Project Design Phase
Proposed Solution

Date	29 June 2025
Team ID	LTVIP2025TMID41462
Project Name	Smart Sorting : Transfer Learning For Identifying Rotten Fruits And Vegetables
Maximum Marks	

Proposed Solution:

S.No.	Parameter	Description
1	Problem Statement (Problem to be solved)	Customers, vendors, and retailers often struggle to manually identify whether fruits and vegetables are fresh or rotten, leading to wastage, poor quality assurance, and health concerns.
2	Idea / Solution Description	An AI-based web application using a deep learning model that classifies uploaded images of fruits and vegetables into four categories: fresh fruit, rotten fruit, fresh vegetable, and rotten vegetable.
3	Novelty / Uniqueness	Uses a custom-trained deep learning model (MobileNetV2) fine-tuned with a 4-class balanced dataset and integrated into an interactive Flask-based website to provide real-time image predictions.

4	Social Impact / Customer Satisfaction	Reduces food wastage, improves consumer trust in produce quality, assists vendors in sorting stock, and empowers users with a quick, accessible tool for quality checking at home or markets.
5	Business Model (Revenue Model)	Free for consumers; potential monetization via API licensing for retailers, quality control agencies, or Agritech companies; also suitable for integration in smart market systems.
6	Scalability of the Solution	Can be scaled to include more fruits/vegetables, support mobile apps, and deployed in grocery stores, warehouses, or smart kiosks. Multilingual support and offline prediction possible for wider adoption.