

Project Design Phase

Problem – Solution Fit Template

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| Date | 18 February 2026 |
| Team ID | LTVIP2026TMIDS24412 |
| Project Name | Smart Sorting: Transfer learning for identifying rotten fruits and vegetables |
| Maximum Marks | 2 Marks |

Problem – Solution Fit Template:

The Problem-Solution Fit simply means that you have found a problem with your customer and that the solution you have realized for it actually solves the customer's problem. It helps entrepreneurs, marketers and corporate innovators identify behavioral patterns and recognize what would work and why.

Purpose:

- Solve complex problems in a way that fits the state of your customers.
- Succeed faster and increase your solution adoption by tapping into existing mediums and channels of behavior.
- Sharpen your communication and marketing strategy with the right triggers and messaging.
- Increase touch-points with your company by finding the right problem-behavior fit and building trust by solving frequent annoyances, or urgent or costly problems.
- Understand the existing situation in order to improve it for your target group.**

Template:

Sorting of Fresh Fruits Using Transfer Learning

| Customer Segment | Customer Constraints | Available Solutions |
|--|---|--|
| <ul style="list-style-type: none"> • Farmers • Food suppliers • Supermarkets • Cold storage units | <ul style="list-style-type: none"> • Manual labor is costly and inconsistent • Lack of access to AI expertise • Low-tech infrastructure in rural areas | <ul style="list-style-type: none"> • Manual visual inspection • Basic color sensors • Industrial sorting machines (very expensive) |
| Problems | Problem Root Cause | Behavior |
| <ul style="list-style-type: none"> • Rotten or low-quality produce getting shipped • Food wastage • Inaccurate grading | <ul style="list-style-type: none"> • Human error in sorting • No real-time detection system • Lack of scalable automation | <ul style="list-style-type: none"> • Daily manual checking • Workers sort based on appearance • Inconsistent handling across shifts |
| Triggers | Your Solution | Channels of Behavior |
| <ul style="list-style-type: none"> • Customer complaints about fruit quality • Financial loss due to spoilage • Pressure to meet food | <ul style="list-style-type: none"> • AI-powered image classification using transfer learning (e.g. ResNet, MobileNet) • Low-cost camera + | <ul style="list-style-type: none"> • Integrate into existing conveyor belts or packing stations • Dashboard or mobile app for visual |

References:

1. <https://www.ideahackers.network/problem-solution-fit-canvas/>
2. <https://medium.com/@epicantus/problem-solution-fit-canvas-aa3dd59cb4fe>