Project Initialization and Planning Phase

Date	02 July 2025
Project Title	Dog Breed Identification using Transfer Learning

Project Proposal (Proposed Solution)

This project proposal outlines a solution to address a problem of customers who are planning to adopt the dog and veterinarian for using transfer learning. With a clear objective, defined scope, and a concise problem statement, the proposed solution details the approach, key features, and resource requirements, including hardware, software, and personnel.

Project Overview	
Objective	The objective of the project is to classify and identify the dog breed from images using transfer learning.
Scope	The project has a wider scope. The model can identify the provided 8 breeds of dog. To identify more breeds, we will need larger dataset.
Problem Statement	
Description	The problem statement that we worked on is Dog Breed Identification using the Transfer learning.
Impact	Solving the problem can make the users identify the dog breed accurately without any discomfort.
Proposed Solution	
Approach	The images are taken as input and the breed of the dog is identified. Different CNN architectures such as VGG-19, Resnet50, Inception and Xception were used to identify the breed. Among which Xception gave the best accuracy. So deployed the application with that model.

Key Features	The accuracy of the model is around 99.9% which makes the solution accurate and precise.

Resource Requirements		
Resource Type	**Description**	**Specification/Allocation**
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	e.g., T4 GPU (Google Colab)
Memory	RAM specifications	e.g., 16 GB
Storage	Disk space for data, models, and logs	e.g., 1 TB SSD
Software		
Frameworks	Python frameworks	e.g., Flask
Libraries	Additional libraries	e.g., Tensorflow, Keras
Development Environment	IDE, version control	e.g., Jupyter Notebook, Git
Data		
Data	Source, size, format	e.g., Kaggle dataset, 541 images