**Project Design Phase-II**

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

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| **Date** | 03 October 2022 |
| **Team ID** | PNT2022TMID07372 |
| **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 email and mobile number |
| FR-2 | User Confirmation | Confirmation via Email and Confirmation via OTP |
| FR-3 | Web Application | Node Red Service |
| FR-4 | Device Configuration | IBM Watson IOT platform |
| FR-4 | Bin monitoring | The sensors monitor the garbage bins and it alert the authorized person when the bin will be filled based on the past data and capacity of the bin. Thesensor will know when the bin was last emptied .So we can eliminate overflowing bins and cease collecting the empty ones. |

**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** | Usability is a unique and significant perspective to examine user needs, which may further enhance the design quality, according to IOT devices.To study the customers product usability can help  desiners to understand better |
| NFR-2 | **Security** | Security is enhanced as the system has a secured  login/registration page and even the data is stored  in a secured manner |
| NFR-3 | **Reliability** | This is also about creating better working conditions for waste collectors and drivers. The drivers can access the bin level and location of bin and update the status of each bin. |
| NFR-4 | **Performance** | We use Sensors to measure the fill levels and other datas in bins several times a day |
| NFR-5 | **Availability** | This system is avaiabe for al time so we can easily collect the garbage on time |
| NFR-6 | **Scalability** | The scalability is very high because it reduces the number of bins and it is cost effective |