

Ideation Phase

Brainstorm & Idea Prioritization

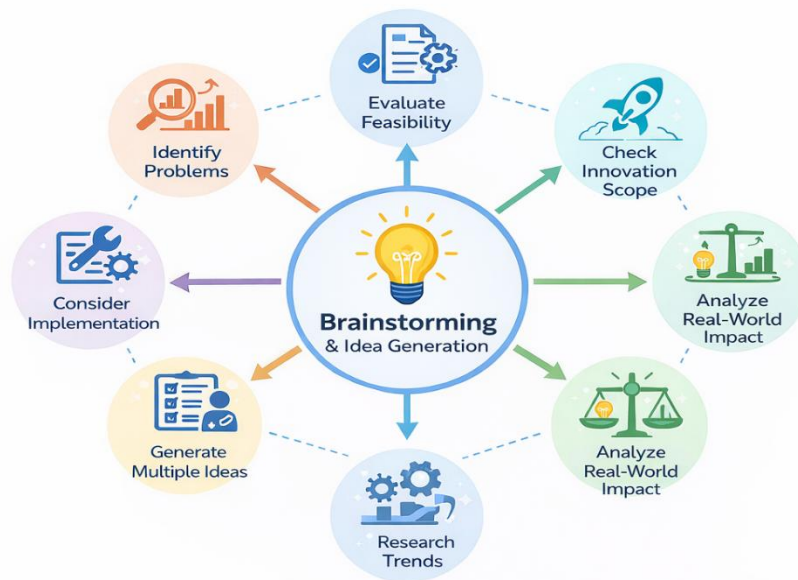
Date	31 January 2026
Team ID	LTVIP2026TMIDS81330
Project Name	Deep Learning Fundus Image Analysis for Early Detection of Diabetic Retinopathy
Maximum Marks	4 Marks

Brainstorming and Idea Generation

1. Introduction

Brainstorming is the initial phase of project development where multiple ideas are explored before selecting the final project concept. In this phase, the team identifies real-world problems, evaluates possible solutions, and analyzes feasibility based on available technologies.

For our final year project, we focused on solving a real-world healthcare problem using Artificial Intelligence and Deep Learning.



2. Brainstorming Process

During brainstorming, the following steps were followed:

1. Identifying real-world problems
2. Researching current technological trends
3. Evaluating feasibility
4. Checking innovation scope
5. Considering implementation difficulty
6. Analyzing real-world impact

3. Idea Generation

Several project ideas were discussed before finalizing the topic. Some of the ideas explored include:

Idea 1: Smart Loan Approval Prediction

Using machine learning to predict applicant credibility based on financial history.

Idea 2: AI-Based Resume Screening System

Automated resume filtering system using Natural Language Processing.

Idea 3: Duplicate File Detection System

Application to detect duplicate files using hash comparison.

Idea 4: Plant Disease Detection System

Deep learning model to detect plant leaf diseases.

Idea 5: Diabetic Retinopathy Detection System

Deep learning-based medical image classification system for detecting diabetic eye disease.

4. Evaluation of Ideas

Each idea was evaluated based on:

Criteria	Importance
Real-world impact	High
Technical feasibility	High
Innovation level	Medium to High
Availability of dataset	Required
Implementation complexity	Manageable
Scope for future enhancement	High

5. Technologies Considered

For AI-based projects, we evaluated:

- Python
- TensorFlow
- Keras
- Flask
- Cloudant Database
- Deep Learning Models (Xception, ResNet)

For web-based projects:

- HTML
- CSS
- JavaScript
- Backend framework (Flask)

6. Final Idea Selection

After evaluation, we selected:

Final Project:

Diabetic Retinopathy Classification Using Deep Learning

7. Reason for Selection

The project was selected because:

- It solves a real healthcare problem.
- It has high societal impact.
- It applies Deep Learning in the medical domain.
- Dataset is available (Kaggle).
- Strong scope for future enhancement.
- Unique and innovative compared to general management systems.

8. Prioritization

The project was prioritized based on:

1. Social impact → Very High
2. Innovation → High
3. Technical learning → Advanced
4. Scalability → High
5. Practical usability → Real-time application

Thus, Diabetic Retinopathy Detection was chosen as the final project topic.

Conclusion

The brainstorming phase helped in identifying multiple possible solutions. After proper evaluation and prioritization, the Diabetic Retinopathy Classification System was finalized due to its high real-world relevance, technical depth, and healthcare impact.