Project Design Phase-II
Data Flow Diagram & User Stories

Date	27 June 2025
Team ID	LTVIP2025TMID36584
Project Name	cleantech: transforming waste management with transfer learning
Maximum Marks	4 Marks

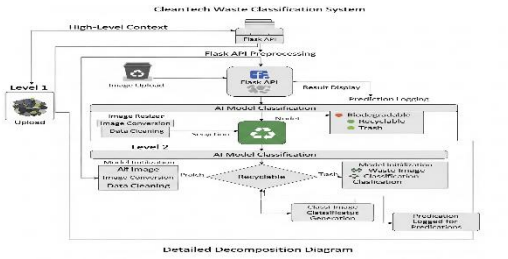
Data Flow Diagrams:

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.

Flow:

- A user uploads an image of waste via the web application.
- The Flask backend receives and preprocesses the uploaded image.
- The preprocessed image is then sent to the AI model for classification.
- The AI model, which is a trained Convolutional Neural Network (CNN) based on MobileNetV2, predicts the waste category (Biodegradable, Recyclable, or Trash).
- The classification result is returned to the frontend and displayed to the user along with the uploaded image.
- Prediction results are also recorded in terminal logs.

Data diagram:



User Stories:

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Web user)	Waste Classification	USN-1	As a user, I can upload an image of waste.	The image is successfully uploaded to the system.	High	Sprint-1
Customer (Web user)	Waste Classification	USN-2	As a user, I can receive an accurate classification of the waste image (Biodegradable, Recyclable, or Trash).	The system displays the correct classification label.	High	Sprint-1
Customer (Web user)	Waste Classification	USN-3	As a user, I can see the uploaded image along with its classification.	The uploaded image is visible with the classification result.	Low	Sprint-1
Administrator	System Monitoring	USN-4	As an administrator, I can view terminal logs showing classification predictions.	Terminal logs display accurate prediction details.	Medium	Sprint-1