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.

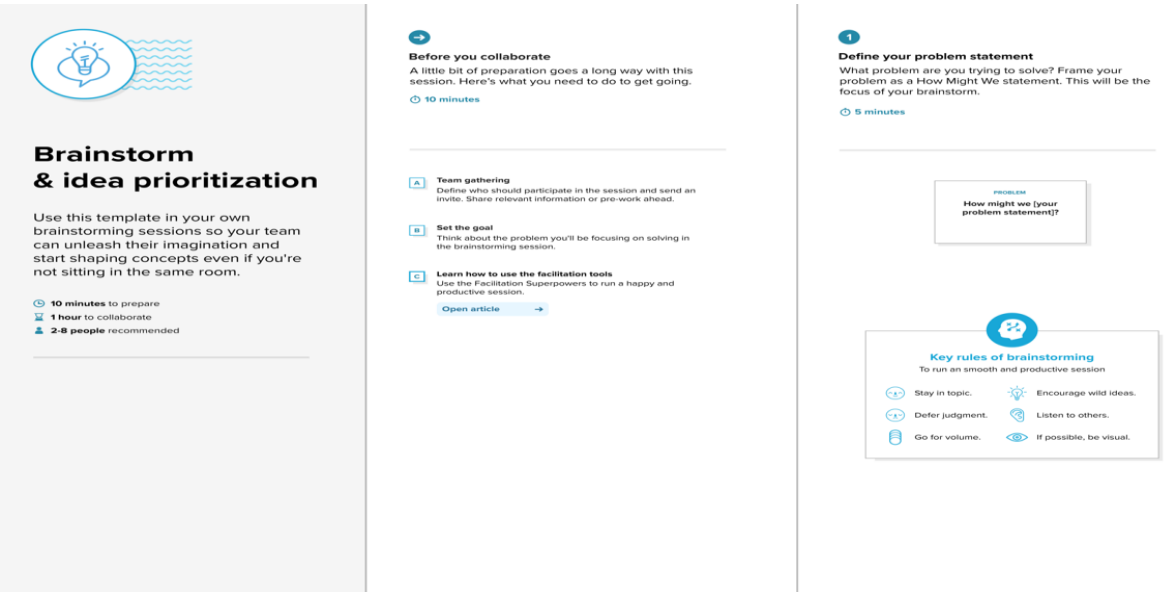
Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

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.



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

Grouping of Ideas:

Category 1: Model Development

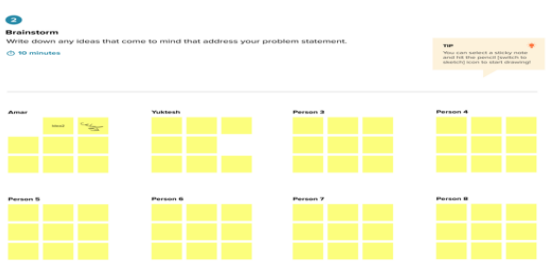
- CNN model
- Transfer Learning
- Data Augmentation

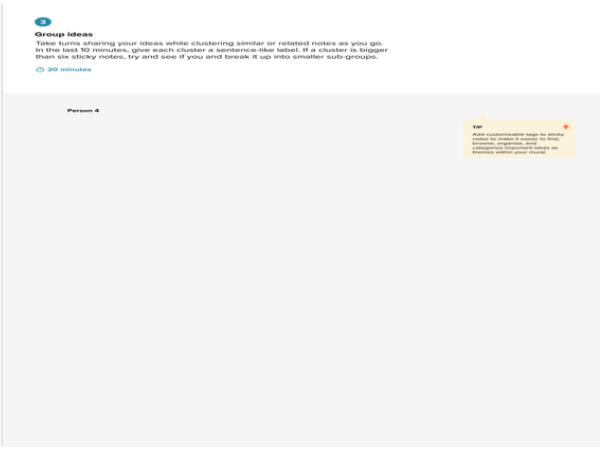
Category 2: Application Development

- 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.