

## Ideation Phase

### Brainstorm & Idea Prioritization Template

Date	06 July 2025
Team ID	LTVIP2025TMID35506
Project Name	CleanTech:Transforming Waste Management with Transfer Learning
Maximum Marks	4 Marks

#### Brainstorm & Idea Prioritization Template:

Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions.

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

Reference: <https://www.mural.co/templates/brainstorm-and-idea-prioritization>

#### Step-1: Team Gathering, Collaboration and Select the Problem Statement

##### Chosen Problem Statement:

"How might we leverage AI and transfer learning to optimize waste classification and promote efficient, sustainable municipal waste management in urban areas?"

##### Key Context:

- Manual classification is inefficient and error-prone.
- Existing AI models lack adaptability across regional datasets.
- Need for scalable, explainable, and deployable solutions.

#### Step-2: Brainstorm, Idea Listing and Grouping

Group	Idea Description
<b>AI Modeling</b>	Use transfer learning with pre-trained CNNs (e.g., ResNet, EfficientNet) for waste image classification.
<b>User Interface</b>	Build a web app and mobile UI for public waste scanning and sorting guidance.
<b>Data Pipeline</b>	Develop an automated pipeline to label, clean, and update new waste image datasets.
<b>Deployment</b>	Integrate with municipal services via APIs; deploy model using Docker + cloud inference.

<b>Gamification</b>	Reward citizens with points for properly classified waste using a feedback loop.
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### Step-3: Idea Prioritization

<b>Idea</b>	<b>Feasibility(1-5)</b>	<b>Impact (1–5)</b>	<b>Priority Score</b>	<b>Comments</b>
Transfer learning for waste classification	5	5	25	Core innovation
Web + mobile UI	4	5	16	Improves adoption
Real-time municipal dashboard	4	4	20	High-value for operations
Gamification rewards	3	4	12	Boosts citizen engagement
Data labeling automation	3	5	15	Critical for scale
AR-based education	2	4	8	Longer-term vision
Cloud deployment via Docker	5	4	20	Key for product readiness