



ShopEZ Project Report

This report details the development and key aspects of the ShopEZ online shopping platform, from its conceptualization to its proposed architecture.

1. INTRODUCTION

1.1 Project Overview

ShopEZ is an innovative online shopping platform designed to provide a seamless and efficient experience for both customers and sellers. It aims to simplify the online purchasing journey through a user-friendly interface, a comprehensive product catalog, and robust backend management tools. The platform focuses on effortless product discovery, personalized shopping, secure transactions, and efficient order management with insightful analytics.

1.2 Purpose

The purpose of this report is to document the ShopEZ project's objectives, design, implementation considerations, and overall vision. It serves as a comprehensive guide for stakeholders, outlining the problem it solves, the solution proposed, and the technical approach taken.

2. IDEATION PHASE

2.1 Problem Statement

Date: 19 February 2026

Team ID: LTVIP2026TMIDS52049

Project Name: ShopEZ:One-Stop Shop for Online Purchases

Maximum Marks: 2 Marks

Customer Problem Statement – Shopez Edition

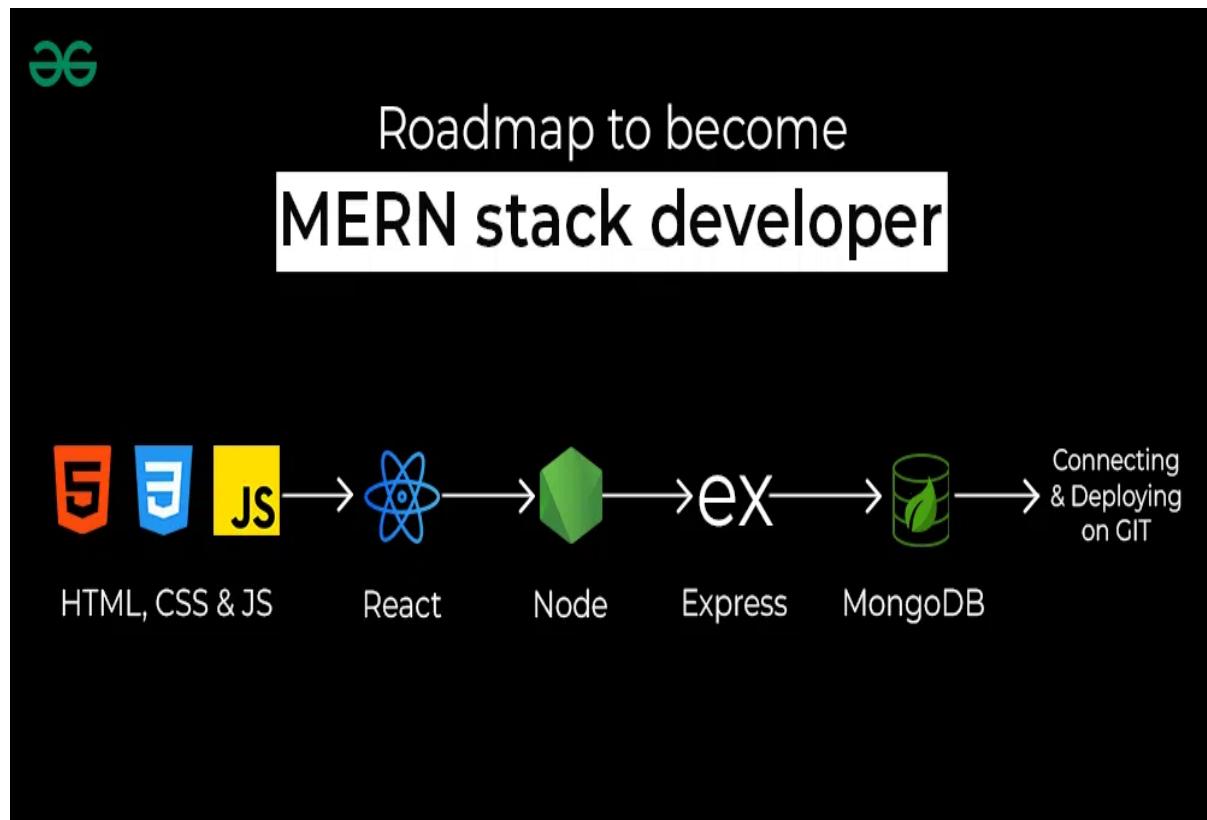
A well-crafted customer problem statement helps your team focus on what truly matters: solving real pain points. For Shopez, the goal is to create a seamless, inclusive, and scalable shopping experience. Here's the template applied to your project

Shopez Customer Problem Statement

| I am | I'm trying to | but | because | which makes me feel |
|--|---|--|---|---------------------------------|
| small business owner limited budget | create an online store to sell products | the process is overwhelming and complex | I don't have technical skills and most platforms are expensive or hard to cus- | stressed and discouragerd |
| shopper in a tier-2 city | find a reliable site to buy everything in one place | most e-commerce platforms cluttered or hard to local neees | real-time inventory syncing and efficient state management are complex to implement | frustrated and time-pressed |
| a developer launching Shopez on MERN stack | build a feature-rich scalable site that's easy to maintain | I keep running into backend integration an UI responsi- | most platforms prioritize big br ands, and I can't afford paid ads | overlooked and underappreciated |
| customer support agent | reach more customers without setting up my own online store | help users navigate the platform easily | there are no in-site prompts or FAQs tailored to their journey | helpless and disconnectarted |

Reference: <https://github.com/ProHacksAbhi/ShopEZ-Fullstack-Project>

Example:



Lopez – Customer Problem Statement

| Problem Statement (PS) | I am (Customer) | I'm trying to | Because | Which I me f |
|------------------------|-----------------------------|--|---|--------------------------|
| PS-1 | a small business owner | set up an online store | most platforms are expensive or hard to customize | frustrated and stressed |
| PS-2 | a shopper from a rural area | find affordable and reliable products in one place | most e-commerce sites don't cater to my region because they lack vernacular support and | ignored and disappointed |

2.2 Empathy Map Canvas

Ideation Phase Empathize & Discover

Date : 19 February 2026

Team ID : LTVIP2026TMIDS52049

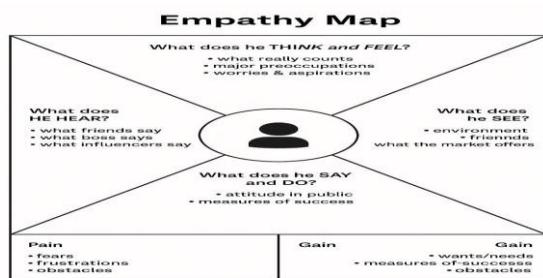
Project Name ShopEZ : One-Stop Shop for Online Purchases

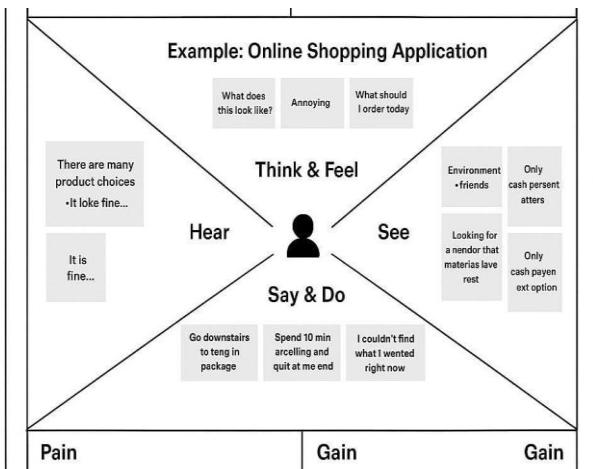
Maximum Marks : 4 Marks

Empathy Map Canvas:

An empathy map is a simple, easy-to-digest visual that captures knowledge about a user's behaviours, needs, and emotions. It helps teams develop deeper insight into the real people using the product. With ShopEZ, understanding both buyers (like Sarah) and sellers (like the bracelet vendor) is crucial to defining valuable and inclusive shopping experiences.

Example:





2.3 Brainstorming

Ideation Phase

Date : 19 February 2026

Team ID : LTVIP2026TMIDS52049

Project Name : ShopEZ:One-Stop Shop for Online Purchases

Maximum Marks : 4 Marks

Brainstorm & Idea Prioritization

Reference: <https://www.mural.co/templates/brainstorm-and-idea-prioritization>

Step 1: Team Gathering, Collaboration & Selecting the Problem Statement

Brainstorming is the launchpad for innovation in the ShopEZ project. It creates a free and open environment where every team member can contribute ideas—no matter how unconventional.

This step is all about collaborative creativity and problem discovery.

Step 1: Team Gathering, Collaboration & Selecting the Problem Statement

Brainstorming is the launchpad for innovation in the ShopEZ project. It creates a free and open environment where every team member can contribute ideas—no matter how unconventional.

This step is all about collaborative creativity and problem discovery.



Brainstorm & idea prioritization

ShopEZ: Shop-Stop Shop for Online Purchases

Team ID: LTVIP2025TMID5843

Date: 31 January 2025

10 minutes

Project you collaborate

- Invite team members
- Share user journey (e.g. Sarah's gift scenario)
- Set clear goals
- Prepare tools like sticky notes or digital boards

Before you collaborate

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

10 minutes

How might we simplify online shopping for tyical users and Small vendors through ShopEZ?

8

Key rules of brainstorming

- | | | |
|--|-----------------|-------------------------------|
| | Stay focused | Encourage bold ideas |
| | Defer judgment | Listen actively |
| | Go for quantity | Visualize ideas when possible |
| | Go for quantity | |

Step-2: Brainstorm, Idea Listing and Grouping



Brainstorm

Generate as many ideas as possible that address your problem statement

30–45 minutes



Group ideas

Combine similar or related ideas into themes to start identifying patterns. Don't hesitate to refine and rearrange groupings as you go

User Experience

| | |
|------------------------|---------------------------|
| One-click checkout | Personalized product feed |
| Mobile-friendly design | |

Seller Tools & Dashboard

| | | |
|-----------------------------|------------------------|--|
| Real-time inventory syncing | Seller analytics panel | |
| Seller analytics panel | | |

| | |
|--------------------------|--|
| Multiple payment options | |
| Saved cart feature | |

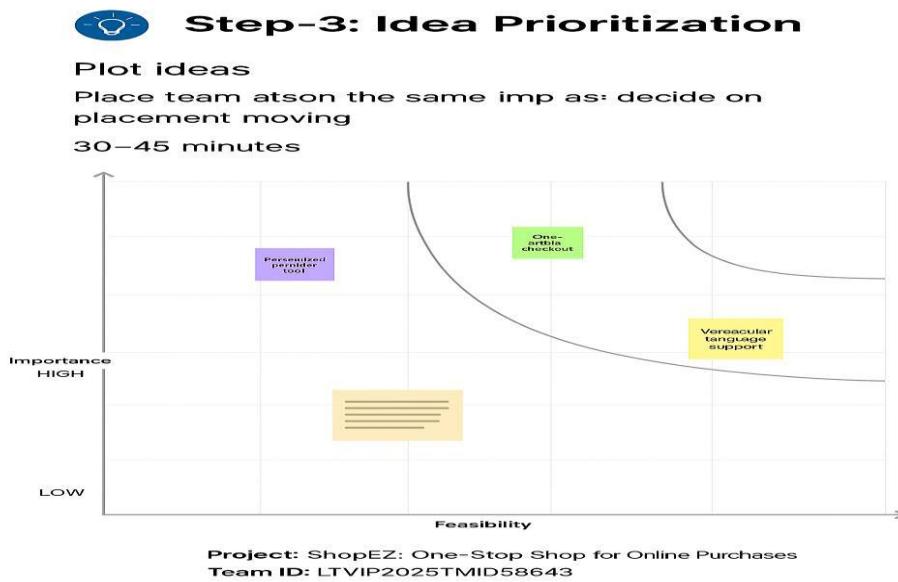
Accessibility

| | |
|-----------------------------|--|
| Vernacular language support | |
| Voice search | |

Backend Tech/Features

| | | |
|----------------------|----------------------------|--|
| Multilingual support | AI-powered recommendations | |
| | | |

Step-3: Idea Prioritization



3. REQUIREMENT ANALYSIS

3.1 Customer Journey Map

| Customer roadmap for Shopez | | | | | | | |
|-----------------------------|--|---|---|--|--|--|--|
| | Discover | Enter Shop | Browse | Choose Products | Purchase | Loyalty | |
| Customer Steps | Browsing ads, social media, referrals | Open Sweb stesite of app Sign up or log in in | • Explore categoroles & Search | • Select best product • Add to cart • Check availability | • Write reviews • Join programs Receive ofters | • Write reviews Join programs Receive offers | |
| Touch-s points | Opening Shopez website or app. Sign up/log in | Weblike Honay: Wihility founfate Sortes night | Filtering options Search bar Product listings | Product prefer lear's quat Check aul ability | Review forms Offers | Share expe riences Earn re. wards | |
| Emotional Response | Access store offers Easy onboarding | Easy access, easy onboard | Select best product Ensure supply | Satisfied Confident Confid cient | Sharing experien Earnin rewards | Content Appreciative | |
| Opportunities | Engoing achcreatives Onfoaming | Interested Hopeful | Steamlined add to-cart Availability notifications | Anxious Relieved Tiosy choces our | Trusty Checkout Fast shipping | Encourage reviews Reward incentives | |

3.2 Solution Requirement

Date :19 February 2026

Team ID :LTVIP2026TMIDS52049

Project Name :ShopEZ:One-Stop Shop for Online Purchases

Maximum Marks :4 Marks

ShopEZ - Functional Requirements

| FR No. | Functional Requirement (Epic) | Sub Requirement (Story / Sub-Task) |
|---------------|--------------------------------------|--|
| FR-1 | User Registration | <ul style="list-style-type: none">- Registration through Form- Registration through Gmail- Registration through LinkedIn |
| FR-2 | User Confirmation | <ul style="list-style-type: none">- Confirmation via Email- Confirmation via OTP |
| FR-3 | User Login | <ul style="list-style-type: none">- Login via Email & Password- Login via Gmail- Login via Facebook |
| FR-4 | Product Browsing & Search | <ul style="list-style-type: none">- View product listings- Filter by category , price, rating- Search by keyword |

ShopEZ – Non-Functional Requirements

| FR No. | Non-Functional Requirement | Description |
|---------------|-----------------------------------|--|
| NFR-1 | Usability | The application should offer an intuitive and user-friendly interface across mobile and web platforms. |
| NFR-2 | Security | All user data must be encrypted in transit and at rest. The system should support secure authentication and |
| NFR-3 | Reliability | The system should operate without failure for 99.9% of the time and recover gracefully from unexpected issues. |
| NFR-4 | Performance | Pages should load within 2 seconds under normal load and within 4 seconds under peak load. |
| NFR-5 | Availability | The application should be accessible 24/7 with minimal downtime, especially during peak shopping hours. |

3.3 Data Flow Diagram

Date :19 February 2026

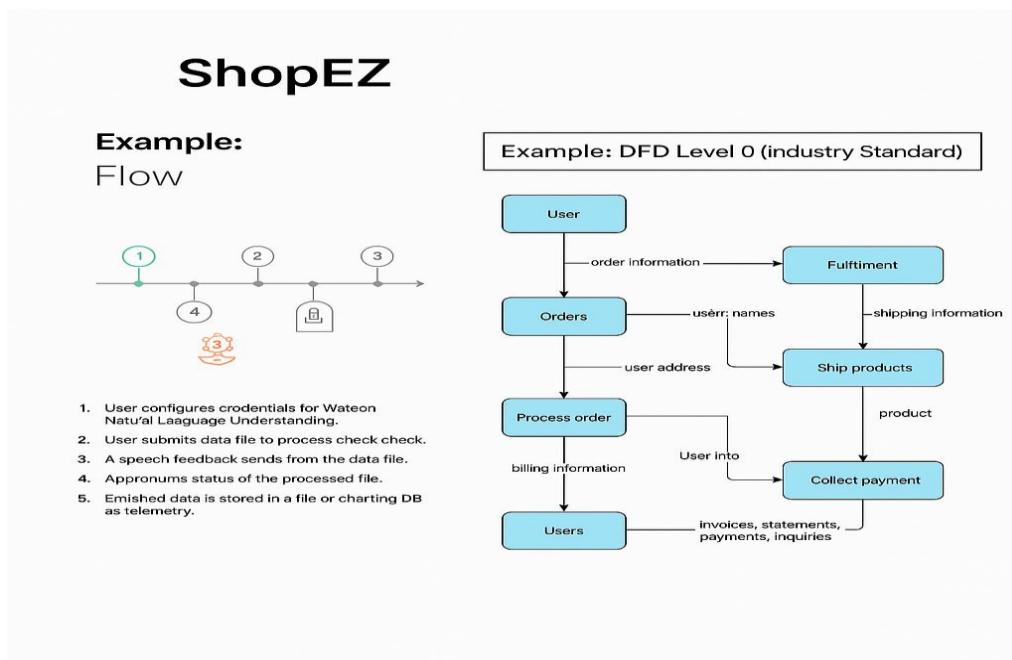
Team ID : TVIP2026TMIDS52049

Project Name :ShopEZ:One-Stop Shop for Online Purchases

Maximum Marks :4 Marks

Data Flow Diagram (DFD) Overview

A Data Flow Diagram (DFD) for ShopEZ visually maps how data moves through your e-commerce system. It helps stakeholders understand the system's structure without diving into code.



ShopEZ

| User Type | Functional Requirement | User Story Number | User Story / Task | Acceptance Criteria | Priority | Release |
|-------------------------|------------------------|-------------------|------------------------------|---|----------|----------|
| Customer (Mobile user) | Registration | USN-1 | As a user, I can register | I can access my account / dashboard | High | Sprint-1 |
| | Registration | USN-2 | As a user, I will receive | I can receive confirmation email & click confirm | High | Sprint-1 |
| | Registration | USN-3 | As a user, I can register | I can register & access the dashboard with Facebook | High | Sprint-2 |
| | Login | USN-4 | As a user, I can register | I can view my recent orders and account info | Medium | Sprint-2 |
| Customer (Web user) | Product Browsing | USN-7 | As a web user I can browse | I can browse products without logging in < | High | Sprint-1 |
| | Cart Management | USN-8 | As a web user I can add/rem. | I can update cart contents | High | Sprint-2 |
| Customer Care Executive | Support Dashboard | USN-9 | As a support agent, I can | Access tickets and reply to users | Medium | Sprint-3 |
| | Order Lookup | USN-10 | I can search for customers | Add/edit/delete users and products | Medium | Sprint-2 |
| | Admin Panel | USN-11 | As an admin, I can manage | As an admin, I can view sales and user activity | High | Sprint-2 |
| | Reports & Analytics | USN-12 | As an admin, I can view | I generate and download reports | Medium | Sprint-4 |

3.4 Technology Stack

Date :19 February 2026

Team ID : TVIP2026TMIDS52049

Project Name :ShopEZ:One-Stop Shop for Online Purchases

Maximum Marks :4 Marks

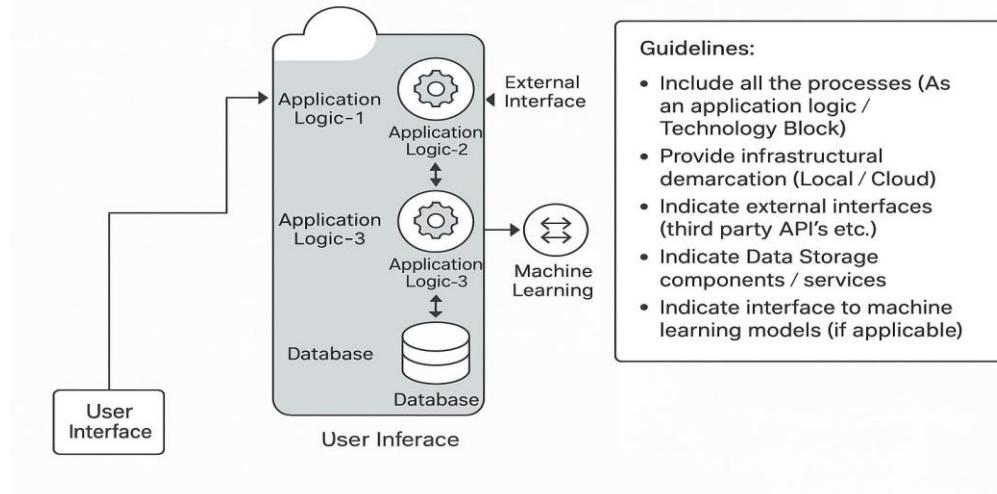
Technical Architecture Overview

ShopEZ is a full-stack e-commerce platform built using the **MERN stack** (MongoDB, Express.js, React.js, Node.js). The architecture ensures scalability, modularity, and secure data flow between components.

Reference: <https://github.com/sameekshaapatel/Shopez-E-commerce-Application>

sameeksha/blob/main/README.md

Technology Stack Template



ShopEZ – Technical Architecture Components

| S.No. | Component | Description | Technology |
|-------|------------------------|--|--------------------------------------|
| 1 | User Interface | How users interact with the application (Web UI, Mobile App) | HTML, CSS, JavaScript, React.js |
| 2 | Application Logic-1 | Voice-to-text processing for accessibility or chatbot input | IBM Watson Speech to Text (STT) |
| 3 | Application Logic-2 | Conversational interface for customer support or virtual assistant | IBM Watson Assistant |
| 5 | Database | Stores user data, product catalog, orders, and reviews | MongoDB (NoSQL) |
| 6 | File Storage | Cloud-hosted database for scalability and availability | IBM Cloudant |
| 7 | External API-1 | Stores product images, invoices, and user-uploaded files | IBM Block Storage / Local Filesystem |
| 8 | External API-2 | Provides real-time weather info for delivery ETA estimation | IBM Weather API |
| 10 | Machine Learning Model | Verifies user identity based on user behavior and preferences | Aadhar API |
| 11 | Infrastructure | Hosts frontend, backend, and database services | |

ShopEZ – Application Characteristics

| S.No. | Characteristics | Description | Technology |
|-------|--------------------------|--|---|
| 1 | Open-Source Frameworks | List the open-source frameworks used | React.js, Node.js, Express.js, MongoDB |
| 2 | Security Implementations | List all the security / access controls Implemented, use of firewalls etc. | JWT, bcrypt, HTTPS, OWASP guidelines, SHA-256 encryption |
| 3 | Scalable Architecture | Justify the scalability of application (3 – tier, Micro-services) | MERN stack with modular services, scalable via containerization (Docker, Kuberneless) |
| 4 | Availability | Load balancers, cloud hosting (IBM Cloud, AWS), auto-scaling groups | Load balancers, cloud hosting (IBM Cloud, AWS), auto-scaling groups |
| 5 | Performance | Design consideration for the performance of the application (number of requests per sec, | Redis caching, CDN (Cloudflare), optimized API calls, lazy loading |

References

<https://c4model.com/>

<https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/>

<https://www.ibm.com/cloud/architecture>

<https://aws.amazon.com/architecture>

<https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d>

<https://github.com/sameekshaapatel/Shopez-E-commerce-Application>

sameeksha/blob/main/README.md

<https://nme.smartinternz.com/saas-guided-project/1/shopez-e-commerce-application>

<https://www.cliffsnotes.com/study-notes/12909922>

4. PROJECT DESIGN

4.1 Problem Solution Fit

Date: 19 February 2026

Team ID: LTVIP2026TMIDS52049

Project Name: ShopEZ: One-Stop Shop for Online Purchases

Maximum Marks : 2 Marks

Problem – Solution Fit Template

The Problem–Solution Fit simply means that you have found a problem with your customer and that the solution you have realized for it actually solves the customer's

problem. It helps entrepreneurs, marketers, and corporate innovators identify behavioral patterns and recognize what would work and why.

Purpose

- Solve complex problems in a way that fits the state of your customers
- Succeed faster and increase your solution adoption by tapping into existing mediums and channels of behavior
- Sharpen your communication and marketing strategy with the right triggers and messaging
- Increase touch-points with your company by solving frequent annoyances, or urgent or costly problems
- Understand the existing situation in order to improve it for your target group

Template:

| | | | | |
|-------------------------|---|-----|--|----|
| Value Proposition C2C | CUSTOMER SEGMENTS Who are your customers? e.g. kids | CS | C. CUSTOMER CONSTRAINTS What are the constraints they are reting with? e.g. budget limitations or lack of time | CC |
| Existing Lifestyles C2C | JOBs: TO-BE-DONE/PROBLEMS What jobs do your customers expect to get done or what problems do they have? e.g. people want to oder or shop onlino conveniently | JBP | P. PROBLEM ROOT CAUSE What is the root cause of the probiern? e.g. busy work schedules and long check-out process | RC |
| Wants, Preferences C2C | TRIGGERS Identify internal or external settings that trigger problem awareness, e.g. birthdays or other special occasions | TR | S. YOUR SOLUTION How would your solution sive your current solution on? e.g.your product or service helps customers make quick and affordable online purchases | SL |
| Initial Longinntion C2C | EMOTIONS: BEFORE / AFTER identify internal or external settieds that trigger problem awareness e.g. birthdays or other special occasions | EM | CH. CHANNELS & BEHAVIOUR CHANGE Which channels do customers use? Which digital or online channes suit? e.g. customers use onlino appiicantions for holiday.girts and reference confe | CH |

Reference: <https://github.com/damesh13/shopez-one-stop-shop-for-online-purchases>

4.2 Proposed Solution

Date: 19 February 2026

Team ID: LTVIP2026TMIDS52049

Project Name: ShopEZ: One-Stop Shop for Online Purchases

Maximum Marks : 2 Marks

| Proposed Solution Template | | |
|-----------------------------------|---|---|
| S.No. | Parameter | Description |
| 1 | Problem Statement (Problem to be solved) | Online shoppers and small-scale sellers face fragmented platforms, lack of personalization, and inefficient order management. |
| 2 | Idea / Solution description | ShopEZ is a full-stack MERN e-commerce platform offering seamless product discovery, personalized recommendations, secure checkout, and seller dashboards |
| 3 | Novelty / Uniqueness | Combines buyer personalization with seller analytics in a single platform. Supports vernacular UI and mobile-first design for broader accessibility |
| 4 | Social Impact / Customer Satisfaction | Empowers small businesses to reach digital markets. Enhances user satisfaction through faster, smarter, and more inclusive shopping experiences |
| 5 | Business Model (Revenue Model) | Built on scalable MERN architecture. Easily extendable to new regions, categories, and user segments |

5. PROJECT PLANNING & SCHEDULING

5.1 Project Planning

Date: 19 February 2026

Team ID: LTVIP2026TMIDS52049

Project Name: ShopEZ: One-Stop Shop for Online Purchases

Maximum Marks : 2 Marks

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

Use the below template to create product backlog and sprint schedule

| Sprint | Functional Requirement (Epic) | User Story Number | User Story / Task | Story Points | Priority | Team Members |
|---------------|--------------------------------------|--------------------------|---|---------------------|-----------------|---------------------|
| Sprint-1 | Registration | USN-1 | As a user, I can register for the application by entering my email, password, and confirming my password. | 2 | High | J.Eesha |
| Sprint-1 | Registration | USN-2 | As a user, I will receive confirmation email once I have registered for the application | 1 | High | S Arshiyah Taj |
| Sprint-2 | Registration | USN-3 | As a user, I can register for the application through Facebook | 2 | Low | K.Keerti |
| Sprint-1 | Registration | USN-4 | As a user, I can register for the application through Gmail | 2 | Medium | C.Anjali |
| Sprint-1 | Login | USN-5 | As a user, I can log into the application | 1 | High | T.Yaswanth |

| Sprint | Functional Requirement (Epic) | User Story Number | User Story / Task | Story Points | Priority | Team Members |
|--------|-------------------------------|-------------------|------------------------------|--------------|----------|--------------|
| | | | by entering email & password | | | |
| | Dashboard | | | | | |
| | | | | | | |
| | | | | | | |

Velocity:

Imagine we have a 10-day sprint duration, and the velocity of the team is 20 (points per sprint). Let's calculate the team's average velocity (AV) per iteration unit (story points per day)

ShopEZ – Burndown Chart Overview

A **Burndown Chart** is a visual tool that tracks the amount of work remaining in your project (measured in story points) against time (measured in days or sprints). It helps your team stay on track and identify bottlenecks early. **It Works for ShopEZ**

- **X-Axis (Time):** Each sprint (e.g., Sprint-1 to Sprint-4, each lasting 6 days)
- **Y-Axis (Work Remaining):** Total story points (e.g., 20 per sprint)
- **Ideal Line:** A straight line from the total story points to zero, showing expected progress
- **Actual Line:** Plots real progress based on completed story points

6. FUNCTIONAL AND PERFORMANCE TESTING

6.1 Performance Testing

Date : 19 February 2026

Team ID : LTVIP2026TMIDS52049

Project Name : ShopEZ: One-Stop Shop for Online Purchases

Maximum Marks: 2marks

Project Overview

Project Name: ShopEZ

- **Project Description:** ShopEZ is a full-stack e-commerce web application built using the MERN stack (MongoDB, Express.js, React.js, Node.js). It provides a seamless online shopping experience for users and a robust admin dashboard for sellers to manage inventory and orders.

- **Project Version:** v1.0.0

- **Testing Period:** 19 february 2026

Testing Scope

- **Features and Functionalities to be Tested:**

- o User registration and login
- o Product browsing and filtering
- o Shopping cart management
- o Secure checkout and payment flow
- o Order tracking
- o Admin inventory and order management

- o Responsive UI across devices
- **User Stories / Requirements to be Tested:**

- o As a user, I want to register and log in securely.
- o As a user, I want to browse and search for products.
- o As a user, I want to add/remove items from my cart.
- o As a user, I want to complete a purchase with secure payment.
- o As an admin, I want to manage product listings and view orders.

Testing Environment

- URL/Location: <http://localhost:8080/api/products>

| ShopEZ User Acceptance Testing | | | | |
|---------------------------------------|--|---|---------------------------------|------------------|
| Test Cases | | | | |
| Test Case ID | Test Scenario | Expected Result | Actual Result | Pass/Fail |
| TC-001 ... | User login with valid credentials 1. Open login page 2. Enter valid email/password 3. Click login | 1. Open login page 2. Enter valid email/ 3. Click login | User is redirected to dashboard | ... |
| | | | | |

| Bug Tracking | | | | |
|---------------------|--------------------------------|---|-----------------|-----------------------------|
| Bug ID | Bug Descrip | Steps to Reproduce | Severity | Additional feedback |
| BG-001 | Checkout button not responsive | 1. Add item 2. Go to cart 3. Click checkout | High | Happens on mobile view only |

Sign-Off Details

- **Tester Name:** J Eesha
- **Date of Test Completion:** 19th February 2026
- **Signature:** _____J.Eesha_____

7. RESULTS

7.1 Output Screenshots

The screenshot shows the homepage of the ShopEZ website. At the top, there is a blue header bar with the "ShopEZ" logo on the left and a navigation menu on the right containing links for Home, Products, Cart (2), and Login. Below the header is a large banner with the text "Online Shopping BUY ANYWHERE" in a stylized font, accompanied by an illustration of a storefront with a striped awning and a shopping cart icon in a speech bubble. The main content area has a light gray background and features a "Welcome to ShopEZ" message with the subtitle "Your one-stop destination for online purchases." Below this, there is a section titled "Featured Products" displaying six items in a grid: a gold bracelet, a smart watch, a diamond ring, a handbag, a leather wallet, and a pearl necklace. Each product card includes a price and an "Add to Cart" button.

ShopEZ

Home
Products
Cart (2)
Login

Online Shopping

BUY ANYWHERE

Welcome to ShopEZ

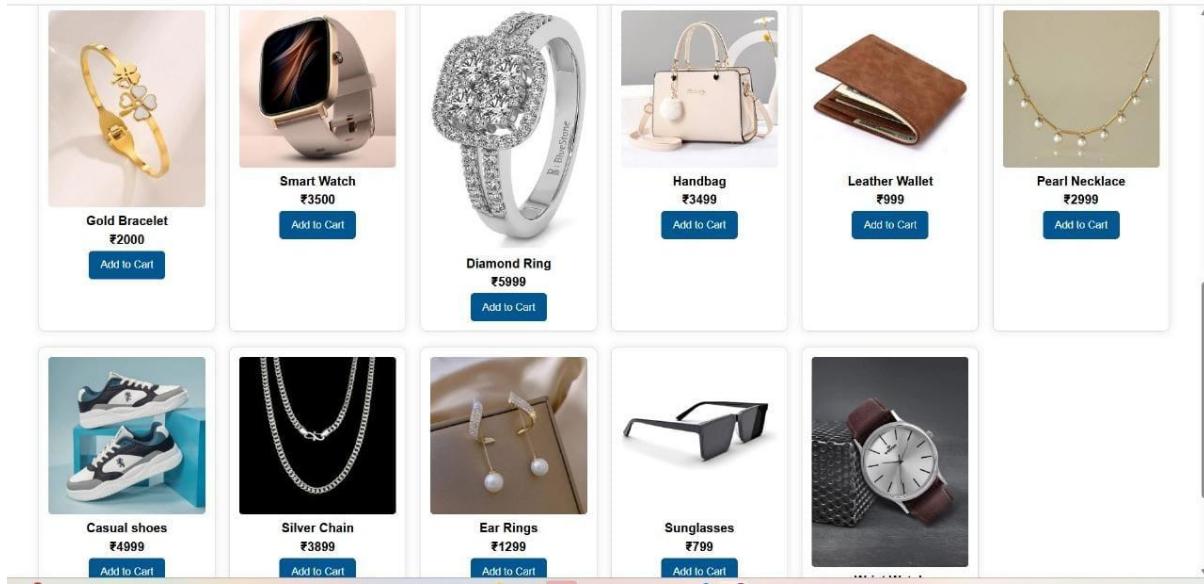
Your one-stop destination for online purchases.

Welcome to ShopEZ

Your one-stop destination for online purchases.

Featured Products

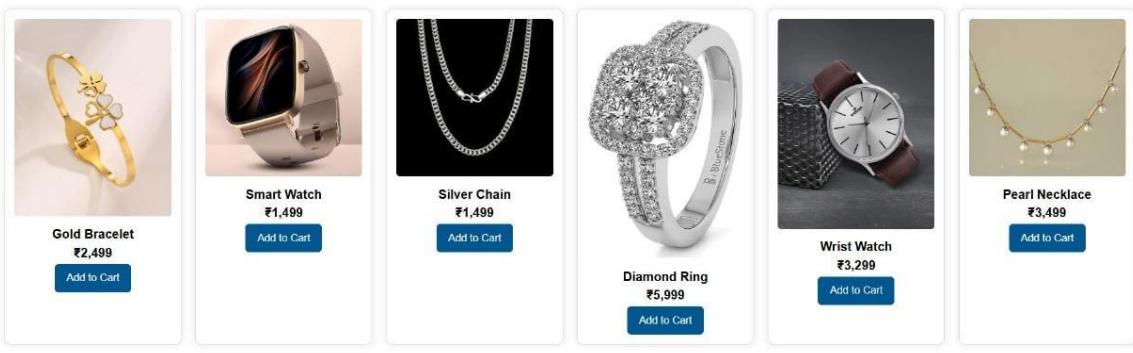
| Product Image | Name | Price | Action |
|---------------|----------------|-------|-------------|
| | Gold Bracelet | ₹2000 | Add to Cart |
| | Smart Watch | ₹3500 | Add to Cart |
| | Diamond Ring | ₹5999 | Add to Cart |
| | Handbag | ₹3499 | Add to Cart |
| | Leather Wallet | ₹999 | Add to Cart |
| | Pearl Necklace | ₹2999 | Add to Cart |



ShopEZ

- Home
- Products
- Cart (0)
- Login

All Products



ShopEZ

- Home
- Products
- Cart (2)

[Place Order](#)

Your Cart

Diamond Ring - ₹5999 × 2 [Remove](#)

Total: ₹11998.00

[Clear Cart](#)

Login to Your Account

Email:

Password:

Don't have an account? [Register here](#)

© 2025 ShopEZ. All rights reserved.

Create a New Account

Full Name:

Email:

Password:

Confirm Password:

Already have an account? [Login here](#)

8. ADVANTAGES & DISADVANTAGES

Advantages:

- **Enhanced User Experience:** Seamless navigation, personalized recommendations, and efficient checkout significantly improve the shopping experience.
- **Increased Seller Efficiency:** Streamlined order management and insightful analytics empower sellers to grow their business.
- **Scalable Architecture:** Designed with modern technologies (React, Node.js, Firestore) that support future growth and increased demand.
- **Secure Transactions:** Focus on robust security measures ensures user data and financial information are protected.

- **Time-Saving for Users:** Eliminates the need to browse multiple sites, making shopping quicker and more convenient.

Disadvantages:

- **Initial Development Complexity:** Building a comprehensive e-commerce platform from scratch requires significant time and resources.
- **Maintenance Overhead:** Ongoing maintenance, updates, and bug fixes will be necessary to ensure optimal performance and security.
- **Competition:** Entering a highly competitive market requires strong differentiation and continuous innovation.
- **Data Security Responsibility:** As a platform handling sensitive user and transaction data, there's a continuous responsibility for maintaining high security standards.
- **Feature Creep Risk:** The desire to add more features could lead to increased complexity and delayed deployment if not managed carefully.

9. CONCLUSION

ShopEZ is envisioned as a transformative online shopping platform that addresses key pain points for both consumers and sellers. By focusing on user-friendliness, personalization, and efficient backend operations, it aims to establish itself as a truly "one-stop shop." The proposed architecture and technology stack provide a solid foundation for a scalable, secure, and performant application. While challenges exist, the clear problem-solution fit and comprehensive design position ShopEZ for success in simplifying online purchases.

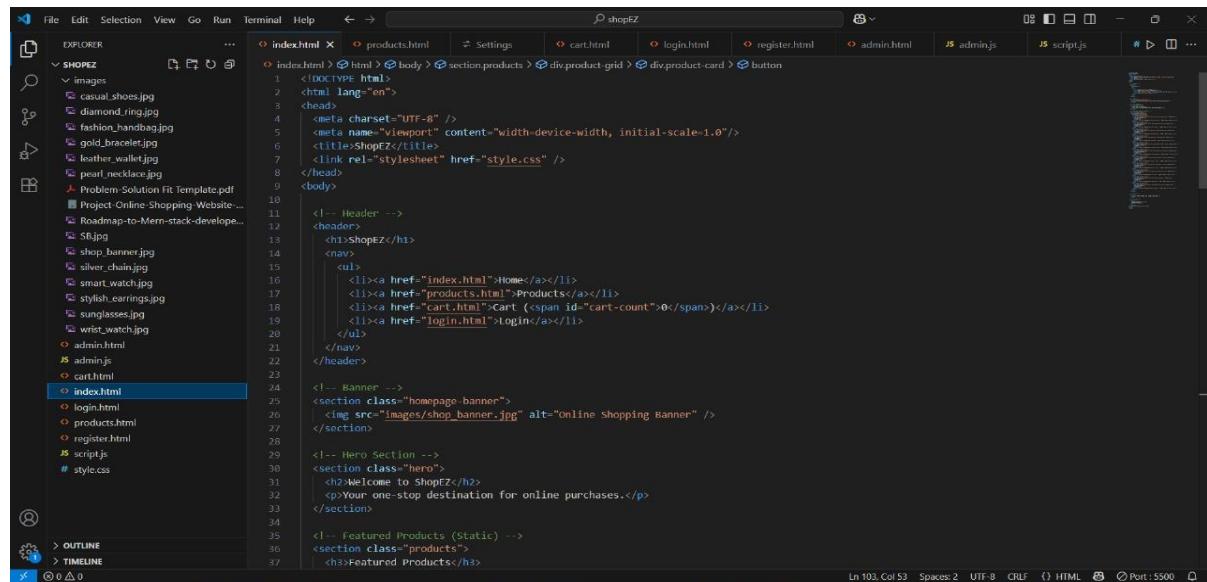
10. FUTURE SCOPE

- **Advanced Recommendation Engine:** Implement more sophisticated AI/ML algorithms for hyper-personalized product suggestions.
- **Customer Reviews & Ratings System:** Allow users to leave product reviews and ratings to build trust and aid purchasing decisions.
- **Wishlist Functionality:** Enable users to save products for later purchase.
- **Multi-Vendor Support:** Expand to allow multiple independent sellers to list and manage their products within the platform.
- **Loyalty Programs & Rewards:** Introduce programs to incentivize repeat purchases and reward loyal customers.
- **Live Chat Support:** Integrate a real-time chat feature for customer service inquiries.

- **Internationalization & Localization:** Support multiple languages and currencies for a global reach.
- **Mobile Application Development:** Develop native iOS and Android applications for an even more seamless mobile experience.
- **Integration with Shipping Carriers:** Automate shipping label generation and tracking updates.

Source Code:

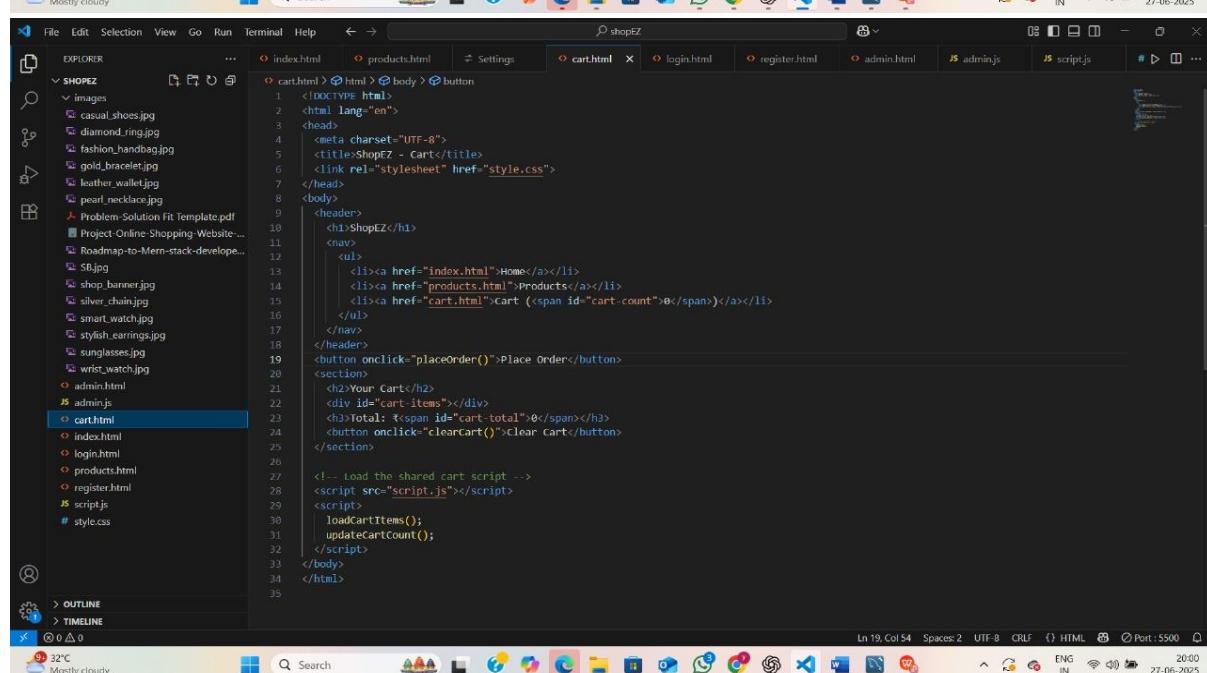
Front End:



```

<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>ShopEZ</title>
    <link rel="stylesheet" href="style.css" />
  </head>
  <body>
    <!-- Header -->
    <header>
      <h1>ShopEZ</h1>
      <nav>
        <ul>
          <li><a href="index.html">Home</a></li>
          <li><a href="products.html">Products</a></li>
          <li><a href="cart.html">Cart (<span id="cart-count">0</span>)</a></li>
          <li><a href="login.html">Login</a></li>
        </ul>
      </nav>
    </header>
    <!-- Banner -->
    <section class="homepage-banner">
      
    </section>
    <!-- Hero Section -->
    <section class="hero">
      <h2>Welcome to ShopEZ</h2>
      <p>Your one-stop destination for online purchases.</p>
    </section>
    <!-- Featured Products (static) -->
    <section class="products">
      <h3>Featured Products</h3>
    </section>
  </body>
</html>

```

```

<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <title>ShopEZ - Cart</title>
    <link rel="stylesheet" href="style.css" />
  </head>
  <body>
    <header>
      <h1>ShopEZ</h1>
      <nav>
        <ul>
          <li><a href="index.html">Home</a></li>
          <li><a href="products.html">Products</a></li>
          <li><a href="cart.html">Cart (<span id="cart-count">0</span>)</a></li>
        </ul>
      </nav>
    </header>
    <button onclick="placeOrder()">Place Order</button>
    <section>
      <h2>Your Cart</h2>
      <div id="cart-items"></div>
      <h3>Total: <span id="cart-total">0</span></h3>
      <button onclick="clearCart()">Clear Cart</button>
    </section>
    <!-- Load the shared cart script -->
    <script src="script.js"></script>
    <script>
      loadCartItems();
      updateCartCount();
    </script>
  </body>
</html>

```

```
File Edit Selection View Go Run Terminal Help ↵ → shopEZ
EXPLORER ... ○ index.html ○ products.html ○ Settings ○ cart.html ○ login.html ○ register.html ○ admin.html x JS admin.js JS script.js ...
images casual_shoes.jpg diamond_ring.jpg fashion_handbag.jpg gold_bracelet.jpg leather_wallet.jpg pearl_necklace.jpg
Project Online Shopping Website ... Roadmap-to-Mern-stack-developer... S8.jpg shop_banner.jpg silver_chain.jpg smart_watch.jpg stylish_earrings.jpg sunglasses.jpg wrist_watch.jpg
admin.html JS admin.js ○ cart.html ○ index.html ○ login.html ○ products.html ○ products.html JS register.html JS script.js # style.css
@ 32°C Mostly cloudy Search
@ OUTLINE > TIMELINE
x 0 △ 0
Ln 26, Col 1 Spaces: 2 UFT-8 CRLF ⓘ HTML ⚡ Port: 5500
ENG IN 20:00 27-06-2025
```

Content of admin.html:

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Admin Dashboard</title>
    <style>
      body { font-family: Arial; padding: 20px; }
      h2 { margin-top: 30px; }
      .product, .order { border: 1px solid black; padding: 10px; margin-bottom: 10px; }
      button { margin: 5px; }
    </style>
  </head>
  <body>
    <h1>ShopEZ Admin Dashboard</h1>
    <h2>All Products</h2>
    <div id="admin-products"></div>
    <h2>All Orders</h2>
    <div id="admin-orders"></div>
  </body>
</html>
```

```
File Edit Selection View Go Run Terminal Help ↵ → shopEZ
EXPLORER ... ○ index.html ○ products.html ○ Settings ○ cart.html ○ login.html ○ register.html ○ admin.html x JS admin.js JS script.js ...
images casual_shoes.jpg diamond_ring.jpg fashion_handbag.jpg gold_bracelet.jpg leather_wallet.jpg pearl_necklace.jpg
Project Online Shopping Website ... Roadmap-to-Mern-stack-developer... S8.jpg shop_banner.jpg silver_chain.jpg smart_watch.jpg stylish_earrings.jpg sunglasses.jpg wrist_watch.jpg
admin.html JS admin.js ○ cart.html ○ index.html ○ login.html ○ products.html ○ register.html JS script.js # style.css
@ 32°C Mostly cloudy Search
@ OUTLINE > TIMELINE
x 0 △ 0
Ln 80, Col 3 Spaces: 2 UFT-8 CRLF ⓘ HTML ⚡ Port: 5500
ENG IN 20:00 27-06-2025
```

Content of login.html:

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <title>ShopEZ - Login</title>
    <link rel="stylesheet" href="style.css" />
  </head>
  <body>
    <!-- Header -->
    <header>
      <h1>ShopEZ</h1>
      <nav>
        <ul>
          <li><a href="index.html">Home</a></li>
          <li><a href="products.html">Products</a></li>
          <li><a href="cart.html">Cart <span id="cart-count">0</span></a></li>
          <li><a href="login.html">Login</a></li>
        </ul>
      </nav>
    </header>
    <!-- Login Form -->
    <section class="login-section">
      <h2>Login to Your Account</h2>
      <form class="login-form" onsubmit="handleLogin(event)">
        <label for="email">Email</label>
        <input type="email" id="email" placeholder="Enter your email" required>
        <label for="password">Password</label>
        <input type="password" id="password" placeholder="Enter your password" required>
        <button type="submit">Login</button>
        <p>Don't have an account? <a href="register.html">Register here</a></p>
      </form>
    </section>
  </body>
</html>
```

```
File Edit Selection View Go Run Terminal Help ↵ → shopEZ
EXPLORER ... ○ index.html ○ products.html x JS admin.js JS script.js ...
images casual_shoes.jpg diamond_ring.jpg fashion_handbag.jpg gold_bracelet.jpg leather_wallet.jpg pearl_necklace.jpg
Project Online Shopping Website ... Roadmap-to-Mern-stack-developer... S8.jpg shop_banner.jpg silver_chain.jpg smart_watch.jpg stylish_earrings.jpg sunglasses.jpg wrist_watch.jpg
admin.html JS admin.js ○ cart.html ○ index.html ○ login.html ○ products.html ○ register.html JS script.js # style.css
@ 32°C Mostly cloudy Search
@ OUTLINE > TIMELINE
x 0 △ 0
Ln 151, Col 8 Spaces: 2 UFT-8 CRLF ⓘ HTML ⚡ Port: 5500
ENG IN 20:01 27-06-2025
```

Content of products.html:

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <title>ShopEZ - Products</title>
    <link rel="stylesheet" href="style.css" />
  </head>
  <body>
    <!-- Header -->
    <header>
      <h1>ShopEZ</h1>
      <nav>
        <ul>
          <li><a href="index.html">Home</a></li>
          <li><a href="products.html">Products</a></li>
          <li><a href="cart.html">Cart <span id="cart-count">0</span></a></li>
          <li><a href="login.html">Login</a></li>
        </ul>
      </nav>
    </header>
    <!-- Products Section -->
    <section class="products">
      <h2>All Products</h2>
      <div id="message" style="text-align: center; font-weight: bold; color: green;"></div>
      <div class="product-grid">
        <!-- Product 1 -->
        <div class="product-card">
          <img alt="Gold Bracelet" width="150" height="150" />
          <h3>Gold Bracelets</h3>
          <span>₹2,499</span>
          <button onclick='addToCart({ name: "Gold Bracelet", price: 2499 }, this)'>Add to Cart</button>
        </div>
        <!-- Product 2 -->
        <div class="product-card">
          <img alt="Smart Watch" width="150" height="150" />
          <h3>Smart Watches</h3>
          <span>₹1,999</span>
          <button onclick='addToCart({ name: "Smart Watch", price: 1999 }, this)'>Add to Cart</button>
        </div>
      </div>
    </section>
  </body>
</html>
```

The screenshot shows a browser-based code editor with the following details:

- File Explorer:** Shows files like `index.html`, `script.js`, and `style.css`.
- Code Editor:** Displays `script.js` content related to a shopping cart application.
- Terminal:** Shows the command `shopEZ`.
- Bottom Bar:** Includes icons for file operations, search, and various browser tabs.

```
File Edit Selection View Go Run Terminal Help < > shopEZ
EXPLORER
  ✓ index.html
  ✓ index.html
  ✓ index.html
  ✓ login.html
  ✓ register.html
  ✓ admin.html
  ✓ admin.js
  ✓ script.js
  # style.css

< OUTLINE >
< TIMELINE >

script.js
1  // products.html
2  function updateCartCount() {
3    const cart = JSON.parse(localStorage.getItem("cart")) || [];
4    const totalItems = cart.reduce((sum, item) => sum + item.quantity, 0);
5    const cartCountSpan = document.getElementById("cart-count");
6    if (cartCountSpan) cartCountSpan.textContent = totalItems;
7  }
8
9  function addtoCart(name, price) {
10    const cart = JSON.parse(localStorage.getItem("cart")) || [];
11    const existingItem = cart.find(item => item.name.toLowerCase() === name.toLowerCase());
12
13    if (existingItem) {
14      existingItem.quantity += 1;
15    } else {
16      cart.push({ name, price, quantity: 1 });
17    }
18
19    localStorage.setItem("cart", JSON.stringify(cart));
20    alert(`${name} added to cart!`);
21    updateCartCount();
22  }
23
24  function removeFromCart(productName) {
25    let cart = JSON.parse(localStorage.getItem("cart")) || [];
26    cart = cart.filter(item => item.name !== productName);
27    localStorage.setItem("cart", JSON.stringify(cart));
28    loadCartItems(); // Refresh content
29    updateCartCount();
30  }
31
32  function loadCartItems() {
33    const cart = JSON.parse(localStorage.getItem("cart")) || [];
34    const cartItemsDiv = document.getElementById("cart-items");
35    const cartTotal = document.getElementById("cart-total");
36
37    if (!cartItemsDiv || !cartTotal) return;
```

Back End:

The screenshot shows the Eclipse IDE interface with the following details:

- File Explorer (Left):** Shows the project structure under "SHOPEZ". The "controller" package contains "AdminController.java", "ProductController.java", and "WebConfig.java". Other packages like "src", "main", and "resources" also contain various files.
- Editor (Center):** Displays the content of "AdminController.java". The code defines a REST controller with a single endpoint "/status" that returns the string "Admin API is running!".
- Bottom Status Bar:** Shows "Java Activating..." and "Java Language Server" status messages.
- Bottom Right Status Bar:** Shows "Couldn't start client Java Language Server".
- Bottom Icons:** Includes icons for search, help, and various Eclipse features.

The screenshot shows a Java IDE interface with the following details:

- Project Explorer:** Shows the project structure for "SHOPEZ". The "src" folder contains "main" which has "java\com\shopez" and "controller" packages. Inside "controller", "AdminController.java" and "ProductController.java" are listed.
- Code Editor:** The "ProductController.java" file is open. It contains annotations like @Autowired, @GetMapping, and @PostMapping, and methods for managing products.
- Terminal:** The terminal shows the command "PS C:\Users\Y.SAI DEEKSHITA\Downloads\shopez>".
- Status Bar:** Shows "Ln 45, Col 5" and "2008".

The screenshot shows a Java IDE interface with the following details:

- Project Explorer:** Shows the project structure for "SHOPEZ". The "src" folder contains "main" which has "java\com\shopez" and "controller" packages. Inside "controller", "AdminController.java", "ProductController.java", and "WebConfig.java" are listed.
- Code Editor:** The "WebConfig.java" file is open. It contains configuration code for Spring MVC, specifically for CORS settings.
- Terminal:** The terminal shows the command "PS C:\Users\Y.SAI DEEKSHITA\Downloads\shopez".
- Status Bar:** Shows "Ln 14, Col 65" and "2008".

The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer:** Shows the project structure under the "shopez" folder, including "src", "main", "resources", "test", "target", and "com".
- Editor:** Displays the "Product.java" file content. The code defines a class "Product" with methods for setting and getting name, price, and description, and for setting and getting image URL.
- Terminal:** Shows the command line prompt "PS C:\Users\Y.SAI DEEKSHITA\Downloads\shopez>" and the message "Couldn't start client Java Language Server".
- Bottom Bar:** Includes icons for search, file operations, and system status.

```
package com.shopez.model;
public class Product {
    private String name;
    private double price;
    private String description;
    private String imageUrl;
    public Product() {}
    public void setId(String id) { this.id = id; }
    public String getName() { return name; }
    public void setName(String name) { this.name = name; }
    public double getPrice() { return price; }
    public void setPrice(double price) { this.price = price; }
    public String getDescription() { return description; }
    public void setDescription(String description) { this.description = description; }
    public String getImageUrl() { return imageUrl; }
    public void setImageUrl(String imageUrl) { this.imageUrl = imageUrl; }
}
```

The screenshot shows the Visual Studio Code interface with the following details:

- File Explorer:** Shows the project structure under the "shopez" folder, including "src", "main", "resources", "test", "target", and "com".
- Editor:** Displays the "ProductRepository.java" file content. The code defines an interface "ProductRepository" extending "MongoRepository<Product, String>". It imports "Product" from "com.shopez.model" and "MongoRepository" from "org.springframework.data.mongodb.repository".
- Terminal:** Shows the command line prompt "PS C:\Users\Y.SAI DEEKSHITA\Downloads\shopez>" and the message "Couldn't start client Java Language Server".
- Bottom Bar:** Includes icons for search, file operations, and system status.

```
package com.shopez.repository;
import com.shopez.model.Product;
import org.springframework.data.mongodb.repository.MongoRepository;
import org.springframework.stereotype.Repository; // This is required!
@Repository
public interface ProductRepository extends MongoRepository<Product, String> {
}
```

The screenshot shows the VS Code interface with the following details:

- File Explorer:** Shows the project structure under the "SHOPEZ" folder, including "src" (containing "main" with "java\com\shopez" and various Java files like "AdminController.java", "ProductController.java", "WebConfig.java", "Product.java", "ProductRepository.java", and "ShopezApplication.java").
- Terminal:** Displays the command line output: "PS C:\Users\Y.SAI DEEKSHITA\Downloads\shopez>".
- Code Editor:** Shows the content of "ShopezApplication.java":

```
1 package com.shopez;
2
3 import org.springframework.boot.SpringApplication;
4 import org.springframework.boot.autoconfigure.SpringBootApplication;
5
6 @SpringBootApplication
7 public class ShopezApplication {
8
9     public static void main(String[] args) {
10         SpringApplication.run(ShopezApplication.class, args);
11     }
12 }
13
```

The code editor also shows the status bar with "Ln 13, Col 1" and "Spaces: 4" and "UTF-8".

The screenshot shows the VS Code interface with the following details:

- File Explorer:** Shows the project structure under the "SHOPEZ" folder, including "src" (containing "main" with "java\com\shopez" and various Java files like "AdminController.java", "ProductController.java", "WebConfig.java", "Product.java", "ProductRepository.java", and "ShopezApplication.java") and "resources" (containing "application.properties").
- Terminal:** Displays the command line output: "PS C:\Users\Y.SAI DEEKSHITA\Downloads\shopez>".
- Code Editor:** Shows the content of "application.properties":

```
1 spring.data.mongodb.uri=mongodb://localhost:27017/shopez
2 spring.data.mongodb.database=shopez
3
4 # Optional for debugging
5 spring.main.web-application-type=servlet
6 spring.security.user.name=admin
7 spring.security.user.password=admin123
8 #spring.mvc.pathmatch.matching-strategy=ant_path_matcher
9 server.port=8080
```

The code editor also shows the status bar with "Ln 9, Col 17" and "Spaces: 4" and "UTF-8".

The screenshot shows an IDE interface with the following details:

- File Structure (EXPLORER):** The project is named "SHOPEZ" and contains a "shopez" module. The "shopez" module has a "src" folder containing "main" and "resources" sub-folders, and a "target" folder.
- POM File Content:** The pom.xml file is displayed in the central editor. It defines the project's XML representation, including its group ID, artifact ID, version, and dependencies. It also specifies Java 17 as the required version and includes a parent dependency from org.springframework.boot.
- Terminal:** A terminal window is open at the bottom, showing the command "mvnw" being run in the directory C:\Users\Y.SAT DEEKSHTA\Downloads\shopez.
- IDE Status Bar:** The status bar indicates the current line (Ln 41), column (Col 9), spaces (Spaces: 4), and encoding (UTF-8). It also shows the date (27-06-2025) and time (20:08).

GitHub & Project Demo Link

- **GitHub Repository:** Shopez
- **Project Demo link:** <https://github.com/Jeelaeesha/Shopez>