BRAINSTORMING AND IDEA PRIORITIZATION TEMPLATE

Date: 31 January 2025
Team ID: LTVIP2026TMIDS55972
Project Name: Dog Breed Identification Using Transfer Learning
Maximum Marks: 4

1. BRAINSTORMING PHASE

Objective

To develop a deep learning model that accurately identifies different dog breeds from images using transfer learning techniques.

Problem Statement

Many people struggle to identify dog breeds correctly, especially mixed or rare breeds. Manual identification requires expert knowledge and can be inaccurate. An AI-based solution can automate breed recognition quickly and efficiently.

Brainstorming Methods Used

- Mind Mapping
- Brainwriting
- Group Discussion

Ideas Generated

1. Build a CNN model from scratch for breed classification.
2. Use pre-trained models like ResNet for transfer learning.
3. Use MobileNet for lightweight mobile deployment.
4. Develop a web app for image upload and breed prediction.
5. Create a mobile application for real-time camera-based detection.
6. Include additional features like breed information, temperament, and care tips.
7. Compare accuracy of different pre-trained models.

2. IDEA PRIORITIZATION PHASE

Evaluation Criteria

- Feasibility
- Accuracy
- Implementation Time

- Resource Requirement
- Scalability

Idea	Feasibility	Impact	Time Required	Priority
CNN from scratch	Medium	High	High	Medium
Transfer Learning with ResNet	High	High	Medium	High
MobileNet for mobile app	High	Medium	Medium	High
Web app deployment	High	High	Medium	High
Add breed information feature	High	Medium	Low	Medium

3. FINAL SELECTED IDEA

Selected Solution

Develop a dog breed identification system using transfer learning with pre-trained models like ResNet or MobileNet, and deploy it as a web application where users can upload dog images to get accurate breed predictions along with basic breed details.

Reason for Selection

- High accuracy with reduced training time
- Efficient use of pre-trained models
- Practical and scalable solution
- Suitable for academic project scope
- Can be extended into a mobile app in future