Project Report

Project titile :

ShopEZ:One-Stop Shop for Online Purchases :

Introduction :

ShopEZ is a full-stack e-commerce web application designed to provide users with a seamless online shopping experience. This platform allows customers to browse a wide variety of products, add items to a shopping cart, place secure orders, and manage their personal order history.

The application also includes an admin dashboard, enabling the admin to manually add, manage, and delete products from the storefront without accessing the code. The system ensures role-based access, where regular users can shop and view orders, while only the admin (with specific login credentials) has privileges to manage product inventory.

Developed using the MERN stack (MongoDB, Express, React, Node.js), ShopEZ follows a modular and scalable architecture, integrates Redux for state management, and utilizes RESTful APIs for data operations. The user interface is built with responsive design principles to ensure usability across devices.

Ideation Phase Brainstorm & Idea Prioritization Template

Date	27 June 2025
Team ID	LTVIP2025TMID55631
Project Name	ShopEZ:One-Stop Shop for Online Purchases
Maximum Marks	4 Marks

Brainstorm & Idea Prioritization Template:

Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions.

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

Step-1: Team Gathering, Collaboration and Select the Problem Statement

Step-2: Brainstorm, Idea Listing and Grouping
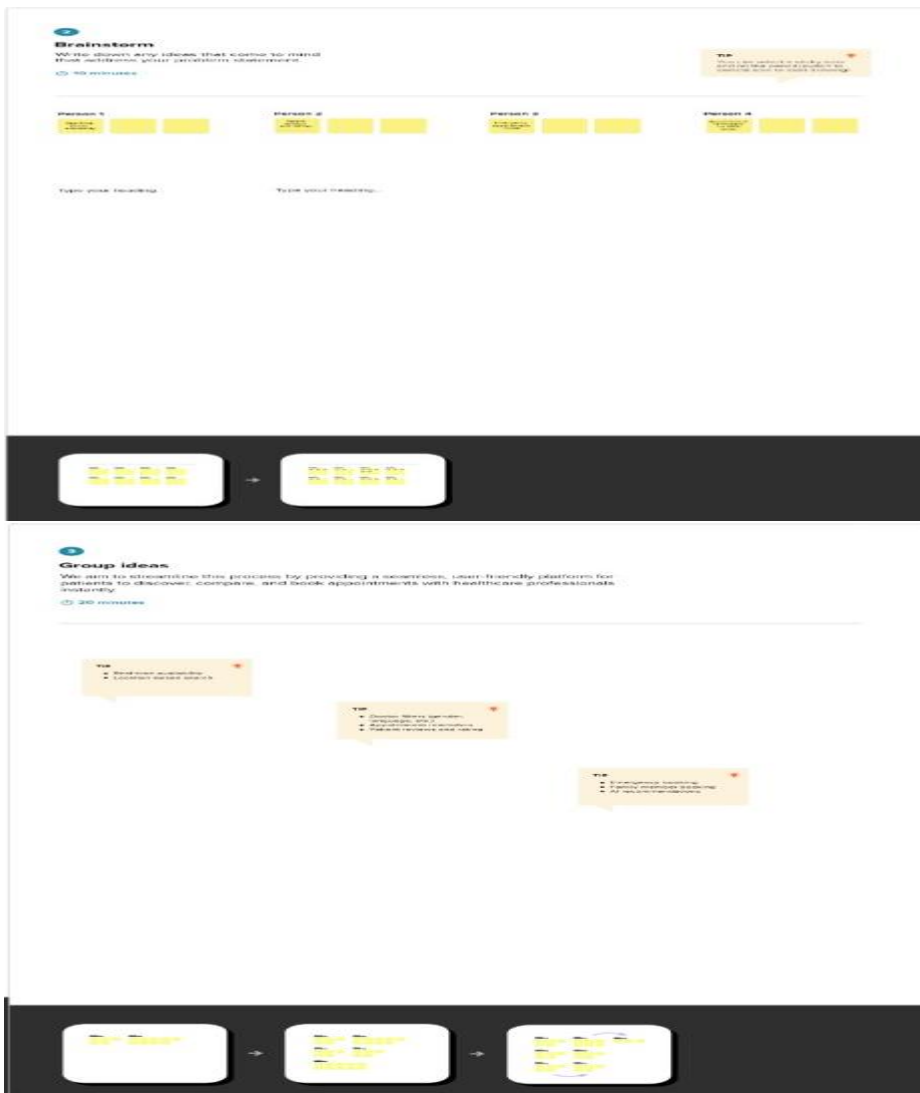
Step-3: Idea Prioritization
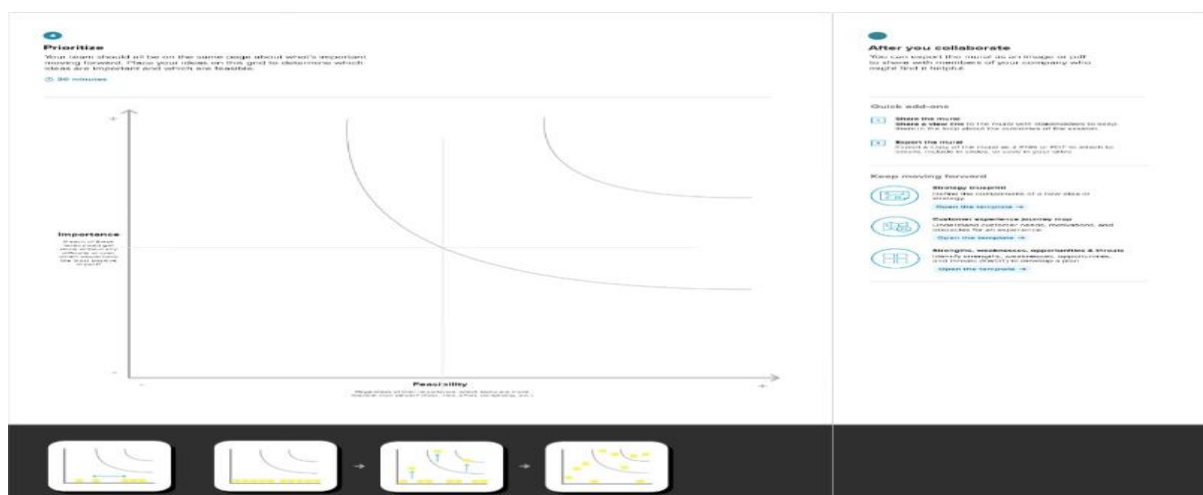
Ideation Phase Define the Problem Statements

Date	27 June 2025
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Maximum Marks	2 Marks

Customer Problem Statement :

In today's fast-paced digital world, customers face the hassle of juggling between multiple online platforms to shop for different product categories like fashion, electronics, groceries, and personal care. This fragmented shopping experience leads to wasted time, inconsistent quality, shipping delays, and a lack of centralized customer support. Customers want a single, trustworthy platform that provides a seamless, reliable, and efficient shopping experience across all product categories.

Key Customer Pain Points:

• Too many apps/sites for different needs

• Inconsistent pricing and delivery

• No centralized support for diverse purchases

• Time wasted comparing products across platforms

• Limited access to verified reviews and offers in one place

Problem Statement (PS)	I am (Customer)	I'm trying to	But	Because	Which makes me feel
PS-1	a working professional with a tight schedule	book a customer order quickly without phone calls or long wait times.	most clinics don't have real-time booking systems or clear availability info	their systems are outdated or fragmented	frustrated and anxious about my health getting worse while waiting.

PS-2	a general physician running a small clinic.	manage customer bookings efficiently and reduce no-shows.	my current tools are manual or not tailored to healthcare workflows.	I can't afford or understand complex clinic management systems.	stressed and underpaid despite my busy schedule.

Online shopping system
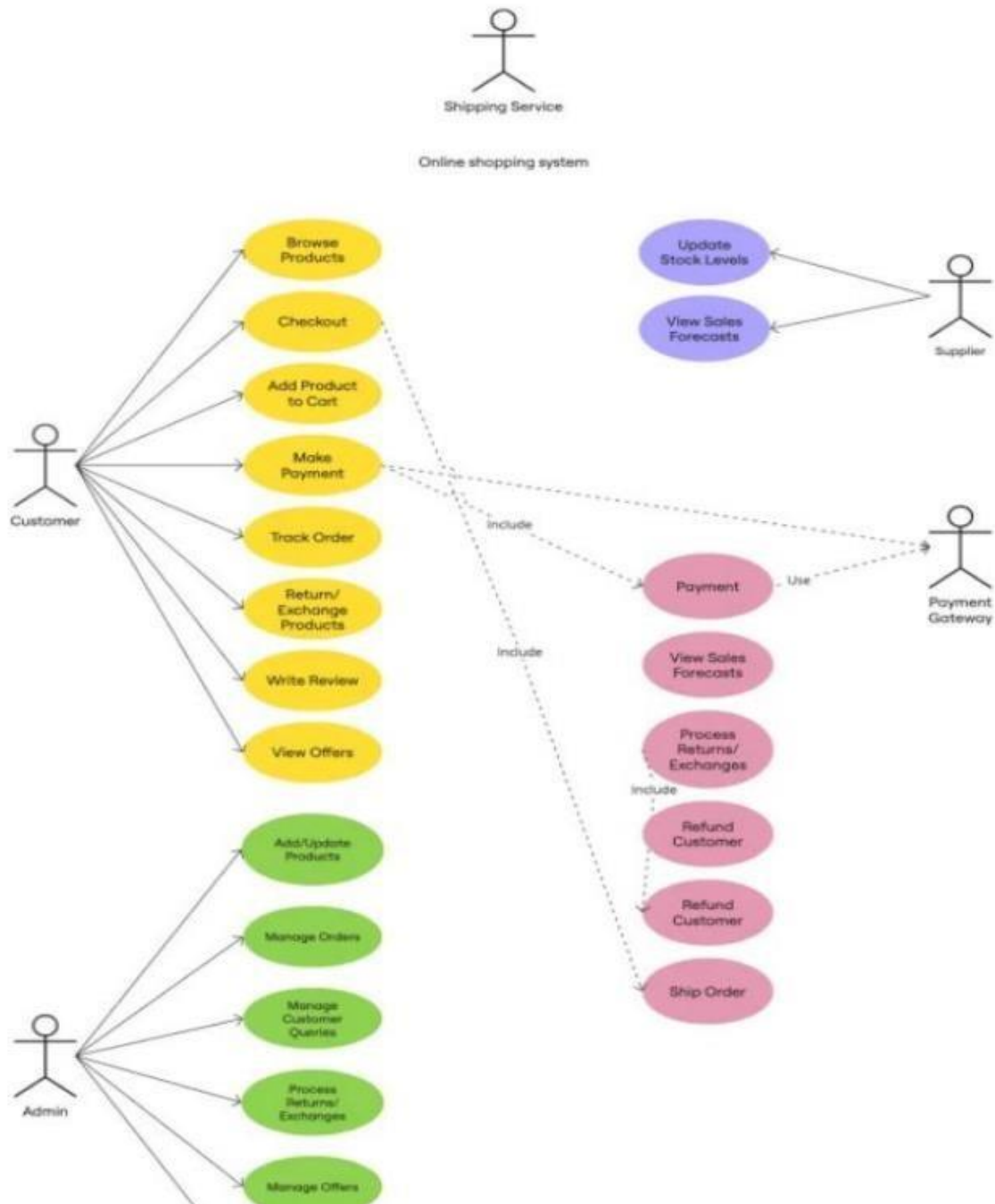
Ideation Phase

Empathize & Discover

Date	27 June 2025
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Empathy Map Canvas:

An empathy map is a simple, easy-to-digest visual that captures knowledge about a user's behaviours and attitudes.

It is a useful tool to helps teams better understand their users.
Creating an effective solution requires understanding the true problem and the person who is experiencing it. The exercise of creating the map helps participants consider things from the user's ctive along with his or her goals and challenges.

Empathy Map

What does he THINK AND FEEL?
• what really counts
• major preoccupatiens
• worries & aspirations

What does he HEAR?
• what friends say
• what boss say
• what influencers say

What does he SEE?
• enviroment
• friends
• what the market offers

What does he SAY AND DO?
• attitude in public
• appearance
• behavior towards others

Pain
• fears
• frustrations
• obstacles

Gain
• "wants" / needs
• measures of success
• obstacles

Business Model **Toolbox**

Customer Empathy Map Example

User Acceptance Testing (UAT)

Date	27 June 2025
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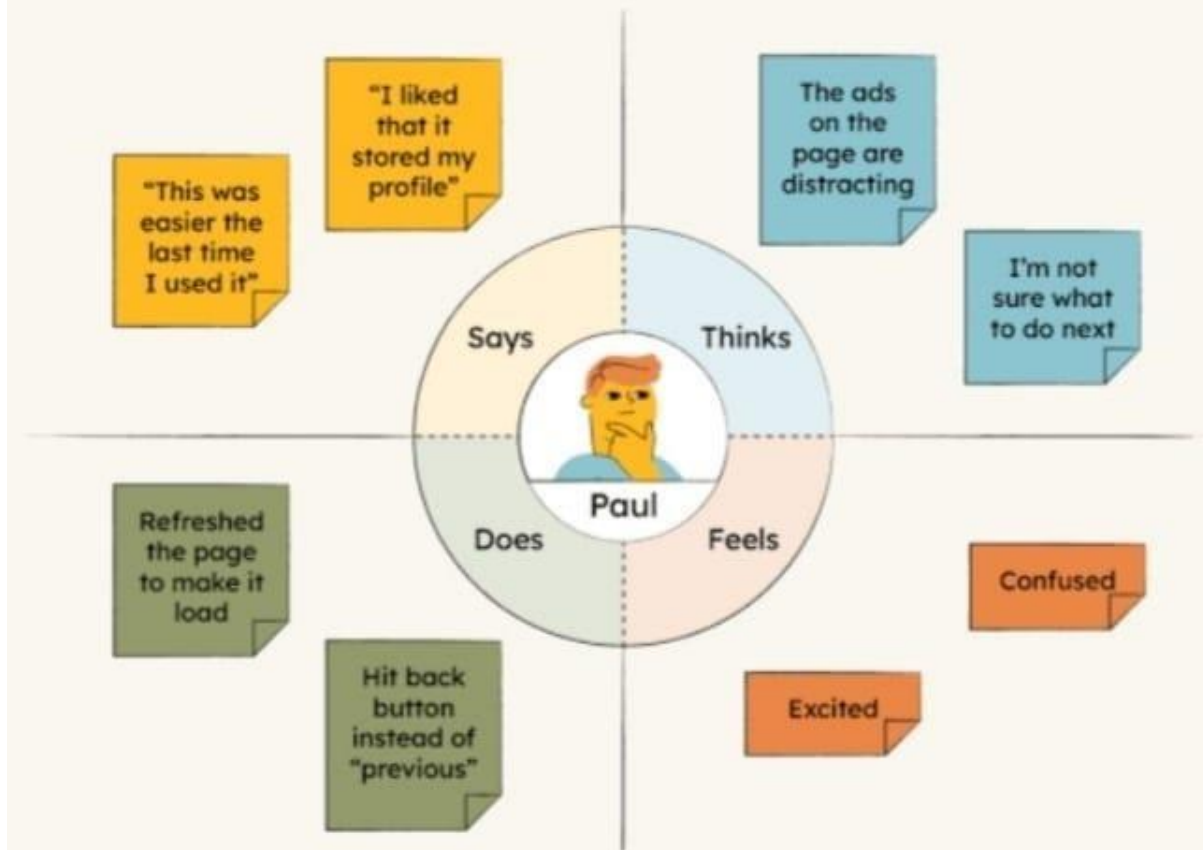| Project Name	ShopEZ:One-Stop Shop for Online Purchases
Maximum Marks	4 marks

Project Overview:

Project Description :A user-friendly platform that allows customers to book, reschedule, and manage medical orders with healthcare professionals. Features include doctor search, real-time availability, a order booking, video consultation, digital prescriptions, and calendar integration.

Project Version:v1.0.0

Testing Period: 2025-06-15 to 2025-06-27 **Testing**

Scope:

- customer registration and login

- Search and filter for doctors

- Real-time orders booking

- Reschedule and cancel orders

- Video consultation module

- Digital prescriptions

- O rders reminders (SMS/email)

- Payment integration

- Review and rating system

Requirements to be Tested:

- As a patient, I want to easily search and book appointments with available doctors.

- As a doctor, I want to manage my availability and bookings.

- As a user, I want secure login, video consultations, and payments.

- As an admin, I want to manage users and handle disputes or feedback.

Testing Environment:

Testing Environment

URL: https://customer\example.com

Credentials:

- **customer:** user1@gmail.com / custmer123

- **Admin:** admin@gmail.com / admin123

Test Cases:

Test Case ID	Test Scenario	Test Steps	Expected Result	Actual Result	Pass/Fail
TC-001	User Registration	1. Visit site 2. Click "Sign Up" 3. Fill & submit form	Profile saved	Account created, redirected to dashboard	[Pass/Fail]
TC-002	customer Profile Creation	1. Login as customer 2. Fill bio & availability 3. Save	Profile saved, listed in search results	Account created, redirected to dashboard	[Pass/Fail]
TC-003	Order requirements	1. Search the product 2. Select quantity 3. Confirm booking	Booking confirmed and shown in user dashboard	Order will booked	[Pass/Fail]

Bug Tracking: product tracking

Bug ID	Bug Description	Steps to reproduce	Severity	Status	Additional feedback

BG-001	Filter not working properly	1. Search with location + specialty	Medium	Open	Only partial results shown
...	...	...	...	...	...

Sign-off:

Tester Name: team

Date: 27-05-2025

Signature: team

Notes:

- Test across **multiple devices and browsers**.

- Cover **positive and negative** cases (e.g., invalid input, empty search, etc.).

- Track all bugs with reproduction steps and severity.

- Sign-off is required from the **project manager** and **product owner** before release.

Project Design Phase

Proposed Solution Template

Date	27 June 2025

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Maximum Marks	2 Marks

Proposed Solution for ShopEZ Online Purchases App :

S. No.	Parameter	Description
1	**Problem Statement** (Problem to be solved)	Customers often face long wait times, inconvenient appointment scheduling, and poor communication with healthcare providers. On the provider side, managing slots, follow-ups, and patient data remains inefficient.
2	**Idea / Solution Description**	ShopEZs a full-stack healthcare appointment booking platform that connects patients with healthcare providers. It features real-time availability, secure appointment scheduling, digital payments, and reminders. Admin tools help manage users and service quality.
3	**Novelty / Uniqueness**	- Real-time appointment availability - Role-based access for patients/doctors/admins - Secure payment integration - SMS/email reminders - Option for teleconsultation (video call integration)
4	**Social Impact / Customer Satisfaction**	- Reduces patient wait times and no-shows - Empowers rural or remote access to care via telehealth - Enhances patient-provider communication - Digitally transforms outdated booking systems
5	**Business Model (Revenue Model)**	-Freemium model for clinics with basic features - Subscription for advanced features (analytics, teleconsultation, branded portal) - Transaction fee on payments (optional) - White-label B2B partnerships with hospitals

6	Scalability of the Solution	Designed for clinics, hospitals, and telehealth startups
		- Global-ready with multi-language, multi-timezone, and multi-currency support
		- Mobile-first UX with future React Native or Flutter app
		- Modular microservices-based backend for flexibility

Project Design Phase Solution Architecture

|	
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Maximum Marks	4 Marks

Solution Architecture:

To provide a user-friendly, secure, and scalable orders booking system that bridges the gap between products.

- Effortless Orders Booking

- End-to-End customer Management

- Scalable user authentication and authorization

- Secure and trackable payment transactions

- Reliable real-time chat and notifications

Solution Architecture Diagram:
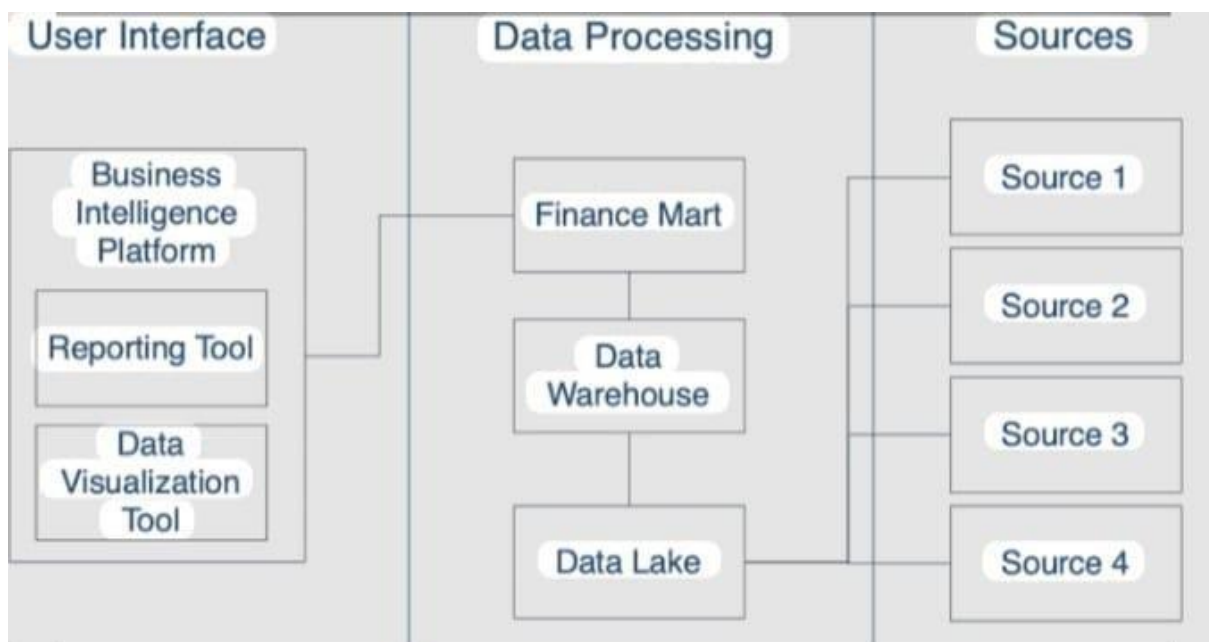
Project Planning Phase

Project Planning Template (Product Backlog, Sprint Planning, Stories, Story points)

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint -1	**User Authentication**	USN-1	As a user, I can sign up and log in securely.	3	High	
		USN-2	As a user, I can reset my password.	2	Medium	
Sprint -2	**customer Discovery & Booking**	USN-3	As a customer, I can search and filter products by location/speciality.	2	High	
Sprint -3	**Profile Management**	USN-4	As a customer, I can set up and update my profile and availability.	3	High	
		USN-5	As a user, I can update my profile information.	2	High	
		USN-6	As a user, I can send/receive messages.	2	Medium	

| Sprint -4 | Payment Integration & Reviews | USN-7 | As a client, I can pay freelancers securely. | 3 | High | |

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Maximum Marks	5 Marks

Product Backlog, Sprint Schedule, and Estimation (4 Marks)

Product Backlog & Sprint Schedule

		USN-8		2	Medi um
			As a user, I can leave a review after project completion.		
		USN-9	As a user, I can change my password.	2	Medi um

Project Tracker, Velocity & Burndown Chart

Sprint	Total Story Points	Durati on	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	20	6 Days	1 May 2025	2 june 2025	20	2 june 2025
Sprint-2	20	6 Days	3 May 2025	4 june 2025	20	4 june 2025
Sprint-3	20	6 Days	5 May 2025	6 june 2025	20	6 june 2025
Sprint-4	20	6 Days	7 May 2025	8 june 2025	20	8 june 2025

Project Design Phase-II
Data Flow Diagram & User Stories

Date	27 June 2025
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Maximum Marks	4 Marks

Data Flow Diagrams:

A **Data Flow Diagram (DFD)** illustrates how data moves within the Freelance Finder platform. It captures how users (freelancers and clients) interact with the system, how information flows between different components, and where the data is stored.

Example: DFD Level 0 (Industry Standard)
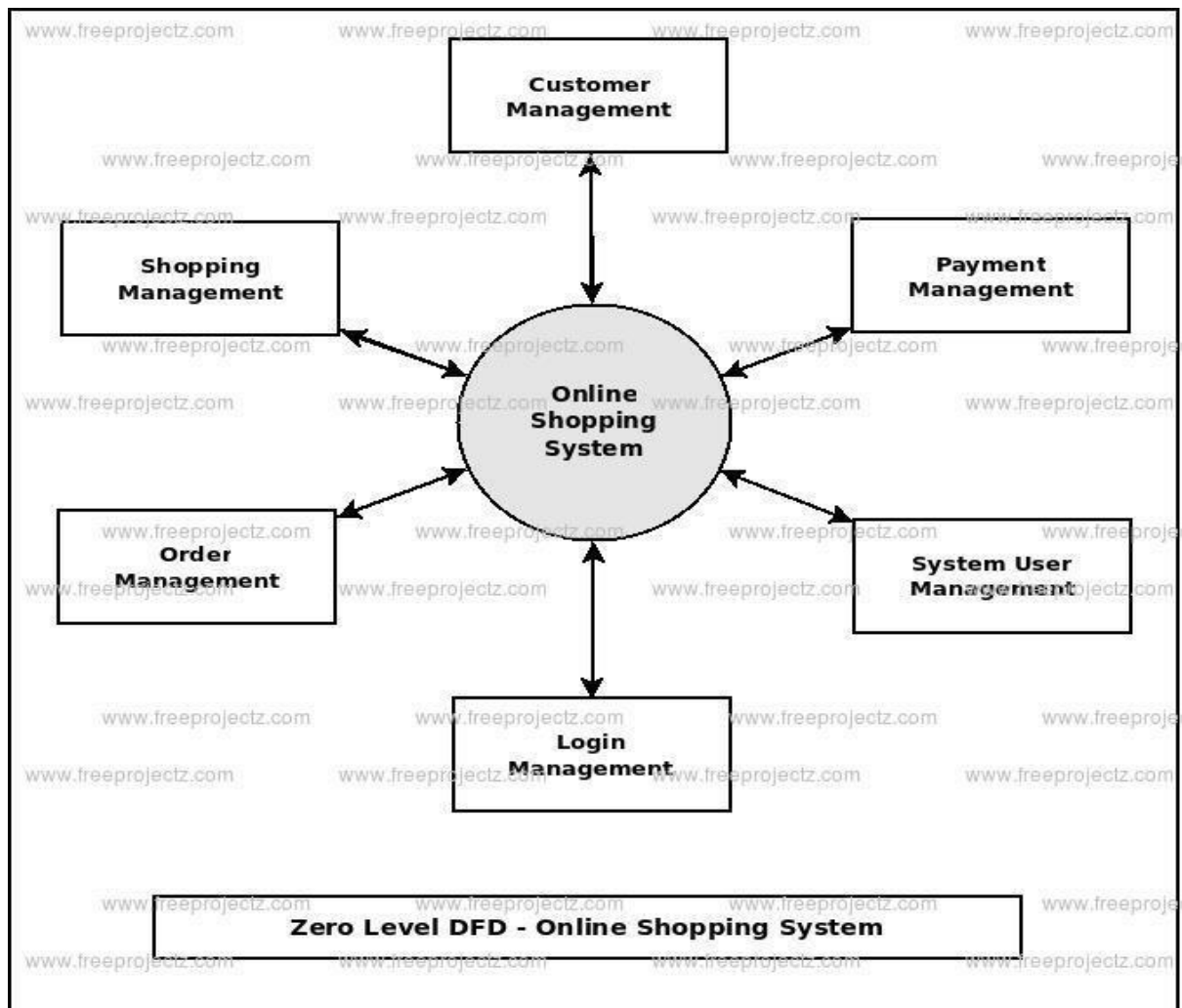
User Stories

User Type	Functional Requirement (Epic)	User Story / Task	Acceptance Criteria
customer	Orders Booking	As a customer, I can search for products by specialty and location.	Search results return relevant products
		As a patient, I can book, reschedule, or cancel orders.	Appointment status up accordingly.
Healthcare Provider	Schedule Management	As a provider, I can manage my availabil	Changes reflect immediately in patient booking system.
User	Messaging	As a user, I can chat with the other party in real-time.	Messages appear instan
Admin	Profile Management	As a Admin, I can update my profile.	Changes are saved successfully.
Client	Payment Processing	As a client, I can make secure payments after job completion.	Payment recorded and shown in transaction his

user		As a user, I can leave a review after project closure.	Review appears on prof
	Review System		

User Story Table – Shopez

Admin	User Moderation	As an admin, I can review reported users and take action.	Reports and actions log

Project Design Phase-II

Solution Requirements (Functional & Non-functional)

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Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

Functional Requirements – Music Streaming App

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Authentication	Sign up, Login, Password Reset
		OAuth login using Google / GitHub
FR-2	**Orders Booking**	Search orders by specialty, location, and availability
		Book, reschedule, and cancel orders
FR-3	**Calendar & Schedule Management**	Freelancers apply to jobs
		View upcoming and past orders
FR-4	**Notifications & Reminders**	Automated SMS/email reminders for upcoming order

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

NFR No.	Non-Functional Requirement	Description
NFR-1	Usability	The platform should provide a simple, clean and care products
NFR-2	Security	All customer and order data must be encrypted. Implement rolebased access and secure authentication
NFR-3	Reliability	order booking, notifications, and telehealth services must be available and dependable at all times.
NFR-4	Performance	Pages and booking actions should load within 2 seconds; reminders and notifications should be timely.
NFR-5	Availability	The system should ensure 99.9% uptime with minimal downtime.
NFR-6	Scalability	Support a growing number of users, providers, and concurrent bookings without degradation.

Project Design Phase-II Technology Stack (Architecture & Stack)

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Maximum Marks	4 Marks

Technical Architecture:

SHOPEZ is designed with a scalable 3-tier architecture consisting of:

- **Presentation Layer (Frontend):** User-friendly interface for patients and healthcare providers to book and manage appointments.

- **Business Logic Layer (Backend):** Handles appointment scheduling, notifications, user management, and telehealth integration.

- **Data Storage Layer:** Secure storage of user profiles, orders records, and products details details.

The platform integrates with third-party APIs for notifications (SMS/email) and services to enhance usability.

S.No	Component	Description	Technology
1.	User Interface	Web and mobile-friendly interface for patients and providers	HTML, CSS, JavaScript / React Js etc.
2.	Application Logic-1	orders booking, calendar management, reminders	Node.js, Express.js
3.	Application Logic-2	Admin panel, provider management, reporting	React js, Node js

| S.No	Component	Description	Technology
1.	User Interface	Web and mobile-friendly interface for patients and providers	HTML, CSS, JavaScript / React Js etc.
4.	Database	Stores user profiles, orders, products datas	MongoDB

Table-1 : Components & Technologies:

S.No	Characteristics	Description	Technology
5.	Open-Source Frameworks	Frontend frameworks	React.js, Node.js, BootStrap, Tailwind CSS
6.	Scalable Architecture	3-tier architecture with RESTful APIs	Microservices

Table-2: Application Characteristics:
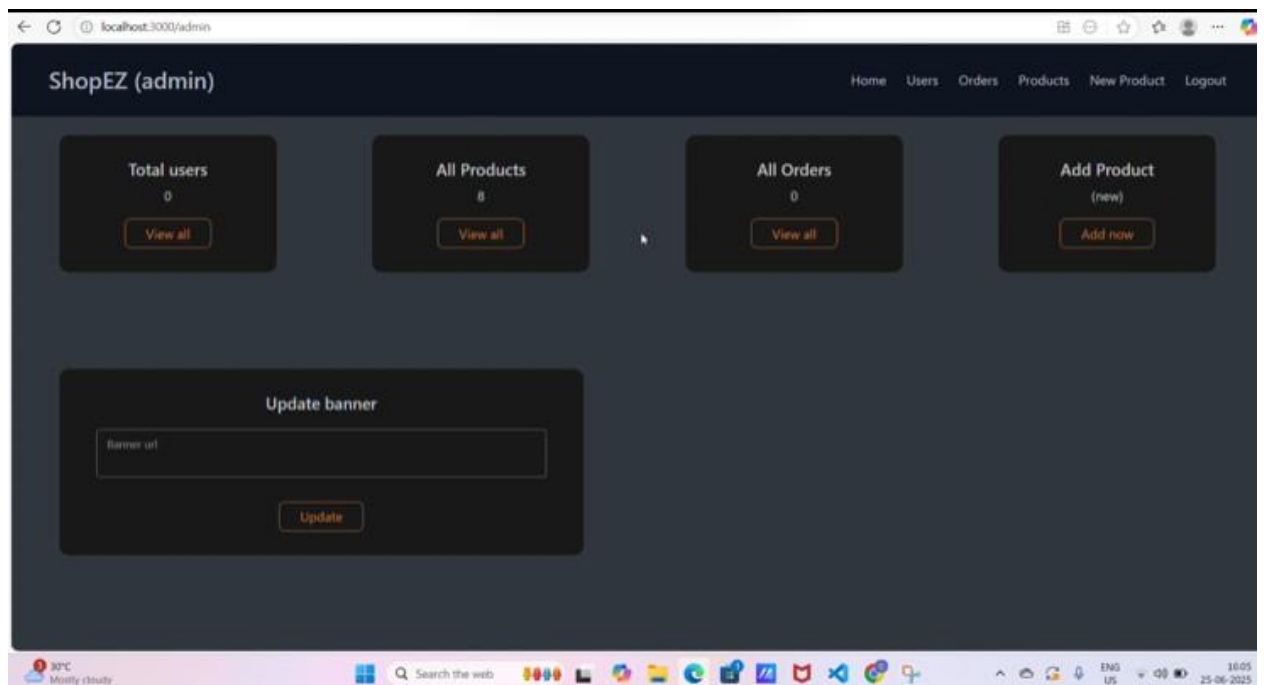
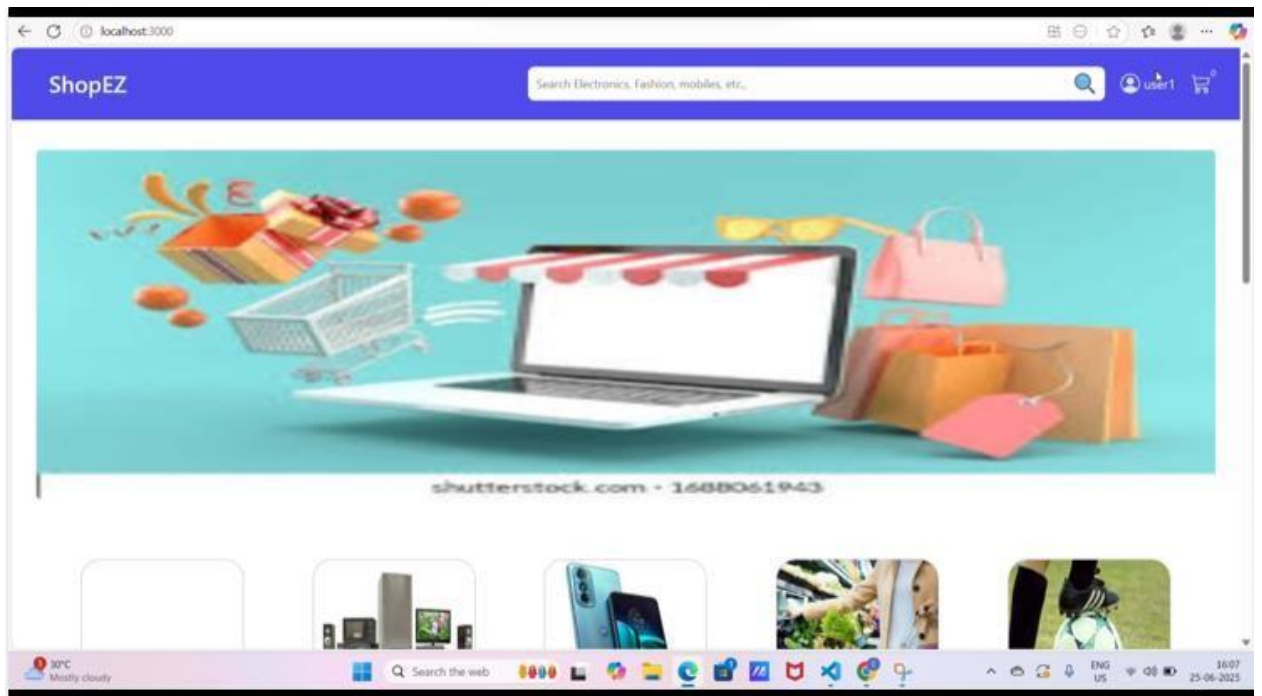**OUTPUTS SCREENSHOTS :**

- User Login Page
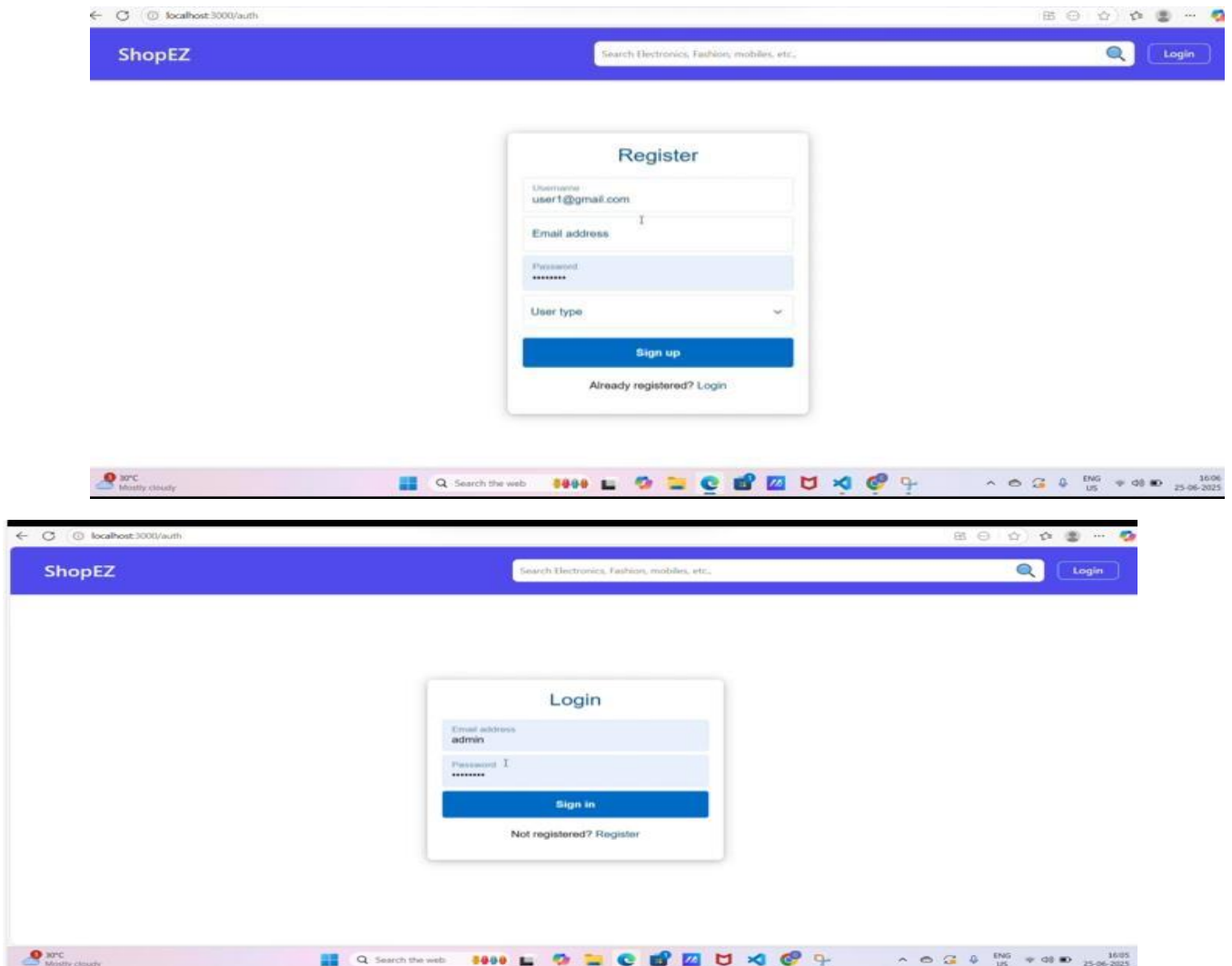
- Product Catalog
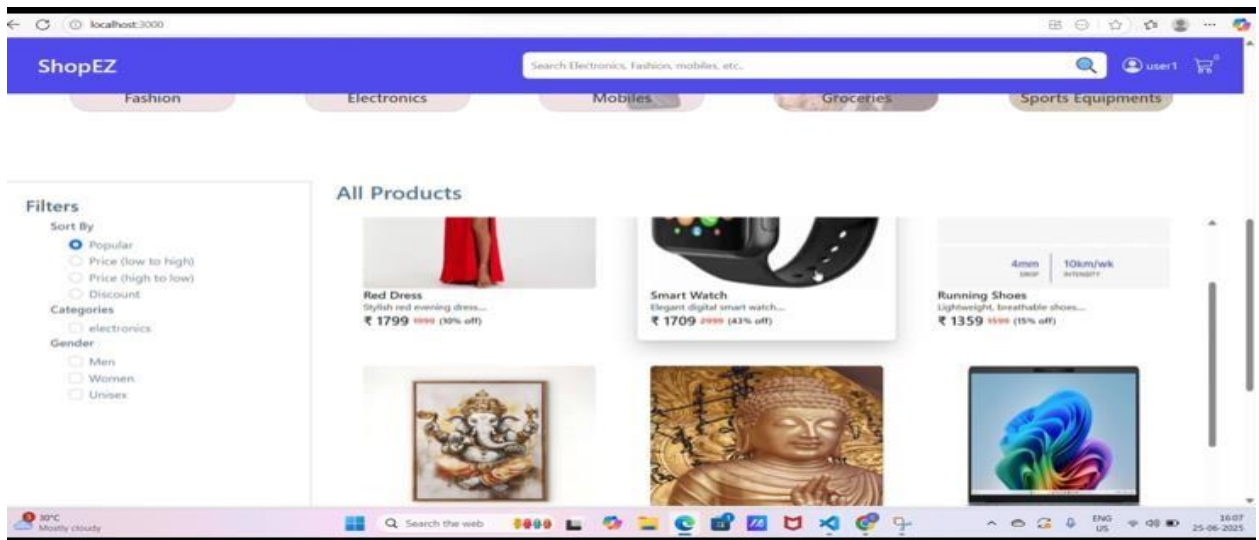
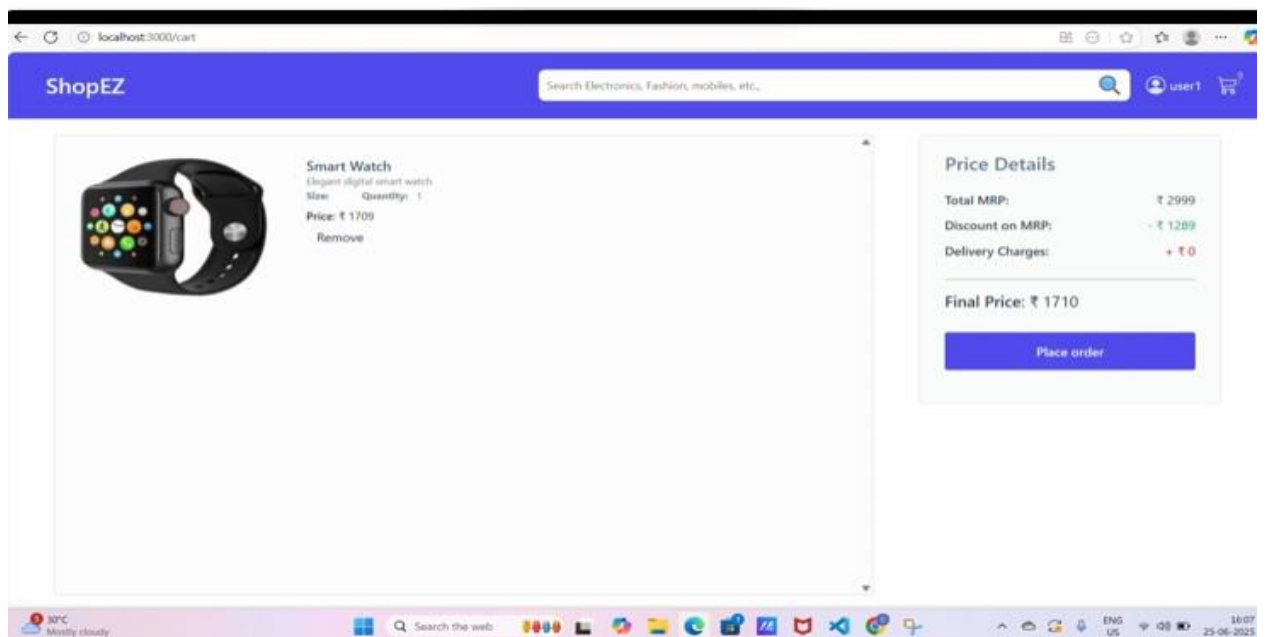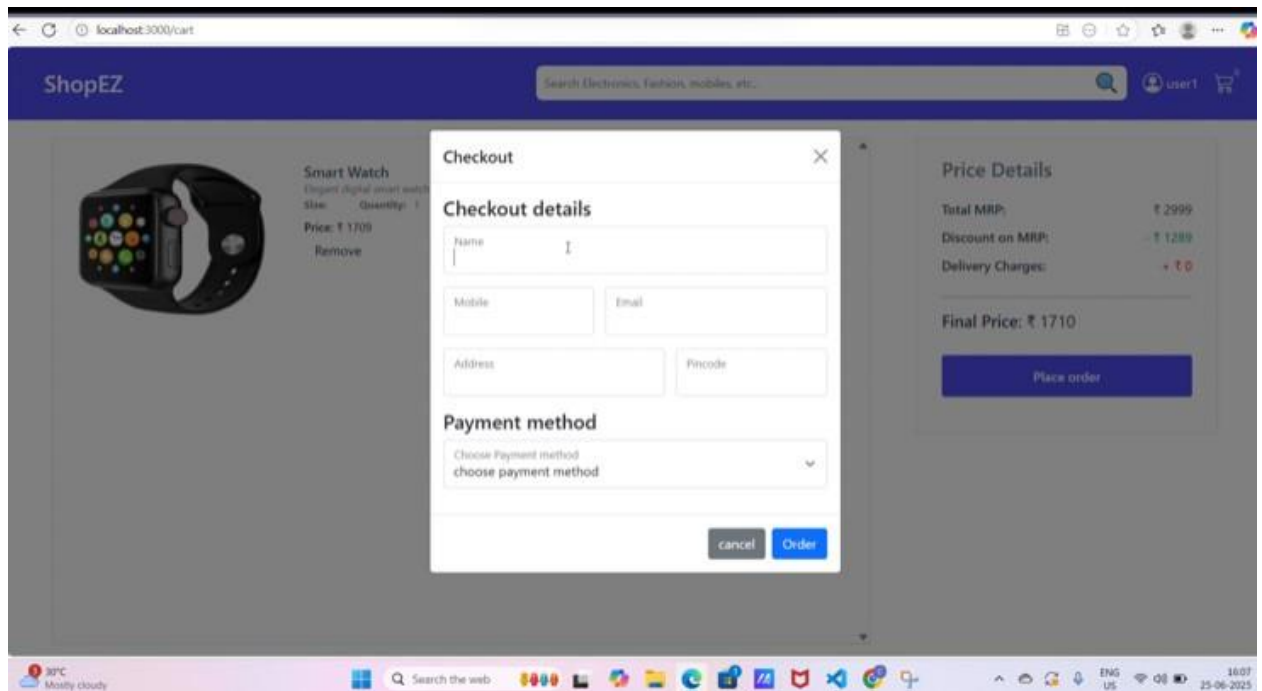- Admin Dashboard

- Landing Page
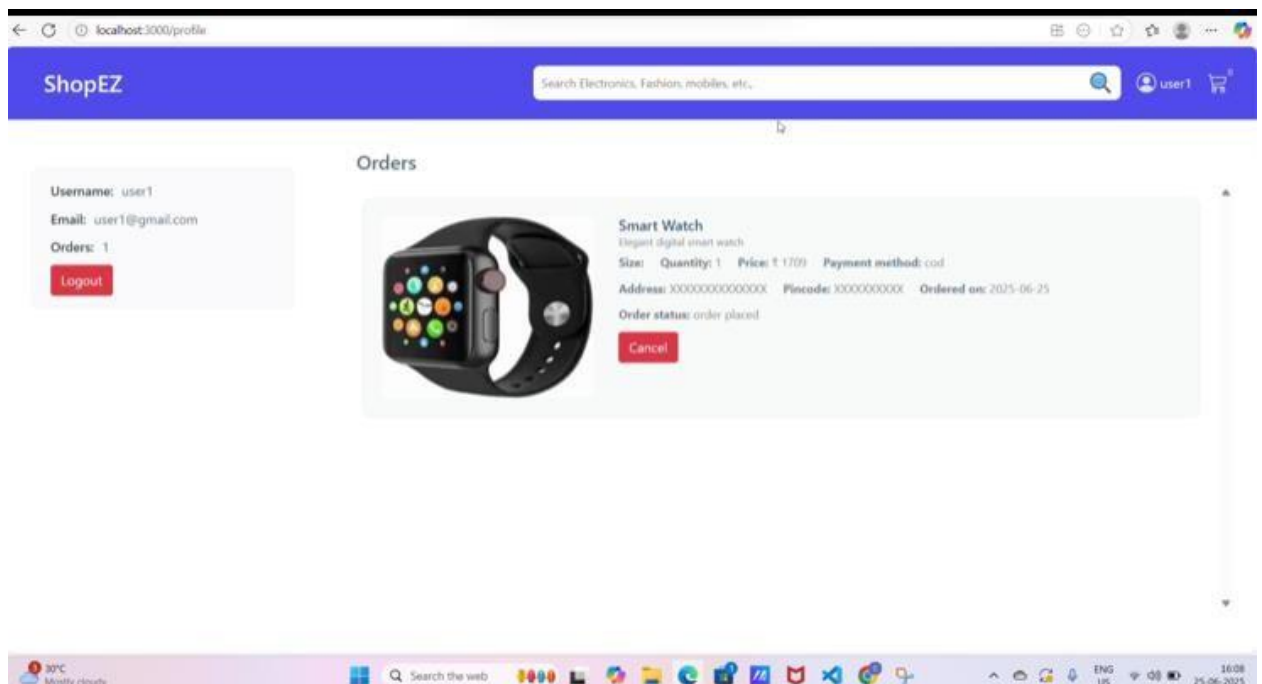
- Cart

Checkout : payment details

Orders :

Advantages and Disadvantages :

Advantages:

1. **User-FriendlyInterface:**
   Simple and clean UI that makes it easy for users to browse and purchase products.
2. **Real-TimeCartManagement:**

Users can add, update, or remove products from the cart with instant updates.

3. **AdminDashboard:**
   Admins can add or remove products directly from the website without editing any code.

4. **SecureLognSystem:**
   Authentication ensures only registered users and the admin can access protected features.

5. **OrderManagement:**
   Users can view order history and track their purchases conveniently.

6. **ScalableStructure:**
   Built with MERN stack (MongoDB, Express.js, React, Node.js), making it easy to scale or upgrade.

Disadvantages:

1. **NoPaymentGatewayIntegration:**
   The current system doesn't include actual payment handling (e.g., Razorpay, Stripe).

2. **LimitedProductManagementFeatures:**
   No image uploads or advanced stock/inventory management.

3. **BasicErrorHandling:**
   Error messages are simple and not user-friendly in all cases.

4. **NoSearchorFilters:**
   Users cannot search for products or apply filters (e.g., price range, category).

5. **SingleAdminAccess:**
   Admin email is hardcoded, which is not ideal for larger systems.

Reference Demo link :   drive link demo

https://drive.google.com/file/d/1ZYT4N-cxATxnfX51nhOunWvLcTgTXXmD/view?usp=drivesdk

Conclusion :

The **ShopEZ** project successfully demonstrates the development of a fully functional e-commerce platform that meets the essential needs of both customers and administrators. By integrating core features like product browsing, shopping cart management, user authentication, secure checkout, and admin-level product control, the application provides a real-world online shopping experience.

In conclusion , Through this project, we gained hands-on experience in **MERN stack development**, REST API integration, and effective **state management using Redux**. It also allowed us to explore critical aspects of modern web development such as responsive UI design, role-based access control, and real-time data handling.