

Project Report: ShopEZ – One-Stop Shop for Online Purchases

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1. INTRODUCTION

1.1 Project Overview

ShopEZ is a user-friendly e-commerce web platform that allows users to browse, search, and purchase a variety of products online. The platform features a responsive design with real-time cart updates, secure user authentication, and an admin dashboard for inventory and order management.

1.2 Purpose

To provide a seamless and reliable online shopping experience where users can conveniently explore and buy products while ensuring scalability, performance, and data security.

2. IDEATION PHASE

2.1 Problem Statement

Customers often find it difficult to navigate multiple online stores with inconsistent interfaces and features. Small vendors also struggle to showcase their products online.

2.2 Empathy Map Canvas

- **Thinks:** “Is this website secure and easy to use?”
- **Feels:** Confused by cluttered interfaces.
- **Says:** “I want everything in one place!”
- **Does:** Abandons cart if checkout is too long.
- **Goal:** To create a smart, unified shopping experience.

2.3 Brainstorming Ideas

- Dynamic product catalog
- Real-time cart and checkout system
- Admin inventory management
- Customer order tracking
- Secure login and registration

3. REQUIREMENT ANALYSIS

3.1 Customer Journey Map

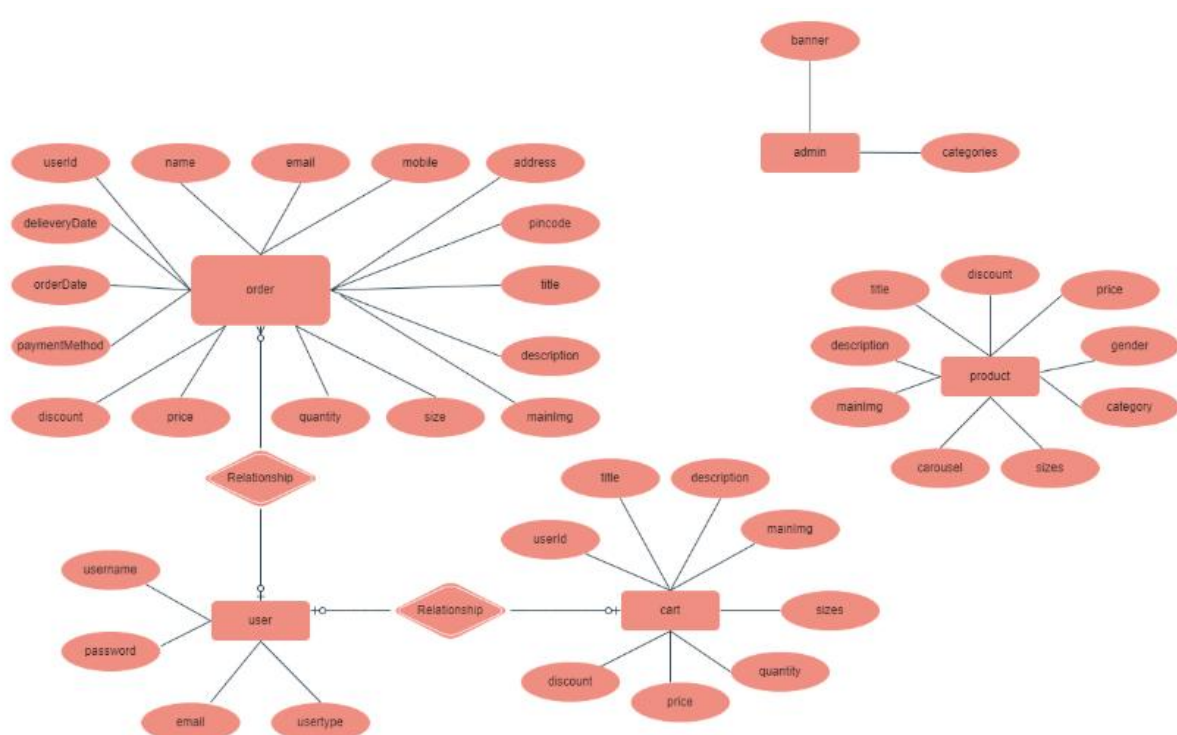
1. Visit website
2. Sign up / Log in

3. Browse or search products
4. Add to cart and checkout
5. Make payment
6. Receive confirmation and track order

3.2 Requirements

- **Functional:**
 - User registration/login
 - Product catalog, search, filter
 - Add to cart & order checkout
 - Admin product and order management
- **Non-Functional:**
 - Responsive design
 - Data encryption and secure authentication
 - Fast page loads under high traffic

3.3 Data Flow Diagram



3.4 Technology Stack

- **Frontend:** HTML, CSS, JavaScript, Bootstrap/React
- **Backend:** Flask / Node.js
- **Database:** MySQL / MongoDB
- **Authentication:** JWT / bcrypt
- **Deployment:** Heroku / Render / Vercel

4. PROJECT DESIGN

4.1 Problem-Solution Fit

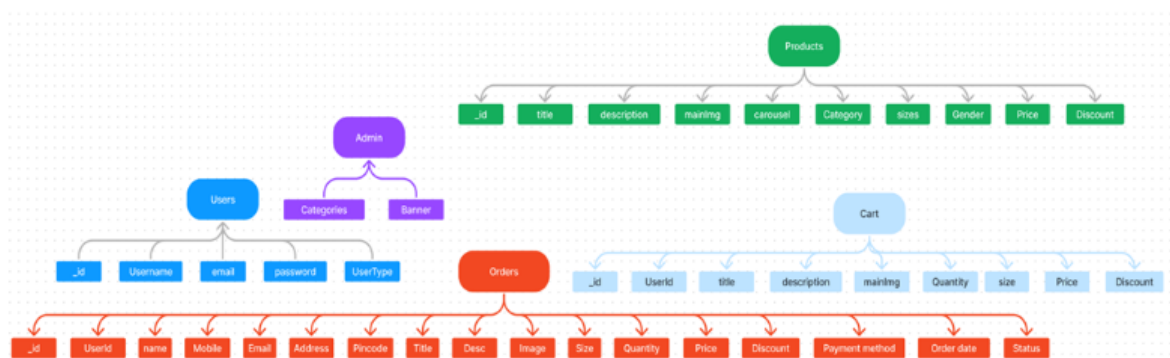
The online market needs scalable and reliable web stores. ShopEZ provides modern UI/UX, smart product filters, and admin tools to make e-commerce simple.

4.2 Proposed Solution

A modular, responsive web application with:

- User & admin portals
- Searchable product listing
- Shopping cart with checkout
- Order history and tracking

4.3 Solution Architecture



5. PROJECT PLANNING & SCHEDULING

5.1 Agile Plan (2 Sprints)

- **Sprint 1 (5 Days):**
 - Build frontend templates (Home, Login, Product List)
 - Set up database schema

- **Sprint 2 (5 Days):**
 - Connect backend APIs
 - Implement cart, checkout, admin panel
 - Final testing & deployment

5.2 Velocity Chart

- Sprint 1: 10 Story Points (UI, DB setup)
- Sprint 2: 14 Story Points (APIs, Admin tools, Testing)

6. FUNCTIONAL AND PERFORMANCE TESTING

6.1 Functional Testing

- Registration/Login
- Product addition/removal in cart
- Admin adding/deleting products
- Order placing and tracking

6.2 Performance Metrics

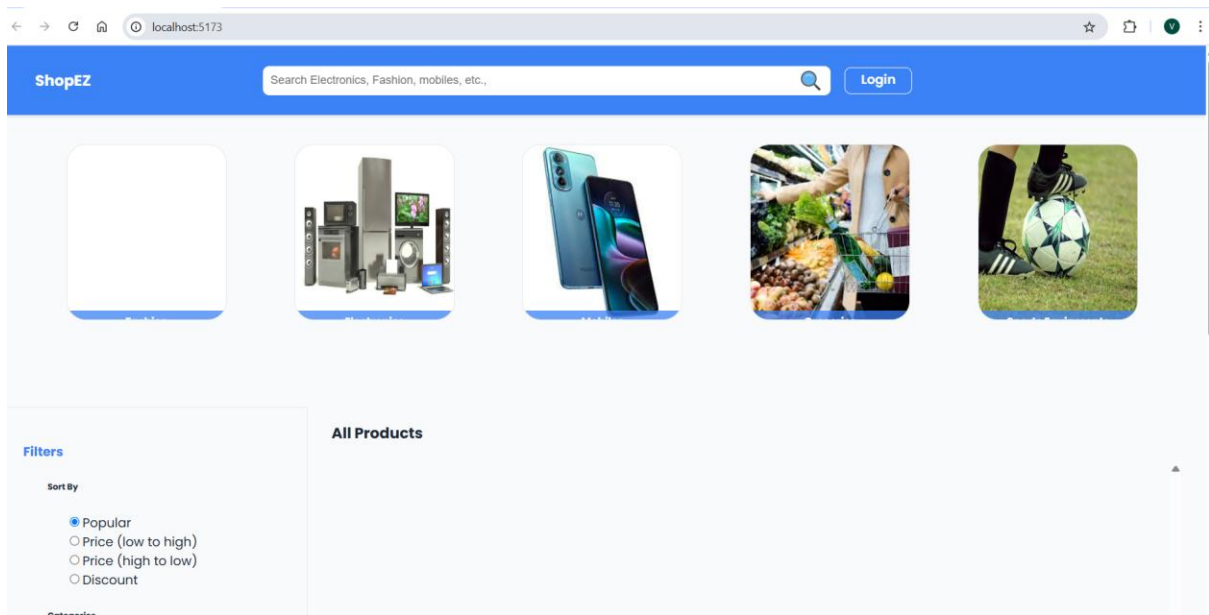
Endpoint	Avg Response Time	Max Concurrent Users	Error Rate
GET /products	0.40s	100	0.3%
POST /checkout	0.38s	50	0.8%
Admin API	0.45s	30	0%

6.3 Tools Used

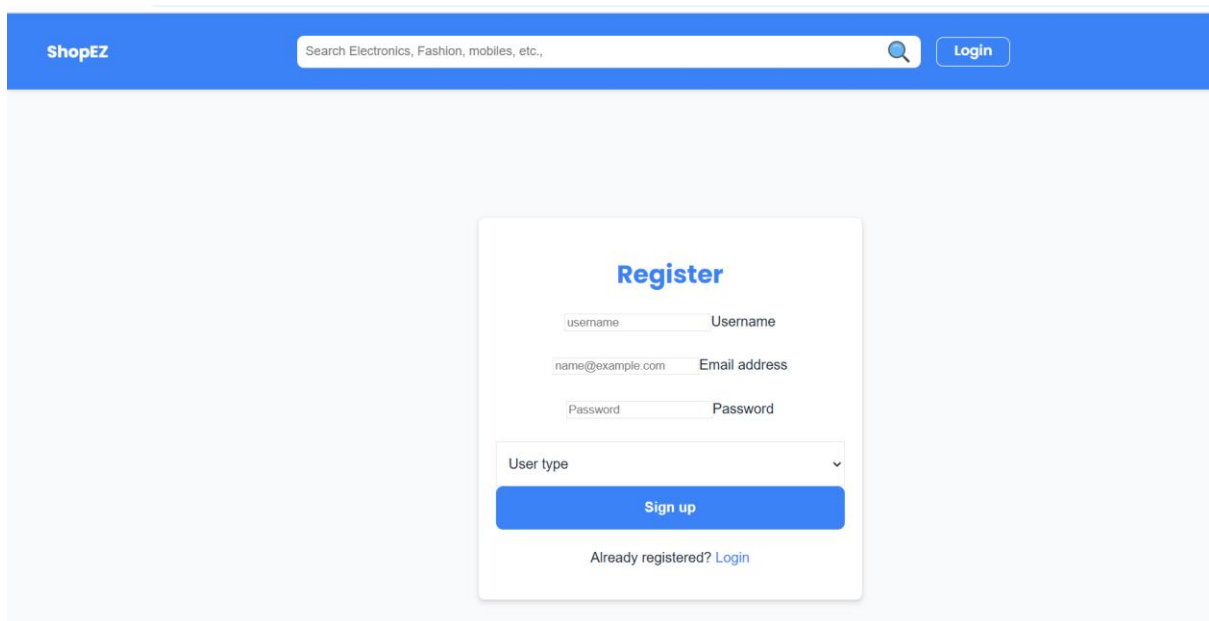
- Postman, JMeter, Locust

7. RESULTS

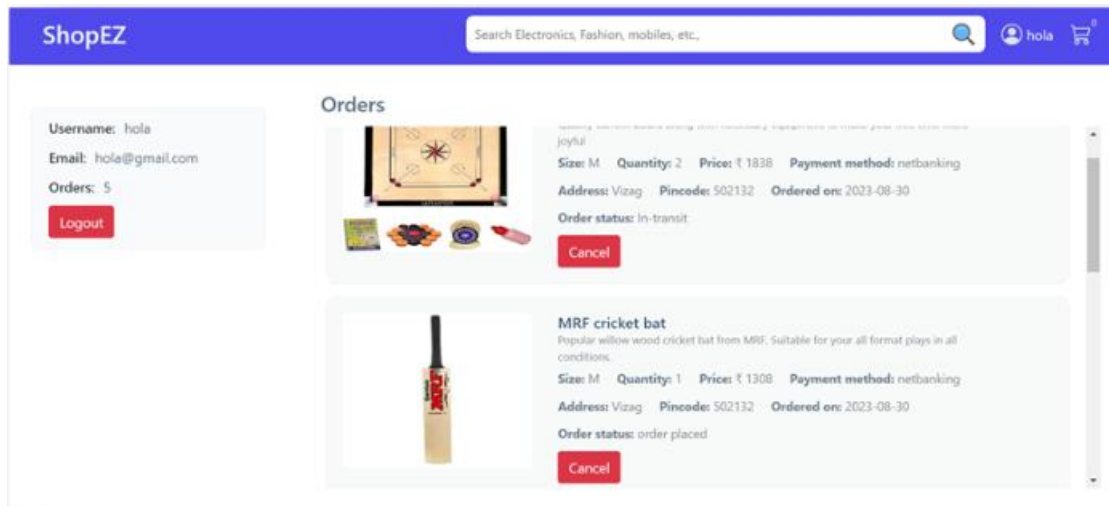
7.1 Output Screenshots



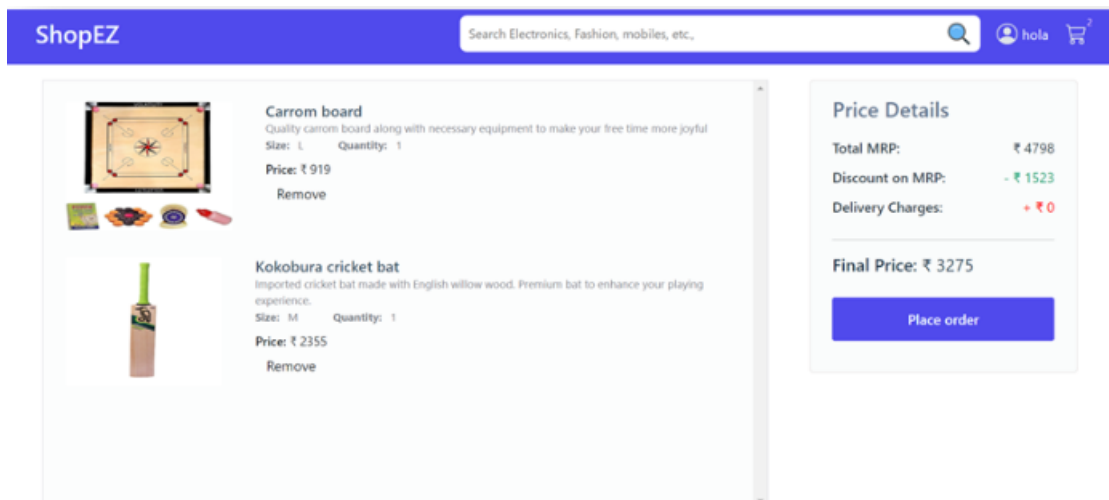
❖ Registration



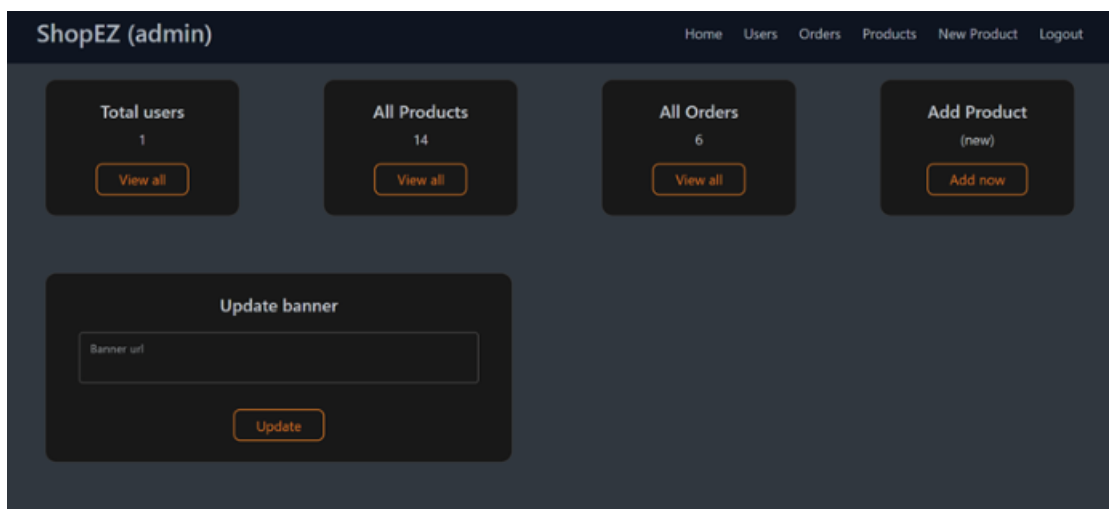
❖ Dashboard



❖ Cat



❖ Admin dashboard




❖ All Orders

ShopEZ (admin)

HomeUsersOrdersProductsNew ProductLogout

Orders



Carrom board

Quality carrom board along with necessary equipment to make your free time more joyful

Size: M Quantity: 2 Price: ₹ 1838 Payment method: netbanking

UserId: 64edcfad3631d148df3ce2e1 Name: Simon Email: simon@gmail.com Mobile: 8798790898


Ordered on: 2023-08-30 Address: Vizag Pincode: 502132

Order status: In-transit

Update order status

Update

Cancel



MRF cricket bat

Popular willow wood cricket bat from MRF. Suitable for your all format plays in all conditions.

Size: M Quantity: 1 Price: ₹ 1308 Payment method: netbanking

UserId: 64edcfad3631d148df3ce2e1 Name: Simon Email: simon@gmail.com Mobile: 8798790898

Ordered on: 2023-08-30 Address: Vizag Pincode: 502132

❖ All Products


← → ↺ ⌂ localhost:5173


☆ ⌵ 🗲


ShopEZ


Search Electronics, Fashion, mobiles, etc.,


Login











Filters

Sort By

☒ Popular

☐ Price (low to high)

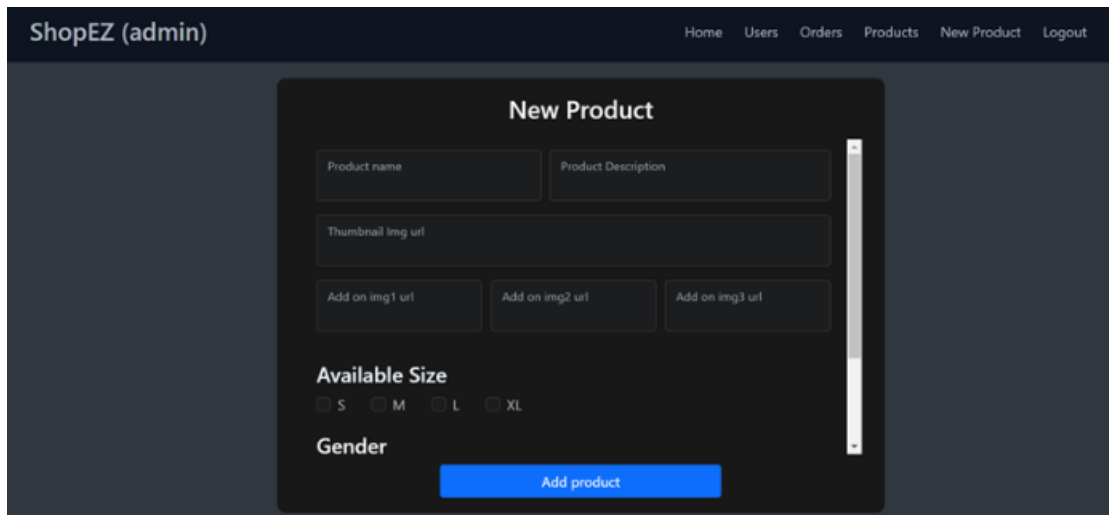
☐ Price (high to low)

☐ Discount

Categories

All Products

❖ New Product Page



8. ADVANTAGES & DISADVANTAGES

✓ Advantages:

- Easy navigation and minimal design
- Admin dashboard for control
- Scalable and modular code
- Secure authentication

✗ Disadvantages:

- No real-time inventory unless integrated with APIs
- Basic payment features

9. CONCLUSION

ShopEZ successfully delivers a smooth e-commerce experience with key features like user login, product browsing, and checkout. The project lays the foundation for scaling into a larger commercial solution.

Key Outcomes:

- Mobile-friendly responsive site
- Secure backend with basic encryption
- Order lifecycle from cart to confirmation
- Modular frontend and backend separation

10. FUTURE SCOPE

1. **Add Online Payment Integration**
(Razorpay, Stripe, PayPal)
2. **SMS/Email Alerts for Orders**
3. **Wishlist and Ratings Feature**
4. **Delivery Time Estimation Using Maps API**
5. **PWA / Mobile App Version**

11. APPENDIX

- **GitHub Repo:** [Insert URL]
- **Demo Video Link:** [Insert Link]
- **Dataset/Inventory:** Sample JSON/MySQL Dump