**Project Design Phase**
**Proposed Solution**

| | |
|---|---|
| Date | 4 April 2025 |
| Team ID | SWTID1742575574 |
| Project Name | Grocery webapp |
| Maximum Marks | 2 Marks |

## Proposed Solution: Developing Blinkit Clone

The proposed solution is a full-stack web application designed using the MERN stack (MongoDB, Express.js, React.js, and Node.js). This solution allows users to browse, search, and order groceries online while enabling sellers to manage their inventory and product listings. Admins have oversight over users, transactions, and system health.

The system is modular, secure, and scalable, ensuring smooth integration between components. It includes user role-based access, payment integration using Razorpay, real-time state management on the frontend, and a robust backend API infrastructure.

The MERN stack is chosen due to its unified JavaScript environment, which streamlines development and allows both client-side and server-side logic to be handled seamlessly. MongoDB provides a flexible document structure for handling dynamic product and order data. React offers a responsive and dynamic frontend user interface, and Node.js + Express supports a lightweight, fast backend.

| S.No. | Parameter | Description |
|---|---|---|
| 1. | Problem Statement (Problem to be solved) | In today's fast-paced world, consumers face challenges in shopping for groceries due to lack of time, accessibility, or convenience. Traditional shopping methods are inefficient for many urban users. There is a need for a seamless, quick, and secure online grocery delivery platform that serves both customers and sellers effectively. |
| 2. | Idea / Solution description | Our solution is to build a fully functional Grocery WebApp inspired by Blinkit, using the MERN (MongoDB, Express, React, Node) stack. The platform will allow users to register, browse groceries, add items to the cart, place orders, and make secure payments. Sellers will be able to list and manage their inventory, and administrators can manage operations, users, and transactions. The app ensures a smooth user experience across devices. |
| 3. | Novelty / Uniqueness | While inspired by Blinkit, our project is built from scratch using open-source technologies and customized features. We integrate both seller and admin roles into one platform, enabling seamless management from a single interface. Unique features like live stock tracking, address management, and a clean UI enhance user experience. |
| 4. | Social Impact / Customer Satisfaction | Our application contributes to better accessibility of essential items like groceries, particularly useful for senior citizens, working |

| | | |
|---|---|---|
| | | professionals, and individuals in remote areas. The user-friendly UI and fast checkout process ensure a delightful shopping experience. |
| 5. | Business Model (Revenue Model) | The revenue model includes seller subscription plans, commissions on each sale, and potential for premium user memberships. The system also allows integration with third-party logistics and ad spaces within the app for monetization. |
| 6. | Scalability of the Solution | Built on the scalable MERN stack, the app is designed for future expansion. It supports multiple user roles, allows modular upgrades, and can be extended to mobile platforms or integrated with third-party services (like delivery providers, analytics tools, or CRM systems). Deployment to cloud platforms will support high traffic handling. |