

# Ideation Phase

## Brainstorm & Idea Prioritization Template

Date	27 June 2025
Team ID	LTVIP2025TMID40145
Project Name	Transfer Learning-Based Classification of Poultry Diseases for Enhanced Health Management.
Maximum Marks	4 Marks


### Brainstorm & Idea Prioritization Template:

Poultry farmers face significant challenges in detecting diseases at an early stage, often resulting in high bird mortality and economic losses. Traditional diagnostic methods are costly, time-consuming, and typically unavailable in rural areas. To address this gap, our team leveraged AI-powered computer vision to automate and accelerate poultry disease detection.

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

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

Template



## Brainstorm & idea prioritization

Poultry farmers face significant challenges in detecting diseases early, leading to high mortality and economic loss. Traditional diagnosis methods are expensive, time-consuming, and often inaccessible in rural areas.

10 minutes to prepare  
1 hour to collaborate  
3-8 people recommended

Before you collaborate

Before starting the project, we conducted a structured brainstorming session to explore innovative and practical solutions for early poultry disease detection. The session aimed to encourage creativity, collaboration, and problem-solving by leveraging the diverse skills of our team.

Team gathering

- As AIML developer to handle model training and prediction logic
- As web developer for UI and backend integration
- As domain expert familiar with poultry farming challenges
- As project lead to facilitate the session and coordinate tasks

Set the goal

To brainstorm and prioritize ideas that will help us design a simple, effective, and accessible AI-based system to detect poultry diseases early and support rural farmers.

Learn how to use the facilitation tools

We used MURAL to collaboratively collect, grade, and prioritize ideas using digital sticky notes. The tool helped visualize categories per AI-UI deployment, additional support, and made it easy to track progress.

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Define your problem statement

How might we help poultry farmers detect diseases early using affordable, AI-powered tools that work even in rural and low-resource environments?

5 minutes

PROBLEM

How might we help poultry farmers detect diseases early using affordable, AI-powered tools that work even in rural and low-resource environments?

Key rules of brainstorming

To set an agenda and productive session

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

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

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Brainstorm

- ResNet50 with transfer learning
- Web UI for image upload
- Mobile and multilingual support
- Flask backend with cloud deployment
- Offline mode with TF Lite
- SMS alerts and voice input (future)

TIP

Use category tags like "Model", "UI", "Deployment", and "Support" to quickly cluster sticky notes and identify core themes.

10 minutes

Person 1

Person 2

Person 3

Person 4

Person 5

Person 6

Person 7

Person 8

3

Group ideas

We grouped our idea into four main areas: using ResNet50 with transfer learning for disease detection, building a simple, mobile-friendly and multilingual web interface, deploying the backend with Flask and cloud support, and adding features like SMS alerts, vet support, and prediction history for better farmer communication.

20 minutes

TIP

While grouping ideas, use tags like **Model**, **UI**, **Deployment**, and **Farmer Support** to easily track which ideas focus on AI logic, user experience, technical setup, or real-world usability for farmers.

## Step-3: Idea Prioritization

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Prioritize

- **Use ResNet50 model** → High impact, highly feasible
- **Web UI for image upload** → Easy to build, critical for usability
- **Flask backend integration** → Technically simple and essential
- **Mobile & multilingual support** → Very impactful but moderately complex

TIP

Use the prioritization grid to identify which ideas offer the highest impact with the least effort. Focus first on ideas that are both **highly important** and **feasible**, like using a pre-trained model or creating a simple web interface.

20 minutes

Importance

Ideas that directly improve early detection and help farmers (e.g., ResNet50 model, web UI).

Feasibility

Ideas that are easier to build with available tools (e.g., Flask backend, cloud deployment).