

Ideation Phase

Define the Problem Statements

Date	22 January 2026
Team ID	LTVIP2026TMIDS62799
Project Name	Smart Sorting: Transfer Learning for Identifying Rotten Fruits and Vegetables
Maximum Marks	2 Marks

Customer Problem Statement Template:

In food processing plants, supermarkets, and modern households, identifying rotten fruits and vegetables remains a major challenge that affects quality, operational efficiency, cost management, and customer satisfaction. Current sorting and monitoring processes depend largely on manual inspection, which is time-consuming, labor-intensive, inconsistent, and prone to human error, especially when handling large volumes of perishable goods daily. Workers may miss early signs of spoilage due to fatigue or workload pressure, leading to contaminated batches, increased food waste, financial losses, and reduced consumer trust. Customers such as food processing industries, retail stores, and households need a fast, reliable, and intelligent system that can accurately detect rotten produce in real time while minimizing manual effort and ensuring consistent quality control. The core problem is the absence of an automated, scalable, and highly accurate solution for detecting and separating spoiled fruits and vegetables, and this gap can be effectively addressed through an AI-powered smart sorting system using transfer learning to enable real-time image-based classification, reduce waste, improve efficiency, and enhance overall freshness standards.

I am	Describe customer with their characteristics (strengths / needs?)	A food processing plant, supermarket, or modern their attributes – quality and reducing waste.
I'm trying to	Describe at problem or their quality & aims required	Enhance precision and efficiency in detecting rotten and vegetables a vegetables to Improve customer satisfaction, and reduce food food waste.
but	Describe what problems or very my difficulties are?	Current manual sorting is time-consuming, prone to human error, and labor-intensive. In supermarket, ensuring freshness but challenging it large shipments. At home to. At home, to common but unripe spo.
because	because	Enter "root cause" why on human inspection or lacks image monitoring, making accurate distinguishing transfer learning techniques on image detection wrong difficult to automatically?
which makes me feel	Describe the customers by customer's point of view (good / bad)	Optimistic about improved food quality control, reduced costs, higher customer satisfaction, higher returns - more sustainable approach to impact them food management through innovative technology.

Reference: <https://miro.com/templates/customer-problem-statement/>

Example:



Problem Statement (PS)	I am (Customer)	I'm trying to	But	Because	Which makes me feel
PS-1					
PS-2					