

Ideation Phase


Brainstorm & Idea Prioritization Template

Date	26 June 2025
Team ID	LTVIP2025TMID20416
Project Name	Smart Sorting: Transfer Learning for Identifying Rotten 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.

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

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

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

C Learn how to use the facilitation tools
Use the Facilitation Superpowers to run a happy and productive session.

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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

PROBLEM

How might we [your problem statement]?



Key rules of brainstorming

To run an smooth and productive session

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

Our team began by identifying issues related to **food waste and safety**, especially in retail and storage of fruits and vegetables. After several brainstorming sessions and feasibility checks, we finalized the problem:

"How can we use machine learning to automatically detect rotten fruits and vegetables from images?"

This issue was selected based on:

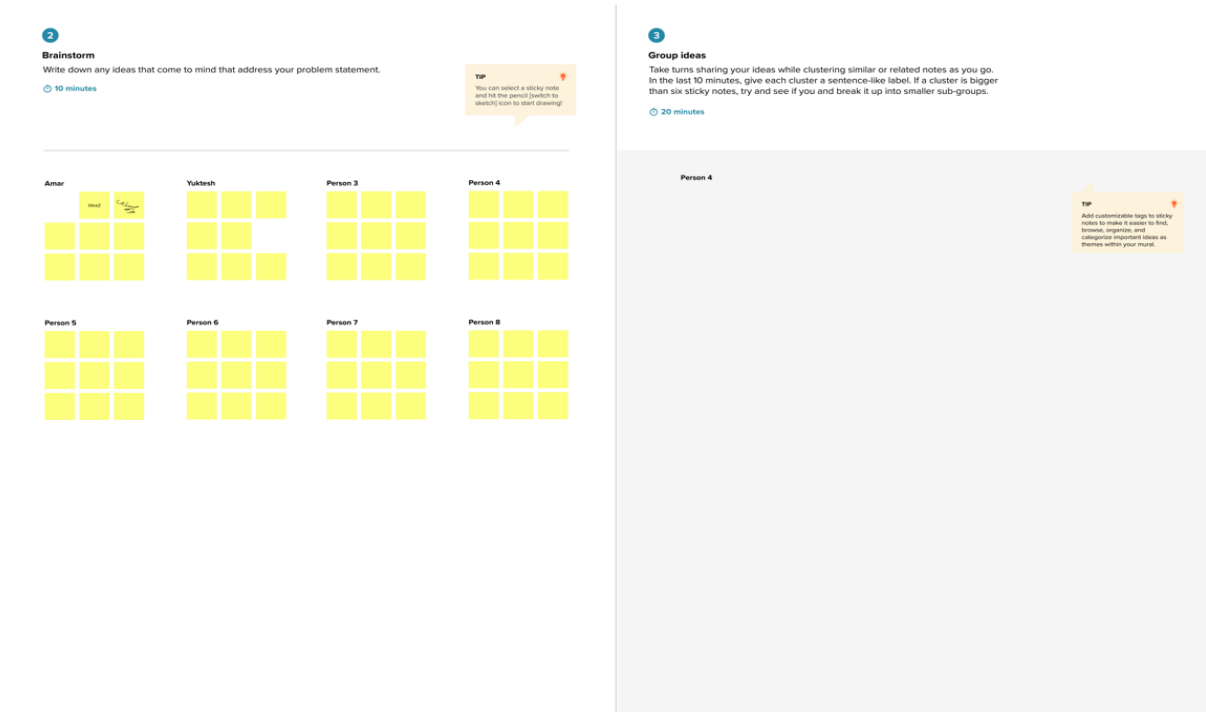
- Its relevance to consumers, vendors, and farmers
- The potential for automation using accessible tools

- The possibility of building a **real-time, user-friendly web-based solution**

We decided to name our solution:

Nutrigaze – GreenGuard Insights

Step-2: Brainstorm, Idea Listing and Grouping



We generated a range of ideas during our brainstorming sessions to approach the problem from different angles.

Ideas Generated:

- Train a machine learning model to classify images of fruits/vegetables as "fresh" or "rotten"
- Use color and texture features for spoilage detection
- Build a web application to upload and classify images
- Use transfer learning for better accuracy with limited data
- Include a freshness confidence score (optional)
- Add database storage for scanned results (future scope)

Grouped Ideas:

Category	Ideas
ML Model	Train with image dataset, use CNN or transfer learning
User Interface	Build a web app for image upload and classification
Features	Binary classification, freshness confidence, real-time response
Future Scope	Multi-class spoilage levels, hardware integration

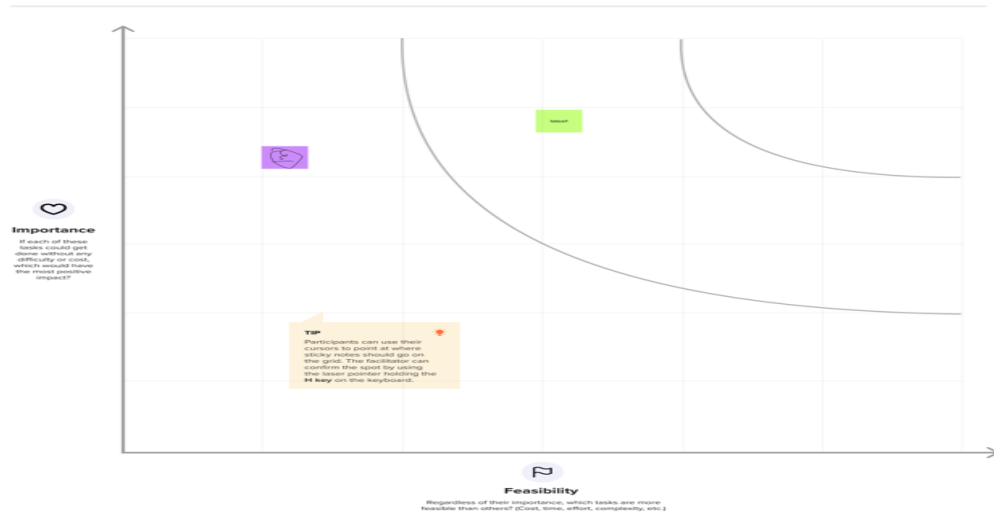
Step-3: Idea Prioritization

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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



We prioritized ideas based on:

- **Feasibility** (doable with current tools and time)
- **Impact** (how well it solves the problem)
- **Usability** (is it user-friendly and practical?)

Final Chosen Idea:

Build a **machine learning model** to classify images of fruits and vegetables as **fresh or rotten**, and integrate it into a **web-based application** where users can upload images and receive instant results.

Chosen Stack & Workflow:

- **Dataset:** Labelled images of fresh vs. rotten produce (custom or open-source)
- **Model:** CNN (Convolutional Neural Network) using TensorFlow/Keras
- **Training:** Model trained on the dataset, evaluated on accuracy and loss
- **Web App:** Built using HTML, CSS, JavaScript, and Python Flask/Streamlit backend
- **Deployment:** Local or cloud-based platform for real-time image detection