**Project Design Phase-II**

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

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| --- | --- |
| Date | 31 January 2025 |
| Team ID | LTVIP2025TMID45663 |
| Project Name | CleanTech: Transforming Waste Management with Transfer Learning |
| Maximum Marks | 4 Marks |

**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 Form |
|  |  | Registration through Gmail |
|  |  | Registration through LinkedIn |
| FR-2 | User Confirmation | Confirmation via Email |
| FR-3 | Waste Classification | Upload Waste Image |
|  |  | Classify as Recyclable/Non-recyclable |
|  |  | Show Confidence Score |
| FR-4 | Dashboard & Reports | Visual Waste Statistics |
|  |  | Downloadable Reports |
|  |  | Trend Analysis Over Time |
| FR-5 | User Feedback | Submit Rating for Classification |
|  |  | Provide Comments |
| FR-6 | Admin Module | View All Classifications |
|  |  | Manage Users |
|  |  | Manage Feedback |

**Non-functional Requirements:**

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

| **NFR No.** | **Non-Functional Requirement** | **Description** |
| --- | --- | --- |
| NFR-1 | Usability | Interface should be simple, intuitive, and accessible for all age groups |
| NFR-2 | Security | User data should be encrypted; secure login and authentication required |
| NFR-3 | Reliability | System should deliver consistent classification results under various loads |
| NFR-4 | Performance | Image classification should return results within 3–5 seconds |
| NFR-5 | Availability | System should be available 99.9% of the time (24/7 access) |
| NFR-6 | Scalability | Should support scaling for large user base and data volume in future phases |