Ideation Phase
GrainpaletteTemplate

Date	30/06/ 2025
Team ID	LTVIP2025TMID38674
Project Name	GrainPalette
Maximum Marks	4 Marks

GrainPalette Template

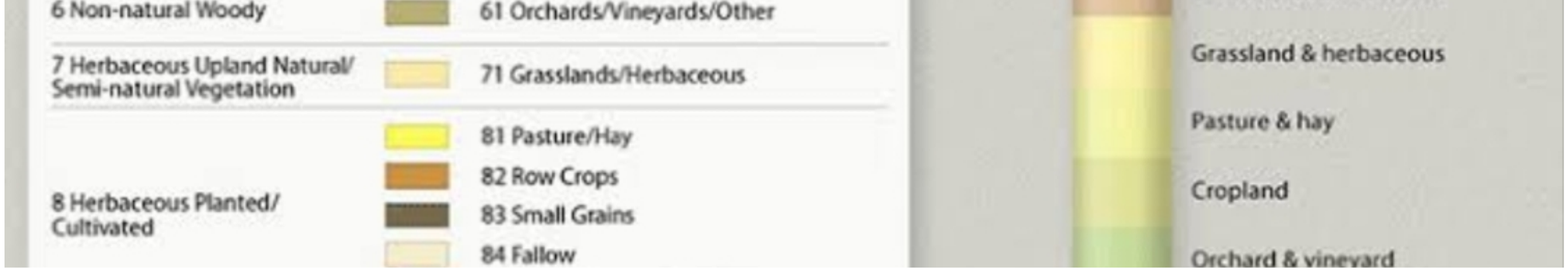
GrainPalette is an AI-powered solution designed to classify different types of rice grains based on images. This project uses deep learning and transfer learning to provide a fast, efficient, and accurate way to identify rice types, helping farmers, food researchers, and agricultural

To build a rice grain classification system using pre-trained deep learning models. develop a user-friendly interface that accepts an image input and returns the predicted rice grain type.

Step-1:Dataset & Preprocessing

Collect & organize images into folders per rice variety (e.g., Basmati, Jasmine, Arborio, Brown, White).Resize & normalize images (e.g., to 224×224 pixels, scale pixel values to [0,1]).Split data into training and validation sets (e.g., 80/20) and apply augmentation (rotation, flips, zoom) to boost generalization

Step-2:Classifies the Rice Type



Step-3: View Results Instantly

GrainPalette system, once the image is processed by the deep learning model, the system returns the predicted rice type along with useful details. Here's a breakdown of what happens:Output of a rice classification model (e.g., predictions for different rice grain types)?

GrainPalette aims to classify different types of rice grains using a deep learning model with transfer learning (e.g., MobileNet, ResNet). This helps farmers and agricultural experts identify rice types easily from grain images.