

Ideation Phase

Brainstorm & Idea Prioritization Template

Date	17 February 2026
Team ID	LTVIP2026TMIDS80710
Project Name	Smart Sorting: Transfer Learning for Identifying rotten fruits and vegetables
Maximum Marks	4 Marks

Brainstorm & Idea Prioritization Template:

Brainstorming helps us generate innovative solutions by combining agricultural, retail, and household needs with AI-based technological possibilities. In this project, our goal is to **automate the detection and sorting of rotten fruits and vegetables using transfer learning**, enhancing quality control across industries.

This template enables our team to collaborate creatively—whether in person or remotely—to explore a wide range of ideas across **dataset curation, model selection, real-time deployment, waste reduction, and user experience**.

By encouraging open discussion, we can prioritize impactful ideas such as:

- Real-time detection using VGG16 and pre-trained models
- Deployable architecture across industries, retail outlets, and smart homes
- Alert systems via mobile apps for households
- Camera-based image capture and auto-sorting in factories
- Modular dataset expansion (support for various fruits and vegetables)
- Privacy in home monitoring systems

Using this structure, we ensure that our most valuable and feasible ideas are recognized, refined, and implemented—ultimately leading to a **scalable, accurate, and impactful smart sorting solution**.

This brainstorming session is focused on identifying ways to improve quality control, reduce food waste, and enhance user convenience across different environments. By encouraging all voices—technical, industrial, retail, and end-user—we can generate a wide variety of ideas, from smart kitchen integration to advanced model retraining. Using this template, we'll prioritize those ideas that not only improve performance and usability, but also increase adoption and trust in the system.

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

Template

Before you collaborate

Taking a few minutes to prepare will help your Smart Sorting session run smoothly and generate better results. Here's what you should do before diving in.

⌚ 10 minutes

A Team gathering

Gather a well-rounded team that includes ML engineers, data handlers, product managers, and deployment developers. Assign clear roles and responsibilities. Share any pre-work such as current datasets, sample outputs, and insights from previous models to ensure everyone is informed and ready to contribute meaningfully.

B Set the goal

Clarify what your team is aiming to solve. A sample focus could be: "How can we improve the classification of fresh vs. rotten fruits using transfer learning in a resource-efficient way?" Make sure everyone understands the goal, including the model performance, enhancing dataset variety, or preparing the model for real-world testing.

C Learn how to use the facilitation tools

Review the tools you'll be using during the session. Platforms like Google Colab, Miro, GitHub, or Jamboard help structure collaboration. Ensure everyone has access and basic familiarity with these tools to minimize delays and support an engaging, efficient brainstorming process.

Key rules of brainstorming

- Stay in topic.
- Defer Judgment.
- Go for volume.
- Encourage wild ideas.
- Listen to others.
- If possible, be visual.

Step-2: Brainstorm, Idea Listing and Grouping

2 Brainstorm

How might we use transfer learning to accurately detect and classify rotten fruits and vegetables?

⌚ 10 minutes

Person 1

- Use Pre-trained CNN models like VGG16 or ResNet.
- Classify fruits/vegetables as fresh or rotten.
- Collect real-time images from markets or kaggle dataset.

Person 2

- Use flask for a web-based demo.
- Improve accuracy with data augmentation.
- Test on multiple fruit/vegetable types.

Person 3

- Add voice assistant for accessibility.
- Targeted Fine-Tuning
- Lightweight model optimization

Person 4

- Real-time performance dashboard.
- Add mobile camera integration.
- Use Grad-CAM for model explainability.

3 Group ideas

Discuss and cluster related ideas into groups like Data, Model, or Deployment. Give each group a clear label. If a group gets too large, break it into smaller, focused sub-groups.

⌚ 20 minutes

1. Data and Preparation

Dataset from Kaggle

2. Model and Technology

Use VGG16(transfer learning)
Data augmentation(improve accuracy)

3. Deployment

Flask app
Web integration

4. User Experience

easy-to-use-interface

5. Impact and Sustainability

Step-3: Idea Prioritization

