

4. PROJECT DESIGN

Date	7 Jul 2025
Team ID	LTVIP2025TMID40710
Project Name	Grain Palette
Maximum Marks	4

4.1 Problem Solution Fit

Problem:

Farmers and users often do not know the exact type of rice grain they have. This can cause confusion or wrong decisions in farming.

Solution:

The GrainPalette app solves this by allowing users to **upload a photo of a rice grain**, and it simply **predicts the name of the rice type** using AI. This helps users know the rice type easily and quickly.

4.2 Proposed Solution

We propose a web-based application called GrainPalette that uses artificial intelligence to predict the name of the rice type from an uploaded image.

Users just need to:

1. Open the website
2. Upload a clear image of a rice grain
3. Click the "Submit" button
4. Get the predicted rice variety name on the screen

This solution uses a pre-trained deep learning model (MobileNetV4) to classify the rice types accurately and quickly. It is simple to use and helps farmers and users save time in identifying rice grains.

4.3 Solution Architecture



