

# **Project Design Phase**

## **Problem – Solution Fit**

Date	20 Feb 2026
Team ID	LTVIP2026TMIDS79402
Project Name	Smart Sorting : Transfer Learning For Identifying Rotten Fruits And Vegetables
Maximum Marks	

## **Customer Problem Identified**

Students, book lovers, and working professionals often struggle to find required books easily, compare prices, and purchase them conveniently from physical stores. Limited availability, time constraints, and lack of centralized platforms lead to inconvenience and missed buying opportunities.

## **Observed Behavior**

People visit multiple bookstores or browse different websites to find a single book. They manually compare prices, check availability through calls, and sometimes delay purchases due to time constraints or uncertainty about stock.

## **Proposed Solution**

A full-stack online bookstore web application built using the MERN stack that allows users to:

- Search books by title, author, or category
- View detailed descriptions and pricing
- Add books to cart
- Place orders securely
- Track order history

The platform also provides an admin dashboard to manage books, users, and orders efficiently.

## **Why This Solution Works**

The system is built using a scalable MERN architecture:

- React.js provides a dynamic and responsive user interface
- Node.js and Express.js handle backend APIs efficiently
- MongoDB stores structured book, user, and order data
- JWT authentication ensures secure access

This ensures fast browsing, secure transactions, and reliable data management.

## **Unique Value Proposition**

- Provides a centralized platform for discovering and purchasing books
- Secure authentication and role-based access (Admin/User)
- Responsive design for mobile and desktop users
- Easy inventory and order management for administrators
- Scalable structure to add future features like recommendations and online payments

## **Impact of the Solution**

- Saves time for users
- Expands digital reach for bookstores
- Improves purchasing convenience
- Enhances inventory management
- Encourages digital transformation of small book businesses
- Suitable for integration with payment gateways and recommendation systems in future