

Project Design Phase

Problem – Solution Fit Template

Date	26 June 2025
Team ID	LTVIP2025TMID59414
Project Name	Smart Sorting: Transfer learning for rotten fruits and vegetables
Maximum Marks	2 Marks

Problem – Solution Fit:

The food and agricultural industries, and the supermarkets are finding difficult to assure the quality of the fruits and vegetables and can't able to classify the whether the fruit or vegetable is rotten or healthy. So, to get rid of this problem, Our team have decided to develop a model to classify the rotten and healthy fruits and vegetables in an efficient way.

Purpose:

- ☐ To make the classification of rotten and healthy fruits and vegetables easier.
- ☐ Beating the existing models by the less time complexity and more efficiency.
- ☐ Decreasing the work load for the employers to classify the rotten and healthy items.
- ☐ Fastening the work to classify for the better sales

Template:

Problem-Solution fit canvas 2.0

Purpose / Vision

<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Define CS, fit into</div> <div> 1. CUSTOMER SEGMENT(S) CS Agriwholesale and Food industries, and the supermarket retailers are the major customers for our model. </div> </div>	<div style="display: flex; justify-content: space-between;"> <div></div> <div> 6. CUSTOMER CC Poor knowledge and no faith on technology. No cost, believing that the machines always not work properly. </div> </div>	<div style="display: flex; justify-content: space-between;"> <div></div> <div> 5. AVAILABLE SOLUTIONS AS Classifying the fruits and vegetables by the human like workers of industries and salesmen of supermarkets. This solution can classify the healthy and rotten items, but takes more time, and it is also not cost effective. </div> </div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Explore AS.</div>
<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Focus on J&P, tap into BE, understand</div> <div> 2. JOBS-TO-BE-DONE / PROBLEMS J&P 1. To make the classification of rotten and healthy fruits and vegetables in an easy and efficient way. 2. To decrease the work load to the workers of the industries and to the salesman in the supermarkets. </div> </div>	<div style="display: flex; justify-content: space-between;"> <div></div> <div> 9. PROBLEM ROOT CAUSE RC Poor maintenance of the fruits and vegetables by the food and agricultural industries is the root cause for getting the low quality of items to the supermarkets. </div> </div>	<div style="display: flex; justify-content: space-between;"> <div></div> <div> 7. BEHAVIOUR BE Getting tough to classify the rotten and healthy fruits and vegetables. Customer dissatisfied for the poor quality of the fruits and vegetables. </div> </div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Focus on J&P, tap into BE, understand</div>
<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Identify strong TR & EM</div> <div> 3. TRIGGERS TR The customers may compare the groceries, fruits and vegetables brought by their neighbour with their products. </div> </div> <div style="margin-top: 10px;"> 4. EMOTIONS: BEFORE / AFTER EM Customers may feel guilty or buy the rotten fruits and vegetables, and feel sad for the wastage of money and get angry on the industries and supermarkets for selling the low-quality items. </div>	<div style="display: flex; justify-content: space-between;"> <div></div> <div> 10. YOUR SOLUTION SL Developing and deploying a model or machine to classify the rotten and healthy fruits and vegetables. This model can be built by using Deep learning technologies like using Convolutional Neural Networks (CNN). YGG16 Transfer-learning model is used for the classifying the rotten and healthy fruits and vegetables. </div> </div>	<div style="display: flex; justify-content: space-between;"> <div></div> <div> 8. CHANNELS of BEHAVIOUR CH 8.1 ONLINE Existed online videos and channels to get the fresh fruits and vegetables at home itself. </div> </div> <div style="margin-top: 10px;"> 8.2 OFFLINE Visits other supermarkets or fruit and vegetable markets for the fresh and good quality of fruits and vegetables. </div> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">Extract online & offline CH of BE</div>

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