**Project Design Phase-II**

**Solution Requirements (Functional & Non-functional)**

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| Date | 13 October 2022 |
| Team ID | PNT2022TMID33002 |
| Project Name | Project – Smart Waste Management for Metropolitan cities |
| Maximum Marks | 4 Marks |

**Functional Requirements:**

Following are the functional requirements of the proposed solution.

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| **FR No.** | **Functional Requirement (Epic)** | **Sub Requirement (Story / Sub-Task)** |
| FR-1 | User Registration | * Registration through Application * User able to register an account with email, password and confirm password. * The system shall display error message if the compulsory field is not completed. |
| FR-2 | User Confirmation | * Confirmation via Email * Confirmation via OTP |
| FR-3 | Login | * User able to login into the system with email and password. * User able to save their username and password in login page. |
| FR-4 | Display Map Views | * User able to see the map views. * The system require user to enable GPS. * User able to see their current location. * User able to see the dustbins’ location. * User able to see the dustbin’s status. * The system shall refresh the dustbins’ status every 1 hour. * User able to zoom in and out the map views. * The system allows user gets the route direction from user’s current location to dustbin’s location. |
| FR-5 | Detect Dustbin’s Volume | * The sensor shall detect the distance of dustbin and calculate in term of volume. * The system able to update the dustbins’ status to real-time database. |
| FR-6 | Logout | * User able to logout the system. |

**Non-functional Requirements:**

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

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| **FR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | **Usability** | * The system can be accessed via internet. * The system can be used in any android devices. |
| NFR-2 | **Security** | * The system can be only accessed by registered email and password. * This system has end-to-end encryption. |
| NFR-3 | **Reliability** | * The system is reliable as it provides accurate data to the user at the right time without any failure. |
| NFR-4 | **Performance** | * The system has good response time as it takes less time to load the information/data. |
| NFR-5 | **Availability** | * The system can be accessed within 24 hours per day and 365 days per year. |
| NFR-6 | **Scalability** | * The scalability of this system is high as it is easy to process and is cost effective. * Devices can get the accurate level of data even if the geographical area is larger. |