Project Design Phase-II

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

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| Date | 03 October 2022 |
| Team ID | PNT2022TMID11549 |
| 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 | Detailed Explanation of bin | You can see bin details in the Dashboard – capacity, waste type, last measurement, GPS location and collection schedule. |
| FR-2 | Monitoring using real time examples | Displays real-time data on fill-levels of bins monitored by smart sensors. With real-time data and predictions, you can eliminate the overflowing bins and stop collecting half-empty ones |
| FR-3 | Cost of bins | It helps to identify bins that drive up your collection costs. The tool calculates a rating for each bin in terms of collection costs. |
| FR-4 | Adjusting level of garbage | Identify areas with either dense or sparse bin distribution. Make sure all trash types are represented within a stand. |
| FR-5 | Eliminate unsufficient garbage | Eliminate the collection of half-empty bins. By using real-time data on fill-levels and pick recognition, we can show you how full the bins you collect are. |
| FR-6 | Planning for waste collection | The tool semi-automates waste collection route planning. Based on current bin fill-levels and predictions of reaching full capacity, you are ready to respond and schedule waste collection. |

**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** | In the design process with user experience as the core, the analysis of users’ product usability can indeed help designers better understand users’ potential needs in waste management, behavior and experience. |
| NFR-2 | **Security** | Use a reusable garbage  Purchase wisely and recycle  Avoid single use food and drink containers |
| NFR-3 | **Reliability** | Smart waste management is also about creating better working conditions for waste collectors and drivers. |
| NFR-4 | **Performance** | Using a variety of IoT networks ( (NB-IoT,GPRS), the sensors send the data to Sensoneo’s Smart Waste Management Software System, a powerful cloud-based platform, for data driven daily operations, available also as a waste management app. |
| NFR-5 | **Availability** | Another purpose of this project is to make the proposed waste management system as cheap as possible. By developing & deploying resilient hardware and beautiful software we empower cities, businesses, and countries to manage waste smarter. |
| NFR-6 | **Scalability** | By using smart waste bins, we able to monitor the garbage frequently and number of bins will be reduced. |