Project Design Phase
Proposed Solution

Proposed Solution

1. Problem Overview

- Post-harvest losses due to spoilage of fruits and vegetables are a major concern.

- Manual sorting is inaccurate, slow, and resource-intensive.

- Rotten produce in supply chains affects consumer health, retailer reputation, and profit margins.

---

2. Objectives

- Automate the detection of rotten produce using AI/ML.

- Reduce food wastage and sorting time.

- Improve the accuracy and efficiency of quality control processes.

---

3. Proposed AI/ML Solution

Component	Description
Data Collection	High-resolution images of various fruits and vegetables (fresh vs rotten).
Model Selection	CNN for image classification, YOLO for real-time object detection.
Training Phase	Supervised learning using labeled image datasets.

Deployment Platform	Mobile app, embedded camera system, cloud-based API.
User Interface	Simple UI for users (farmers, warehouse staff) to upload images or scan produce.

4. Workflow Diagram

```
Data Collection (Images)

        ↓

Model Training (CNN/YOLO)

        ↓

Validation & Testing

        ↓

Deployment (App/Camera)

        ↓

Real-time Detection & Alerts
```