

## Project Design Phase

### Problem – Solution Fit Template

Team ID	LTVIP2025TMID38189
Project Name	smart sorting: transfer learning for identifying rotten fruits and vegetables
Maximum Marks	2 Marks

#### Problem – Solution Fit Template:

- Validate the need: Ensure the problem of poor sorting accuracy exists and is painful for the target customer.
- Confirm demand: Prove that existing methods are inadequate and there's willingness to adopt a better solution.
- Define the impact: Clearly show how your AI-based solution creates measurable improvement (time, cost, accuracy).
- Guide product development: Use it as a reference to build only what directly addresses the key pain points.

#### Template:

<div> <div>US</div> <div>TB</div> <div>3</div> <div>5</div> <div>AF</div> </div>	<b>1. CUSTOMER SEGMENT(S)</b> Farmers, food vendors, cold storage companies, wholesaler fruit/vegetable quality control teams	<b>6. CUSTOMER CONSTRAINTS</b> Budget for automation, lack of technical knowledge, low availability of high-end sorting equipment in rural areas	<b>5. AVAILABLE SOLUTIONS</b> Manual inspection, traditional image processing tools, limited non-AI tools for detecting freshness	<b>CS</b>
	<b>2. JOBS-TO-BE-DONE / PROBLEMS</b> Quickly and accurately identify rotten produce to reduce waste, improve quality sorting processes	<b>7. PROBLEM ROOT CAUSE</b> Lack of accessible, accurate, and affordable tools for non-subjective freshness detection in real time	<b>7. BEHAVIOUR</b> Rely on visual/manual checking or smell Discard questionable produce, store mixed-quality items together, leading to more spoilage	<b>RC</b>
	<b>3. TRIGGERS</b> Frustration due to losses, stress over customer dissatisfaction	<b>9. PROBLEM ROOT CAUSE</b> Lack of accessible, accurate, and affordable tools for non-subjective freshness detection in real time	<b>8. CHANNELS OF BEHAVIOUR</b> Online: Use YouTube/Google for Divong tips Offline: Traditional market experience, physical checking by hand	<b>CH</b>
	<b>4. EMOTIONS: BEFORE / AFTER</b> Before: Frustration due to losses Stress over customer dissatisfaction	<b>10. YOUR SOLUTION</b> A smart AI-based system (transfer learning) that classifies fruits/vegetables as rotten or fresh in real-time via smartphone	<b>10. YOUR SOLUTION</b> A smart AI-based system (using transfer learning) that classifies fruits/fresh as rotten or fresh in real-time via mobile/web camera or scanner	<b>SL</b>