

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

## **Solution Requirements**

### **1. Functional Requirements**

1. The system should allow users to upload a dog image (JPG/PNG format).
2. The system should preprocess the uploaded image (resize, normalize).
3. The system should use a transfer learning model (e.g., TensorFlow / Keras) for feature extraction.
4. The system should classify the dog breed from the trained model.
5. The system should display the predicted breed name.
6. The system should show the confidence score of prediction.
7. The system should allow the admin to update the dataset.
8. The system should allow the admin to retrain and update the model.

### **2. Non-Functional Requirements**

1. Performance: The system should generate results within a few seconds.
2. Accuracy: The model should achieve high accuracy (above 85%).
3. Scalability: The system should handle multiple user requests simultaneously.
4. Usability: The interface should be simple and user-friendly.
5. Compatibility: The system should work on mobile and desktop devices.
6. Security: Uploaded images should be securely stored and not misused.
7. Reliability: The system should provide consistent predictions without crashing.
8. Maintainability: The model and dataset should be easy to update and maintain.