Ideation Phase

Brainstorm & Idea Prioritization Template

Date	31 January 2025
Team ID	LTVIP2026TMIDS65633
Project Name	Smart Sorting: Transfer Learning for Identifying Rotten Fruits and Vegetables
Maximum Marks	4 Marks

Brainstorm & Idea Prioritization Template:

The goal was to think freely and collaboratively about how to solve the problem of inefficient manual sorting of spoiled produce. Several innovative solutions were proposed, including using a camera with an AI model to detect rotten fruits in real-time, developing a mobile app that allows farmers to scan produce using their smartphones, integrating the model with a conveyor belt system to automate physical sorting, deploying IoT-enabled shelf sensors that detect spoilage early in storage environments, and creating a spoilage dashboard to help supervisors monitor trends and optimize quality control..

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

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

Brainstorm & idea prioritization

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.

A **Team gathering**

define team members and roles:
- Vangara Prasanna Devi Sri(team lead)
- Thalari Gresu Raju(team member)
- Vadlamudi Karthik(team member)
- Varagani Nagur Babu(team member)

B **Set the goal**

focus on problem of Smart Sorting: Transfer Learning for Identifying Rotten Fruits and Vegetables using deeplearning and python

C **Learn how to use the facilitation tools**

learn to run a happy and productive session using collaborative boards and structures feedback

1 Define your problem statement

How might we use transfer learning to automatically and accurately identify rotten fruits and vegetables, so that we can reduce manual labor, minimize waste, and improve food quality in the supply chain

problem statement:

Manual sorting of fruits and vegetables is time-consuming, inconsistent, and prone to human error, leading to spoilage and financial loss. There is a lack of scalable, accurate solutions to detect rotten produce efficiently. This project aims to automate the sorting process using transfer learning to identify spoiled items with high precision.

Key rules of brainstorming
To run a smooth and productive session

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

Step-2: Brainstorm, Idea Listing and Grouping

② Brainstorm

Write down any ideas that come to mind that address your problem statement.

🕐 10 minutes

Person 1 — Vangara Prasanna Devi Sri

- Design and implement the Web UI (HTML, CSS, JavaScript)
- Create image upload and result display page
- Integrate API calls to backend
- Build admin dashboard UI

Person 2 — Thalari Gresu Raju

- Build Flask backend to handle requests
- Integrate classification logic using pre-trained model
- Handle image upload and result processing
- Connect frontend and model

Person 3 — Vadlamudi Karthik

- Preprocess dataset (resizing, augmentation)
- Build and fine-tune Transfer Learning model (MobileNet/VGG16)
- Save and export the model
- Set up retraining module

Person 4 — Varagani Nagur Babu

- Design the architecture diagram and documentation
- Coordinate team tasks and timeline
- Prepare Solution Requirements & Technology Stack documents
- Generate final reports/presentations

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③ 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 and see if you and break it up into smaller sub-groups.

🕐 20 minutes

TIP
Add customizable tags to sticky notes to make it easier to find, browse, organize, and categorize important ideas as themes within your mural.

Group1-AI/Model Ideas:

- Use TensorFlow CNN with advanced architecture
- Augment data and Preprocess images
- Train and save .h5 and .pkl models
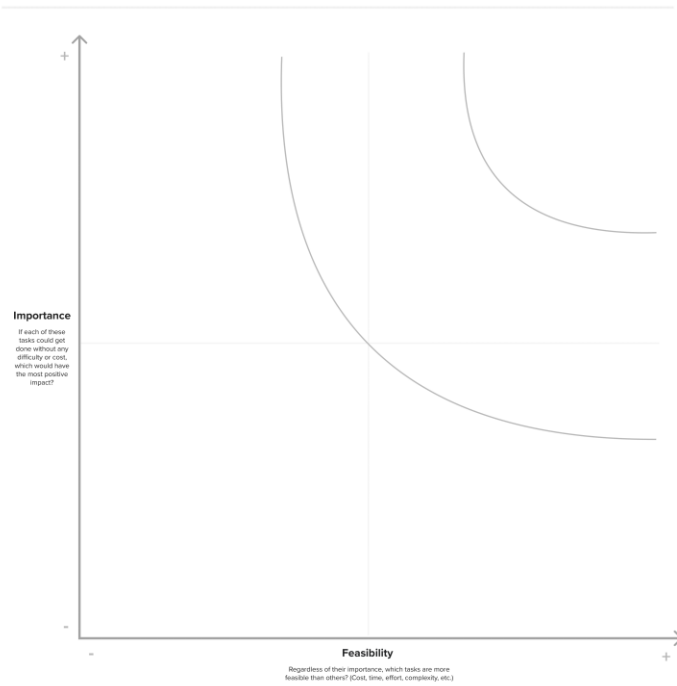
Group2 -Web Application Backend:

- Create Flask app with Upload Route
- Predict and display result page

Group3- Frontend Integration:

- Use React for UI
- Show image preview,prediction and confidence
- Handle errors and feedback

Step-3: Idea Prioritization

(4) Prioritize

Importance
If each of these tasks could get done without any difficulty or cost, which would have the most positive impact?

Feasibility
Regardless of their importance, which tasks are more feasible than others? (Cost, time, effort, complexity, etc.)

After you collaborate