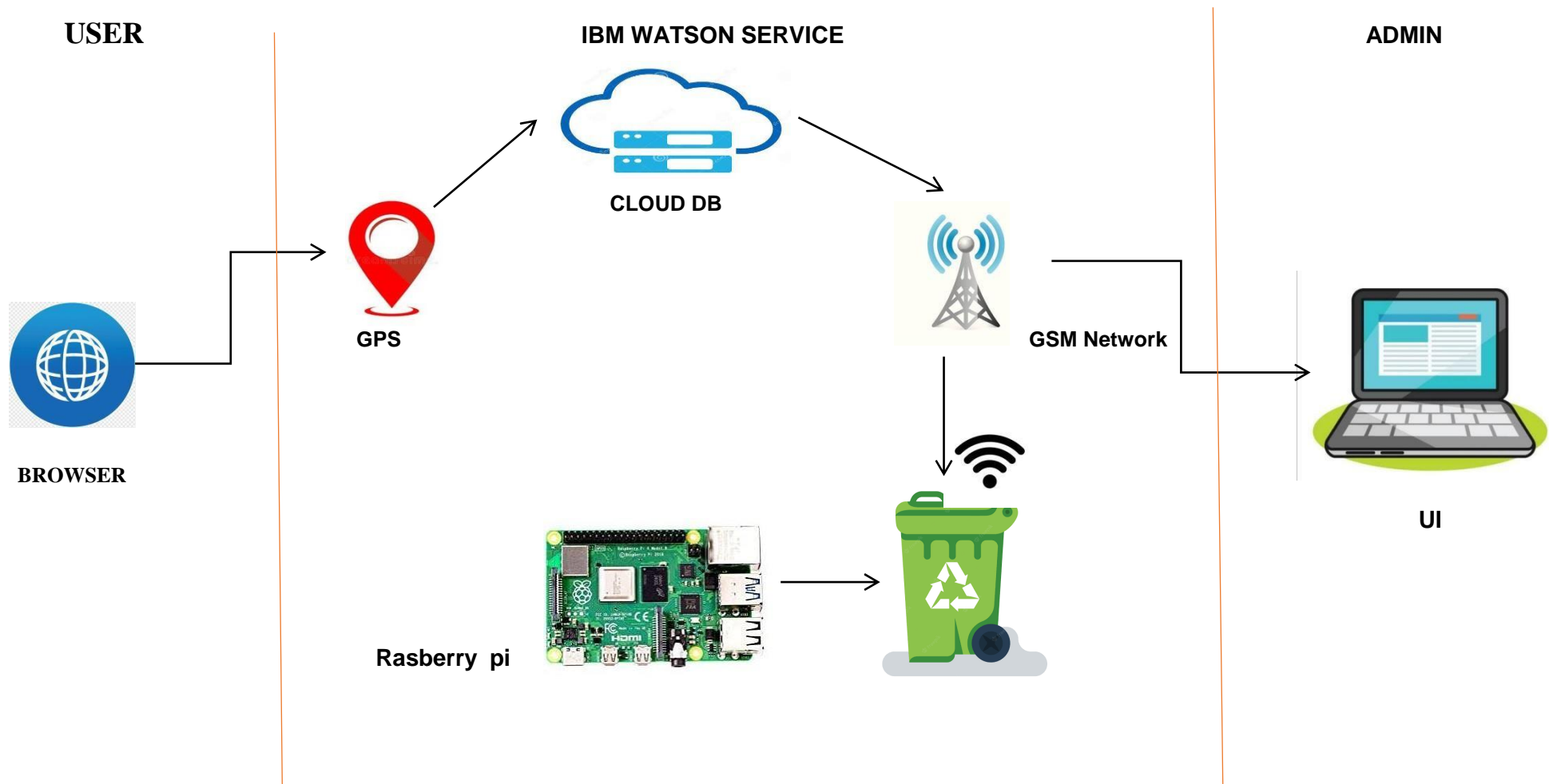


**Project Design Phase-II**  
**Technology Stack (Architecture & Stack)**

|               |  |
|---------------|--|
| Date          | 21 October 2022                                |
| Team ID       | PNT2022TMID18433                               |
| Project Name  | Smart Waste Management for Metropolitan Cities |
| Maximum Marks | 4 Marks  |

**Technical Architecture:**



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

| S.No | Component                       | Description   | Technology               |
|------|---------------------------------|---|--------------------------|
| 1.   | User Interface                  | Web UI, Mobile App.   | HTML, CSS, JavaScript    |
| 2.   | Application Logic-1             | Logic for a process in the application  | 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,                   |
| 6.   | Cloud Database                  | Database Service on Cloud, to store data  | IBM DB2, IBM Cloudant    |
| 7.   | File Storage                    | File storage requirements, To retrieve data   | IBM Block Storage        |
| 8.   | Machine Learning Model          | To recognize the things   | Object Recognition Model |
| 9.   | Infrastructure (Server / Cloud) | Local Server Configuration:MAMP<br>Cloud Server Configuration : Cloud Config Server | Local, Cloud Foundry     |

**Table-2: Application Characteristics:**

| S.No | Characteristics          | Description   | Technology                  |
|------|--------------------------|---|-----------------------------|
| 1.   | Open-Source Frameworks   | Provides permission to use the source code                            | IBM Cloud                   |
| 2.   | Security Implementations | Sends alert to the admin once the bin get filled                      | UI                          |
| 3.   | Scalable Architecture    | Ensures that product are made to be recycled back                     | IBM Watson Platform         |
| 4.   | Availability             | Directs the truck drivers to pre-decide routes.                       | Real Time GPS, Cloud Server |
| 5.   | Performance              | Measured data is send to the cloud, Trash is collected based on that. | IOT                         |

