the location and the amount of waste in the smart bins are recorded and stored in the separate memory space. | IBM DB2, IBM cloudant etc. |
| 6 | File storage | Store the data of the bins. | Local file system, other storage etc., |
| 7 | External API | External APIs expose a projects internal resources to outside users or application. | IBM weather API, Aadhar API |
| 8 | Transport | vehicle used to collect garbage from the smart bins. | To collect the garbage |

| S.NO | Characteristics | Description | Technology |
|------|--------------------------|--|-------------------------|
| 1 | Open-Source Frameworks | Templates for software development that is designed by a social network of software developers. These frameworks are free for public | Python. |
| 2 | Security Implementations | Provides two step verification for the users and implementation details for eliminating the security issues. | GSM, GPRS. |
| 3 | Scalable Architecture | Scalability of Architecture will be stable without any changes and without affecting the performance. | Node Red. |
| 4 | Availability | Web app link will be available for the public and the drivers. Bins will be installed in specific distance(a bin for 500m). | Cloud, DB. |
| 5 | Performance | The Execution of the whole project. | IBM Watson IoT Platform |