

E-Commerce Site for Local Sellers

Module 1: Seller & Customer Interface Layer

Submitted by:

Name: Piyush Kumar Varma

UID: 23BCS14116

Section: KRG 3A

Objective

The Seller & Customer Interface Layer serves as the front-facing component of the E-Commerce platform. It aims to deliver an intuitive, responsive, and interactive experience for both sellers and customers, enabling online store management and seamless shopping.

Key Features

- 1. Seller Portal:** Add, update, and remove products; manage dashboard analytics.
- 2. Customer Module:** Registration, login, product browsing, and checkout.
- 3. Product Catalog:** Search, filter, sort, and responsive UI.
- 4. Cart System:** Dynamic updates, total calculation, and persistent cart.

System Design

Frontend Architecture: Built using React.js with modular components, React Router DOM for navigation, and Axios for API calls.

UI/UX Design: Developed using Tailwind CSS / Bootstrap ensuring responsiveness.

Workflow: Users interact through UI → APIs handle backend communication → Data updates dynamically via React state.

Technologies Used

Category	Technologies/Tools
Frontend Framework	React.js
Styling	Tailwind CSS / Bootstrap
Routing	React Router DOM
State Management	React Hooks (useState, useEffect)
API Integration	Axios
Design Tools	Figma (optional)
Version Control	Git & GitHub

Logic and Implementation

Each user action—such as adding a product or placing an order—triggers an API request to the Spring Boot backend. The backend validates, stores, and returns data that React immediately renders, creating a seamless experience.

Advantages

- User-friendly and responsive design
- Fast performance with React virtual DOM
- Easy scalability and maintainability
- Cross-device compatibility
- Smooth integration via REST APIs

Conclusion

This module ensures the E-Commerce platform provides a strong, efficient, and attractive interface for sellers and customers. By combining modern frontend frameworks and REST APIs, it establishes the foundation for all subsequent modules such as Product Management and Authentication.