**NAME: SYED SEEMAB**

**STD ID: 15406**

**Recycling System Requirements**

| **Type** | **Requirement** | **Description** |
| --- | --- | --- |
| **Functional** | User Registration & Login | The system must allow users to register, log in, and manage their profiles. |
| **Functional** | Waste Collection Request | Users should be able to request waste pickup from their location. |
| **Functional** | Waste Categorization | The system must categorize waste into recyclable, non-recyclable, and hazardous types. |
| **Functional** | Scheduling & Routing | The system should schedule pickup times and assign collection routes to drivers. |
| **Functional** | Recycling Center Management | The system must manage and track materials sent to recycling centers. |
| **Functional** | Data Recording | It should record data about collected waste, including type, weight, and source. |
| **Functional** | Notifications | The system should send notifications to users about collection status or upcoming pickups. |
| **Functional** | Payment & Reward System | The system should calculate and process payments or rewards for recyclable waste submissions. |
| **Functional** | Reporting & Analytics | It should generate reports on total waste collected, recycled amounts, and user participation. |
| **Functional** | Admin Dashboard | Administrators should be able to monitor system activities, manage users, and view performance statistics. |
| **Functional** | Feedback System | Users should be able to give feedback or report issues related to recycling services. |
| **Functional** | Inventory Management | The system should track storage levels of recyclable materials in facilities. |

NON-FUNCTIONAL REQUIREMENTS:

| **Type** | **Requirement** | **Description** |
| --- | --- | --- |
| **Non-Functional** | Performance | The system should process user requests and data transactions within a few seconds. |
| **Non-Functional** | Reliability | The system should ensure accurate data tracking and error-free operation during waste processing. |
| **Non-Functional** | Security | All user and operational data must be securely stored and protected from unauthorized access. |
| **Non-Functional** | Usability | The system should have an easy-to-use, intuitive interface for users, drivers, and administrators. |
| **Non-Functional** | Availability | The system should be available 24/7, with minimal downtime for maintenance. |
| **Non-Functional** | Scalability | The system should handle growing numbers of users, collection centers, and data over time. |
| **Non-Functional** | Maintainability | It should be easy to update and maintain, with minimal disruption to operations. |
| **Non-Functional** | Accuracy | The system must ensure precise measurement and recording of waste quantities. |
| **Non-Functional** | Auditability | Every transaction and data update should be logged for monitoring and compliance purposes. |
| **Non-Functional** | Environmental Compliance | The system must comply with environmental and waste management regulations. |
| **Non-Functional** | Backup and Recovery | The system should perform regular data backups and support quick recovery in case of failure. |