

## Ideation Phase

### Brainstorm & Idea Prioritization Template

Date	13 Jun 2025
Team ID	LTVIP2025TMID36983
Project Name	Small sorting: Transfer learning for identifying rotten in fruits and vegetables
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

**Brainstorm & idea prioritization**

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.

10 minutes to prepare  
1 hour to collaborate  
2-8 people recommended

**Before you collaborate**  
A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

10 minutes

**1 Team gathering**  
Define who should participate in the session and send an invite. Share relevant information or pre-work ahead.

**2 Set the goal**  
Think about the problem you'll be focusing on solving in the brainstorming session.

**3 Learn how to use the facilitation tools**  
Use the Facilitation Superpower to run a happy and productive session.

Open article

**1 Define your problem statement**  
What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

5 minutes

How might we (your problem statement)?

**Key rules of brainstorming**  
To run an smooth and productive session

- Stay on topic
- Encourage wild ideas
- Defer judgment
- Listen to others
- Go for volume
- If possible, be visual

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

1

**Brainstorm**  
Write down any ideas that come to mind.  
Just add to your problem statement.

15 minutes

Tip

Don't worry if thoughts are not well formed and come a little blurry

Person 1

Person 2

Person 3

Leverage pre-trained image classification models (e.g., ResNet, Inception) on large public datasets (ImageNet) as a starting point for transfer learning.

Investigate different transfer learning strategies: fine-tuning the entire pre-trained model or freezing early layers and only training the last few layers.

Develop a user-friendly interface for manual labeling of new data to continuously improve model accuracy through active learning.

Focus on creating a diverse dataset of rotten and fresh fruits/vegetables, including various stages of spoilage and different lighting conditions.

Implement a real-time sorting system using a camera and a robotic arm for physical separation of good/rotten produce.

Integrate sensors beyond visual data (e.g., spectral imaging, odor sensors) to enhance the detection of early spoilage or specific types of decay.

Explore data augmentation techniques (rotation, scaling, cropping, color jitter) to increase the size and variability of the training dataset.

Consider using edge computing devices (e.g., Raspberry Pi, NVIDIA Jetson) for on-site inference to reduce latency and dependence on cloud.

Evaluate model performance using metrics relevant to food sorting: precision, recall, F1-score, and false positive/negative rates.

2

**Group ideas**  
Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try enclosing it first and break it up into smaller sub-groups.

20 minutes

Tip

Ask yourself: how many words make a sentence? The longer the sentence, the more complex the idea. Aim for 10-15 words.

3

### Group ideas

Take turns sharing your ideas while clustering similar or related notes on pages. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you can break it up into another sub-group.

25 minutes

Have students take turns giving notes a label. Have them discuss the labels and see if they can break up notes into smaller groups.



## Step-3: Idea Prioritization

4

## Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

⌚ 20 minutes

### TIP

Participants can take their feedback to place an emoji sticky notes straight on the grid. The moderator can confirm the spot by using the emoji picker tooling the **W** key on the keyboard.

