

Project Design Phase
Proposed Solution Template

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

Proposed Solution Template:

The project team shall fill the following information in the proposed solution template.

S.No.	Parameter	Description
1.	Problem Addressed	Automating the detection of fresh and rotten fruits using image classification.
2.	Input	Image of fruit uploaded through web interface.
3.	Preprocessing	Image resizing (224*224), normalization, and data augmentation.
4.	Model Used	Transfer Learning with MobileNetV2 (pre-trained CNN).
5.	Training Method	Fine-tuning last layers while freezing base layers.
6.	Output	Predicted class (Fresh/Rotten + Fruit Type) with confidence score.
7.	Evaluation Metrics	Accuracy, Confusion Matrix, Classification Report.
8.	Deployment	Flask-based web application.
9.	Expected Outcome	Accuracy, fast, and automated freshness detection system.