

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 2 characteristics (adjectives + nouns)?	A food processing plant, supermarket, or modern their attributes – quality and reducing waste.
I'm trying to	Describe at problem or goal or what the quality or and its overall?	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 why they bother most?	Current manual sorting is time-consuming, prone to human error, and labor-intensive. In supermarket, ensuring freshness but challenging it large shipments. At home, it's common but tedious waste.
because	because	Enter "root cause" why on human inspection or lacks real-time monitoring, making accurate making including transfer learning techniques on image datasets is a challenge difficult to automate?
which makes me feel	Describe the customer's emotion by another's point of view (how does it make them feel)?	Optimistic about improved real quality control, reduced costs, higher customer customer satisfaction, higher return – more sustainable approach to impact their 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					