

IDEATION PHASE: DEFINE THE PROBLEM STATEMENTS

Team ID: LTVIP2026TMIDS60792

Project Name: AI-Powered Dog Breed Identification using Transfer Learning (MobileNetV2)

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CUSTOMER PROBLEM STATEMENT TEMPLATE

A well-defined problem statement clarifies the real challenge faced by users and ensures that the solution directly addresses meaningful needs rather than assumptions.

Problem Statement 1 (PS-1): The User Perspective

- **I am a:** Pet owner or animal shelter volunteer.
- **I am trying to:** Accurately identify the specific breed of a dog from a single photograph.
- **But:** Manual identification is time-consuming, error-prone, and requires specialized knowledge of 120 different breeds.
- **Because:** Identifying subtle visual differences between similar breeds (fine-grained classification) requires high expertise.
- **Which makes me feel:** Uncertain and frustrated by the lack of immediate, reliable information.

SUMMARY OF PROBLEM STATEMENTS

PS No.	User/Role	Goal/Trying to Do	Problem/But...	Reason/Because...	Feeling/Which makes me feel...

PS-1	Pet Owner / Volunteer	Accurately identify dog breeds from images	Manual identification is slow and often inaccurate	Fine-grained visual differences are hard to distinguish	Uncertain and frustrated
PS-2	Veterinary Clinic	Provide quick breed-specific health insights	Traditional expert review is time-intensive	High volume of cases limits manual throughput	Operationally constrained
PS-3	App Developer	Integrate breed recognition into social media filters	Existing manual workflows cannot scale	Real-time classification requires automated AI	Concerned about user engagement

WHY THESE PROBLEM STATEMENTS MATTER

- Identification Accuracy:** Ensures users receive the correct breed classification with confidence scores.
- Automation of Tasks:** Replaces manual visual checks with a 2-second automated prediction.
- Reduction of Error:** Minimizes fatigue-related human errors in multi-class classification.
- Scalability:** Allows for instant deployment across GitHub and web platforms for global use.