

Project Design Phase-II

Solution Requirements (Functional & Non-functional)

Team ID: LTVIP2025TMID39058
Project Name: CleanTech: Transforming Waste Management with Transfer Learning

Functional Requirements:

These are the functional requirements tailored to the CleanTech system:

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration & Login	Sign up with email and password Social login (Google, LinkedIn) Login with credentials
FR-2	Waste Uploading	Capture/upload waste image Add location details
FR-3	Waste Classification	Predict category using ML model Display classification result
FR-4	Admin Operations	Review classified waste Update category manually if needed
FR-5	Collector Assignment	Assign collector based on type/location Track collection status

Non-functional Requirements:

These ensure system quality attributes in the CleanTech platform:

FR No.	Non-Functional Requirement Description
NFR-1	Usability - Simple and intuitive UI for public and collectors
NFR-2	Security - Secure login, encrypted waste data
NFR-3	Reliability - Robust ML model and consistent performance
NFR-4	Performance - Fast image processing and prediction
NFR-5	Availability - High uptime for public use
NFR-6	Scalability - Handle increasing users and waste records