

Project Design Phase
Proposed Solution Template

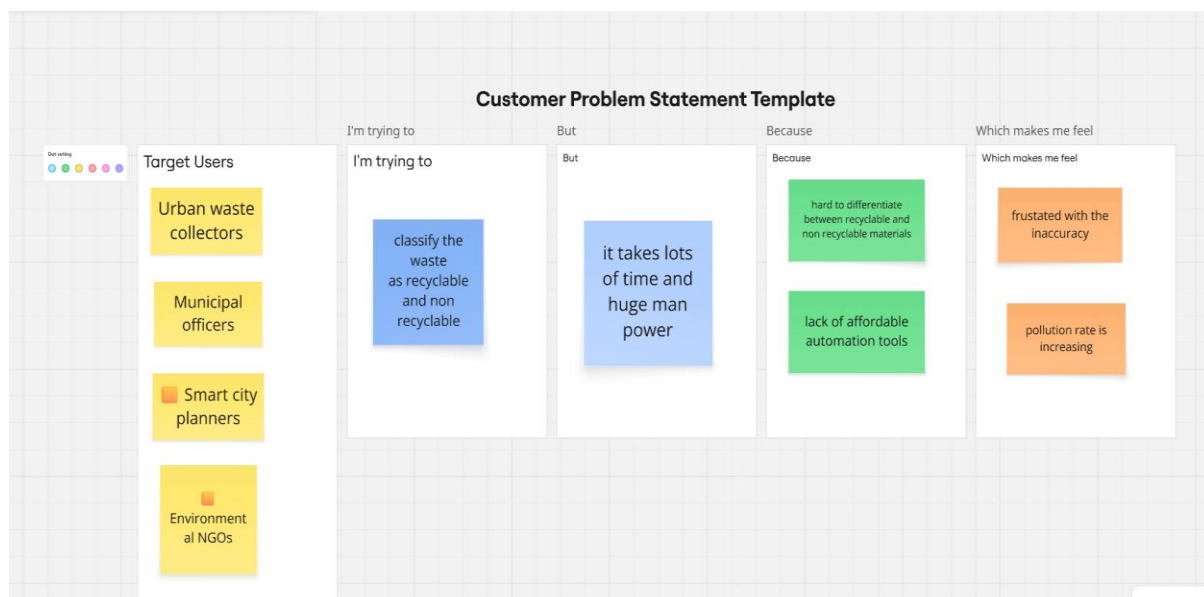
Date	15 February 2025
Team ID	LTVIP2025TMID45663
Project Name	CleanTech: Transforming Waste Management with Transfer Learning
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in the proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Inefficient waste segregation leading to environmental damage, lack of awareness, and improper recycling due to human error and manual sorting.
2.	Idea / Solution description	 A smart AI-based waste classification system using transfer learning that identifies and separates recyclable and non-recyclable waste automatically using image recognition.
3.	Novelty / Uniqueness	Utilizes pre-trained models to reduce data requirements and training time; deployable via mobile or edge devices for real-time classification in households, schools, and public areas.
4.	Social Impact / Customer Satisfaction	Promotes sustainability, reduces landfill waste, and increases recycling efficiency. Enhances awareness of proper waste management practices among the public.

5.	Business Model (Revenue Model)	B2B licensing to municipalities, NGOs, waste collection agencies; subscription-based SaaS for institutions; pay-per-use model for public recycling kiosks.
6.	Scalability of the Solution	Easily scalable across cities and regions. The AI model can be fine-tuned with local data. Can integrate with existing waste bins or IoT systems.



Reference: <https://miro.com/templates/customer-problem-statement/>