**Project Development Phase**
Delivery Of Sprint 3

| Assignment Date | 11 November 2022 |
| --- | --- |
| Team ID | PNT2022TMID44143 |
| Project Name | Smart Waste Management System For Metropolitan Cities |

**Requirements**

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

| FR No. | Functional Requirement (Epic) | Sub Requirement (Story / Sub-Task) |
| --- | --- | --- |
| FR-1 | User Registration | Registration through Gmail |
| FR-2 | User Confirmation | Confirmation via Email Confirmation via OTP |
| FR-3 | GPS Access | GPS admission to recognize the location |
| FR-4 | Bin level Analysing | obtain the levels of Waste bins in a regular interval of time. |
| FR-5 | Transport Router | To make a efficient route for the collection of garbages in the region of a area. |

**Non-functional Requirements:**

Following are the non-functional requirements of the proposed solution.

| FR No. | Non-Functional Requirement | Description |
| --- | --- | --- |
| NFR-1 | Usability | ➢ A smart solution has been planned to make the waste sorting more simple and accurate, and look up the user experience, usability, and satisfaction. <br> ➢ It aims to optimize ease of use while offering maximum functionality. |
| NFR-2 | Security | ➢ The information of the users will be highly secured,the accounts are verified with Gmail. <br> ➢ If the products are misplaced then the GPS driven sensor gives an alert. |
| NFR-3 | Reliability | ➢ Operates in a defined environment without failure resulting in less manpower, emissions, fuel use and traffic congestion. |
| NFR-4 | Performance | ➢ The system will provide accurate reports, thus increasing the efficiency of the system. <br> ➢ The real-time monitoring of the garbage level with the help of sensors and wireless communication will reduce the total number of trips required of Garbage collecting truck. <br> ➢ This will reduce the total expenditure associated with the garbage collection. |

| NFR-5 | Availability | ➤ The smart waste bins are available in Convention centers, buildings, stadiums, and transportation facilities and captures high-quality waste data and informs staff when it gets full. |
|---|---|---|
| NFR-6 | Scalability | ➤ A versatile scalable smart waste-bin system based on limited waste management could potentially lead to great improvements.<br>➤ Once these smart bins are implemented on a large scale by replacing the traditional bins, the waste can be quickly managed to its efficient level as it avoids unnecessary lumping of wastes on roadside. |

**Customer Journey Map**
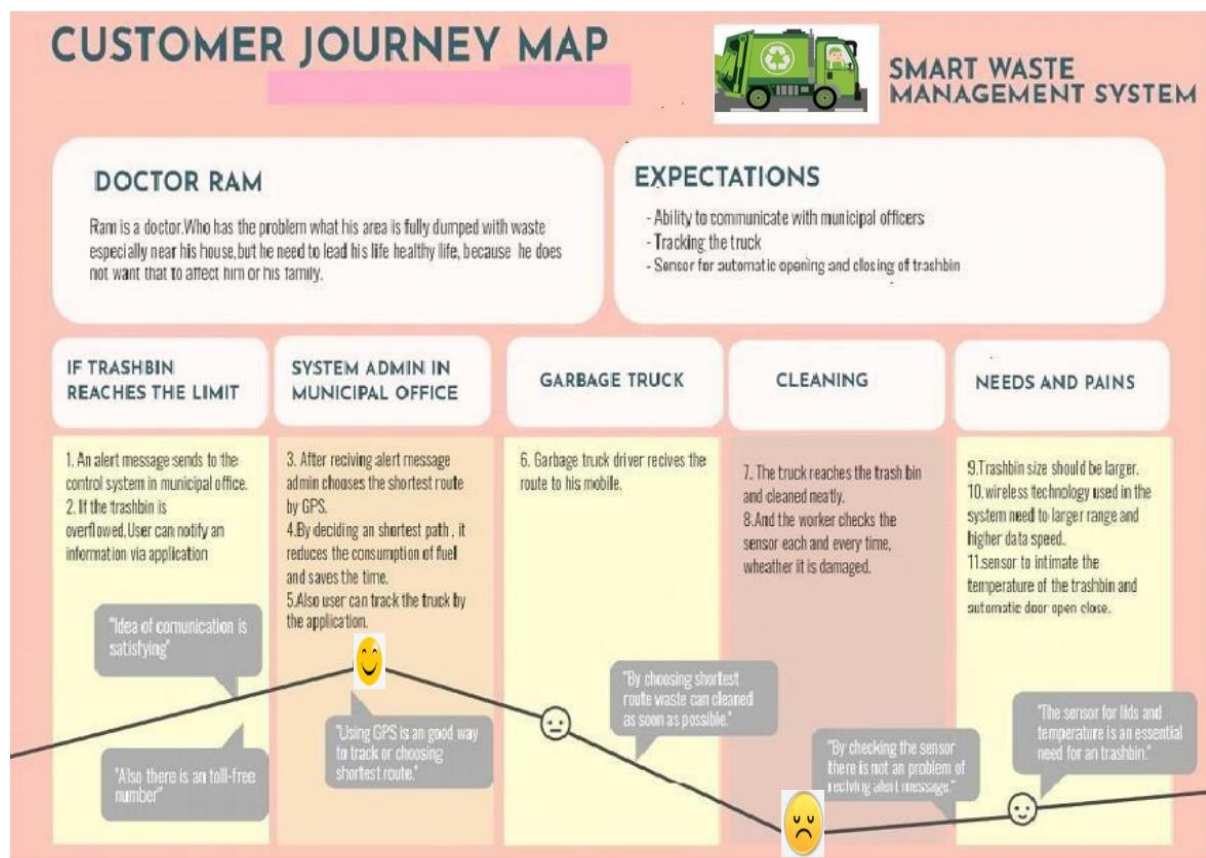


**Technology Stack Architecture**

**Technical Architecture:**

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

Example: Order processing during pandemics for offline mode

Administrative servers

Receive updated data

Notify collection company

Send recycled e-waste data

Mobile app

http://

Cloud database

Send collection truck

Send container level data

Guide users to nearest collection box

Smart e-waste collection box A

Smart e-waste collection box B

Smart e-waste collection box C