

## Ideation Phase

### Brainstorm & Idea Prioritization Template

Date	02/02/2026
Team ID	LTVIP2026TMIDS83275
Project Name	Deep Learning Fundus Image Analysis for Early Detection of Diabetic Retinopathy
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

Manual screening of diabetic retinopathy from fundus images is time-consuming and requires expert ophthalmologists, which may not be accessible to all patients.

Selected Problem Statement:

To build an automated deep learning-based system that can detect diabetic retinopathy from retinal images at early stages.

**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.  
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

**PROBLEM**  
How might we [your problem statement]?

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

- 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

Ideas Generated:

1. Develop a rule-based image processing system
2. Use traditional machine learning classifiers

3. Use Convolutional Neural Network (CNN)
4. Use Transfer Learning (ResNet / EfficientNet)
5. Build mobile app for screening
6. Build web-based application
7. Integrate cloud deployment
8. Provide severity classification
9. Provide report generation feature

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## Grouping of Ideas:

### Category 1: Model Development

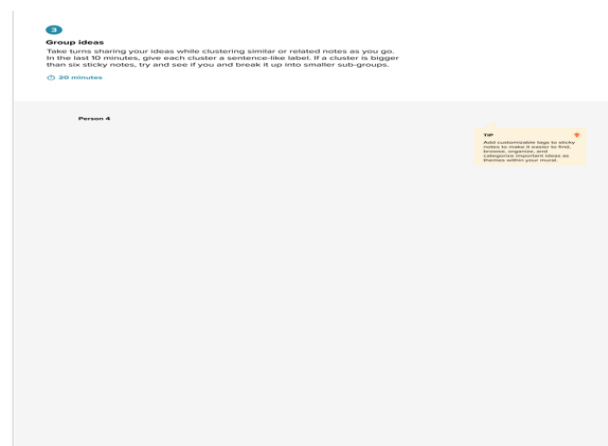
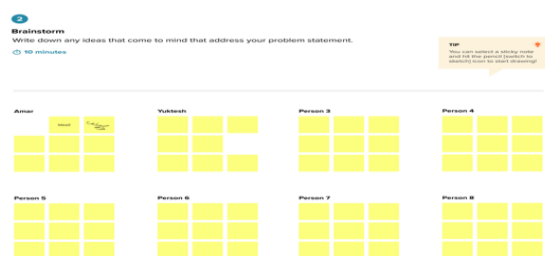
- CNN model
- Transfer Learning
- Data Augmentation

### Category 2: Application Development

- Web-based interface
- Mobile application

### Category 3: Advanced Features

- Severity grading
- Report generation
- Cloud deployment



## Step-3: Idea Prioritization

### Selected Approach:

- Convolutional Neural Network (CNN) based classification

- Multi-class DR severity detection
- Web-based Flask application
- Cloud deployment for accessibility

### Reason for Selection:

- Deep learning provides high accuracy in medical image classification.
- Web-based system is easier to deploy and use.
- CNN automatically extracts important features from retinal images.
- Scalable and practical healthcare solution.

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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

