Project Initialization and Planning Phase

Date	16th June 2025
Team ID	SWTID1749740962
Project Title	Dog Breed Identification Using Transfer Learning
Maximum Marks	3 Marks

Project Proposal (Proposed Solution) template

The Dog Breed Identification System aims to develop an advanced, user-friendly platform capable of accurately identifying dog breeds from images. This system will leverage machine learning and image recognition technologies to meet the diverse needs of pet owners, veterinarians, shelters, breeders, trainers, law enforcement, and more.

Project Overview	
Objective	The primary objective of our project is to develop accurate, scalable, and user-friendly system that identifies dog breeds from images, catering to the diverse needs of pet owners and shelters, veterinarians and trainers and other stakeholders by leveraging advanced deep learning and image recognition technologies.
Scope	The scope of breed identification is to identify purebred and mixed dogs from a recognized breeds and users will be able to upload images via web and mobile interfaces with support for multiple image formats and real time image capture through device cameras.
Problem Statement	
Description	Inaccurate identification and limited knowledge and resources, Health and Behavior management and breed specific legislation and insurance policies, Data consistency and scalability are the problems faced to find the breed of a dog.
Impact	Improved animal welfare and Enhanced veterinary care and Legal and Insurance compliance, educational and Research advancements and consumer confidence and satisfaction, Business opportunities and Social and public safety and many other.
Proposed Solution	

Approach	By gathering diverse dataset of dog images with wide range of breeds can give us knowledge on dogs it includes data collection and preprocessing and by using convolutional neural networks architectures on large image datasets as feature extractors. Finally model development and validation and evaluation and deployment.
Key Features	Inclusion of mixed breeds can be a solution to focus on purebred and identify the mixed breeds which can be in common shelter and CNN allows for efficient and effective feature extraction from images optimizing model training and performance without starting from scratch and our project sets benchmark for accuracy, usability and scalability in the field and responsibilities related to canine management and care

Resource Requirements

Resource Type	**Description**	**Specification/Allocation**
Hardware		
Computing Resources	CPU/GPU specifications, number of cores	T4GPUs
Memory	RAM specifications	8 GB
Storage	Disk space for data, models, and logs	1 TB SSD
Software		
Frameworks	Python frameworks	Flask, SQL, Python
Libraries	Additional libraries	tensorflow
Development Environment	IDE, version control	Jupyter Notebook, Git
Data		
Data	Source, size, format	Kaggle dataset, 10,000 images