

Ideation Phase

Define the Problem Statements

Date	28 June 2025
Team ID	LTVIP2025TMID41474
Project Name	Smart Sorting of Fruits and Vegetables
Maximum Marks	2 Marks

Project Overview

The 'Smart Sorting of Fruits and Vegetables' project addresses the inefficiencies of manual sorting in the agricultural supply chain. Manual sorting is often time-consuming, inconsistent, and error-prone, leading to reduced productivity and compromised quality. Our solution uses computer vision integrated with a web interface and Python Flask backend to automate the sorting process based on size, color, and defects.

The system involves:

- A camera module capturing real-time images of produce
- A computer vision model trained to identify categories and quality
- A backend (Flask) to process and respond with classification results
- A user interface for displaying results and logging data

This solution aims to benefit farmers, warehouse managers, retailers, and consumers by improving sorting speed, consistency, and traceability.

Customer Problem Statement Template

This template helps identify user challenges by structuring the problem from their perspective:

- I am → the type of user
- I'm trying to → what the user wants to accomplish
- But → challenges blocking them
- Because → root causes
- Which makes me feel → emotional impact of the problem

Filled Example for Smart Sorting Project

Problem Statement (PS)	I am (Customer)	I'm trying to	But	Because	Which makes me feel
PS-1	A farmer or supplier	Sort harvested fruits and vegetables quickly and accurately	Manual sorting is slow and inconsistent	Sorting depends on manual labor without technological assistance	Frustrated and overwhelmed during peak harvest seasons
PS-2	A warehouse manager	Ensure quality control before distribution	Defective or low-quality produce is not always caught	Current inspection relies on human visual checks	Worried about complaints from retailers or customers
PS-3	A consumer	Buy clean, uniformly sorted fresh produce	Often gets damaged or mixed quality items	Vendors use outdated sorting processes	Disappointed with the product experience