

Full Stack Development with MERN

Project Documentation

E-Commerce Web Application (ShopEZ)

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Department of Artificial Intelligence And Data Science

Team Members:

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3. **K.Valli** **Backend Developer**
4. **C.Raisa** **Manual/Automated Tester**

Submitted to Naan Mudhalavan Team

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UNDER THE GUIDANCE OF

PROF Dr.A.Thenmozhi

1.INTRODUCTION

PROJECT TITLE : E-Commerce Site using MERN STACK

- ChicMart is a contemporary e-commerce application designed to meet the growing demand for online shopping platforms in the digital era. With a focus on user experience, personalization, and business scalability, ChicMart provides businesses with a reliable and innovative solution to connect with their customers globally.

2.PROJECT OVERVIEW

PURPOSE

ChicMart is an e-commerce platform designed to revolutionize online shopping by combining a seamless user experience with powerful business tools. Built with the MERN stack, the platform caters to businesses of all sizes, enabling them to showcase products, process orders efficiently, and interact with customers in real-time.

The key objectives of ChicMart are:

- To create a secure and scalable platform for online shopping.
- To provide a dynamic and responsive interface for users.
- To offer businesses tools for inventory and order management.
- To integrate modern technologies for a competitive edge.

FEATURES

Dynamic Product Catalog

- Displays products with real-time updates and customizable filters.
- Supports multiple categories and product variations.

Shopping Cart Management

- Allows users to add, update, and remove products from the cart.
- Offers real-time calculation of totals, including discounts and taxes.

Admin Dashboard

- Enables product and order management with analytics and reporting features.

Mobile-Friendly Design

- Optimized for seamless navigation across devices.

3. ARCHITECTURE

Frontend:

- The frontend is built using React.js, featuring a component-based architecture that promotes reusability and maintainability. It utilizes React Router for navigation and Redux for state management.

Backend:

- The backend is developed using Node.js and Express.js, providing a RESTful API that handles client requests, business logic, and data processing.

Database:

- MongoDB is used as the database to store user profiles, task details, and collaborative project information. Mongoose is employed for object modeling and schema validation.

4. SETUP INSTRUCTIONS

- **Prerequisites:**
 - Node.js
 - MongoDB
- **Clone the repository:**
 - `git clone https://github.com/MSivananthan/NM-E-commerce-Site.git`
- **Navigate to the client directory:**
 - `cd chicmart/client`
- **Install frontend dependencies:**
 - `npm install`
- **Set up environment variables (create a .env file):**
 - `MONGODB_URI=your_mongodb_uri`
 - `JWT_SECRET=your_jwt_secret`
- **Navigate to the server directory:**
 - `cd ../server`
- **Install backend dependencies:**
 - `npm install`

5. FOLDER STRUCTURE

- **Client Directory Structure:**

text

```
/client
├── /public      # Static files like index.html
├── /src         # Source files for React components
│   ├── /components  # Reusable components (e.g., Header, Footer)
│   ├── /pages       # Page components (e.g., Home, Dashboard)
│   ├── /hooks       # Custom hooks for state management
│   └── App.js       # Main application file
```

- **Server Directory Structure:**

```
text

/server
├── /config          # Configuration files (e.g., database
connection)
├── /controllers     # Business logic for handling requests
├── /models          # Mongoose models for MongoDB collections
├── /routes          # API route definitions
└── server.js        # Entry point for the Node.js application
```

6. RUNNING THE APPLICATION

- Provide commands to start the frontend and backend servers locally.
 - **Frontend:** `npm start` in the client directory.
 - **Backend:** `npm start` in the server directory.

7. API DOCUMENTATION

- **GET /api/tasks:** Retrieve all tasks for the authenticated user.
- **POST /api/users/register:** Register a new user.
- **POST /api/users/login:** Authenticate a user.
- **POST /api/tasks:** Create a new task.
- **PUT /api/tasks/:id:** Update an existing task.
- **DELETE /api/tasks/:id:** Delete a task.

8. AUTHENTICATION

- Authentication is handled using JWT (JSON Web Tokens) for secure user login and session management, where tokens are stored in HTTP-only cookies or local storage. Authorization

is managed by verifying user roles and permissions based on the JWT claims to control access to protected routes and resources.

9. USER INTERFACE

- Provide screenshots or GIFs showcasing different UI features.
- Responsive Design
- Intuitive Navigation
- Product Display
- Product Filtering and Sorting
- Product Detail Page
- Shopping Cart Interface
- Checkout Process

10. TESTING:

- **Exploratory Testing**
 - Conduct unscripted testing sessions to discover unexpected issues and assess user experience.
- **User Acceptance Testing (UAT)**
 - Engage end-users to validate that the application meets their expectations and requirements before launch.
- **Cross-Browser Compatibility Testing**
 - Verify that the site functions correctly across different web browsers (e.g., Chrome, Firefox, Safari) to ensure a consistent user experience.
- **Device and Responsive Testing**
 - Test the application on various devices (desktops, tablets, smartphones) to ensure it is fully responsive and functional.
- **Performance Testing**
 - Assess the application's performance under various conditions, including load times and responsiveness during peak usage scenarios.

11. SCREENSHOTS OR DEMO

Home Page:

ChicMart

Home

Shop

About

Contact

Journal

Shop by Category

Search your products here

Profile

Buy Now

03

Shop Now

Get 10% off

Spa and salon home services with Prime

Discount automatically applied at checkout

amazon home services | amazon prime

2 Two years warranty

Free shipping

Return policy in 30 days

ChicMart

Home

Shop

About

Contact

Journal

Shop by Category

Search your products here

Profile

Buy Now

Accessories

Furniture

Electronics

Clothes

Bags

Home appliances

Shop Now

your first Fashion order

Use the code: 15OFF

Easy and FREE Returns*

*T&Cs apply

2 Two years warranty

Free shipping

Return policy in 30 days

Sign up Page:

ChicMart

Get started for free

Create your account to access more

✔

Get started fast with ChicMart

Dreamy visuals, pastel tones, and creative typography

✔

Access all ChicMart services

Bright, eye-catching, with a focus on deals and urgency

✔

Trusted by online Shoppers

Sleek, futuristic with a focus on functionality and innovation.

© ChicMart

Terms

Privacy

Security

Create your account

Full Name

eg. John Doe

Work Email

john@workemail.com

Phone Number

008801234567891

Password

Create password

Address

road-001, house-115, example area

City

Your city

Country

Your country

Zip/Postal code

Your country

☐ I agree to the ChicMart [Terms of Service](#) and [Privacy Policy](#).

Sign in:

ChicMart

Stay sign in for more

When you sign in, you are with us!

✔

Get started fast with ChicMart

Transform your shopping experience with us—where affordability meets quality, and every product tells a story of care, innovation, and value.

✔

Access all ChicMart services

Your ultimate destination for everything you need and love. Explore endless possibilities, where convenience, style, and happiness collide.

✔

Trusted by online Shoppers

More than just a store—this is where trends meet treasures. Let us redefine how you discover, choose, and own the things you love.

© ChicMart

Terms

Privacy

Security

Sign in

Work Email

john@workemail.com

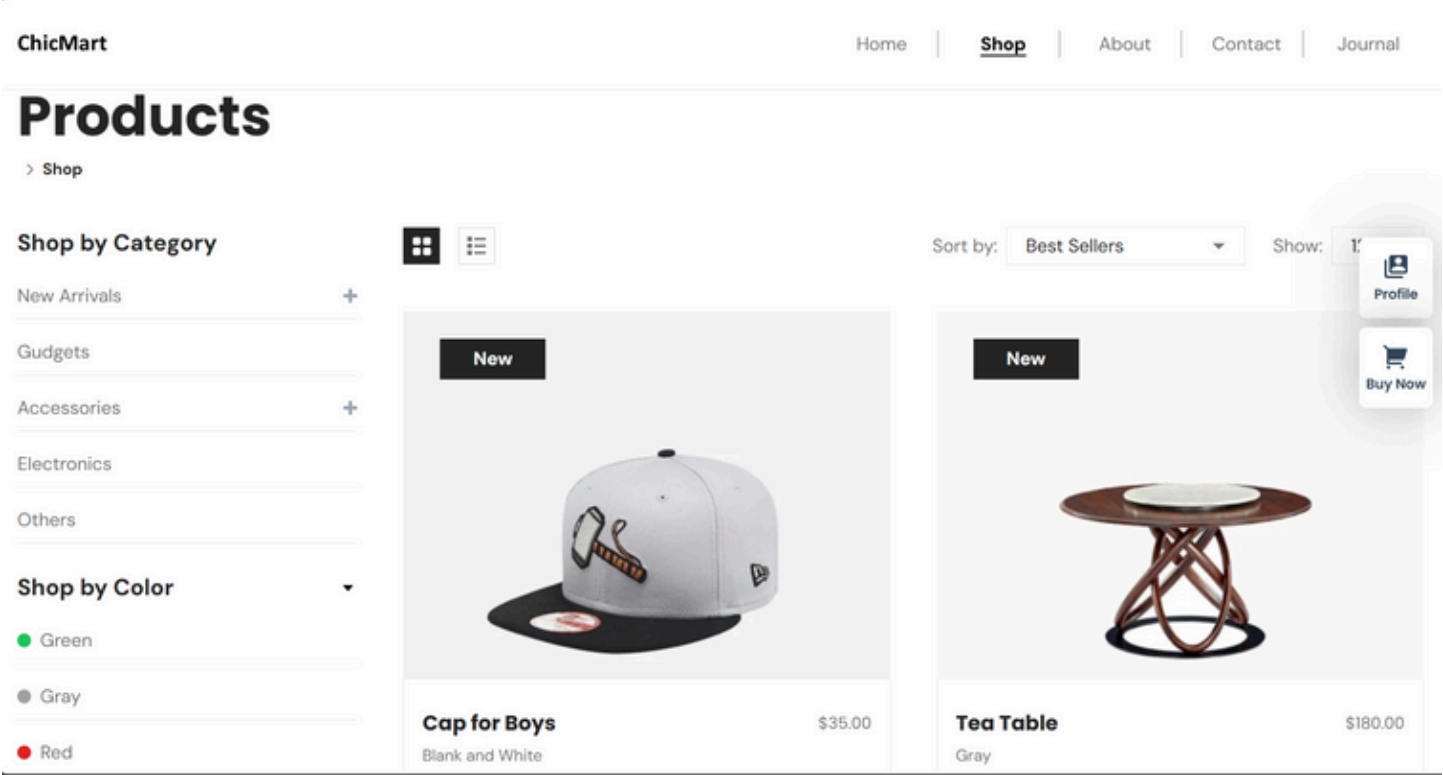
Password

Create password

Sign In

Don't have an Account? Sign up

Product Page:



About Page:

About

Shop > About

ChicMart is one of the world's leading ecommerce brands and is internationally recognized for celebrating the essence of classic Worldwide cool looking style.

Continue Shopping

More about ChicMart Shop

Shopping isn't just about buying—it's about finding joy, inspiration, and quality you can trust. Start your journey with us, where every click leads to something amazing.



Contact Page :

Contact

About > Contact

Fill up a Form

Name

Enter your name here

Email

Enter your name here

Messages

Enter your name here

Post

Profile

Buy Now

Journal Page:

ChicMart

Home | Shop | About | Contact | Journal

Journals

Contact > Journal

ChicMart

Welcome to a world where your needs meet your dreams. Discover curated collections crafted to make your life simpler, smarter, and a little more magical!

Continue Shopping

Profile

Buy Now

More about ChicMart Shop

Shopping isn't just about buying—it's about finding joy, inspiration, and quality you can trust. Start your journey with us, where every click leads to something amazing.

Cart Page:

ChicMart



Home

Shop

About

Contact

Journal

Product	Price	Quantity	Sub Total
X  Cap for Boys	£35.00	<div>- 1 +</div>	£35
X  Sun glasses	£220.00	<div>- 2 +</div>	£440

RESET CART

Coupon Number

Apply Coupon

Update Cart





Cart totals

Subtotal	£475
Shipping Charge	£20
Total	£495

Proceed to Checkout

More about ChicMart Shop

Shopping isn't just about buying—it's about finding joy, inspiration, and quality you can trust. Start your journey with us, where every click leads to something amazing.



Shop

Accessories

Clothes

Electronics

Home appliances

New Arrivals

Your account

Profile

Orders

Addresses

Account Details

Payment Options

Subscribe to our newsletter.

Through the currents of time, moments ripple into eternity.

Insert your email ...*

Subscribe

PayPal

VISA

MasterCard

DISCOVER

AMERICAN EXPRESS

Payment Option :

ChicMart

Home

Shop

About

Contact

Journal

Shop

Accesories

Clothes

Electronics

Home appliances

New Arrivals

Your account

Profile

Orders

Addresses

Account Details

Payment Options

Subscribe to our newsletter.

Through the currents of time, moments ripple into eternity.

Insert your email ...*

Subscribe

stripe

PayPal

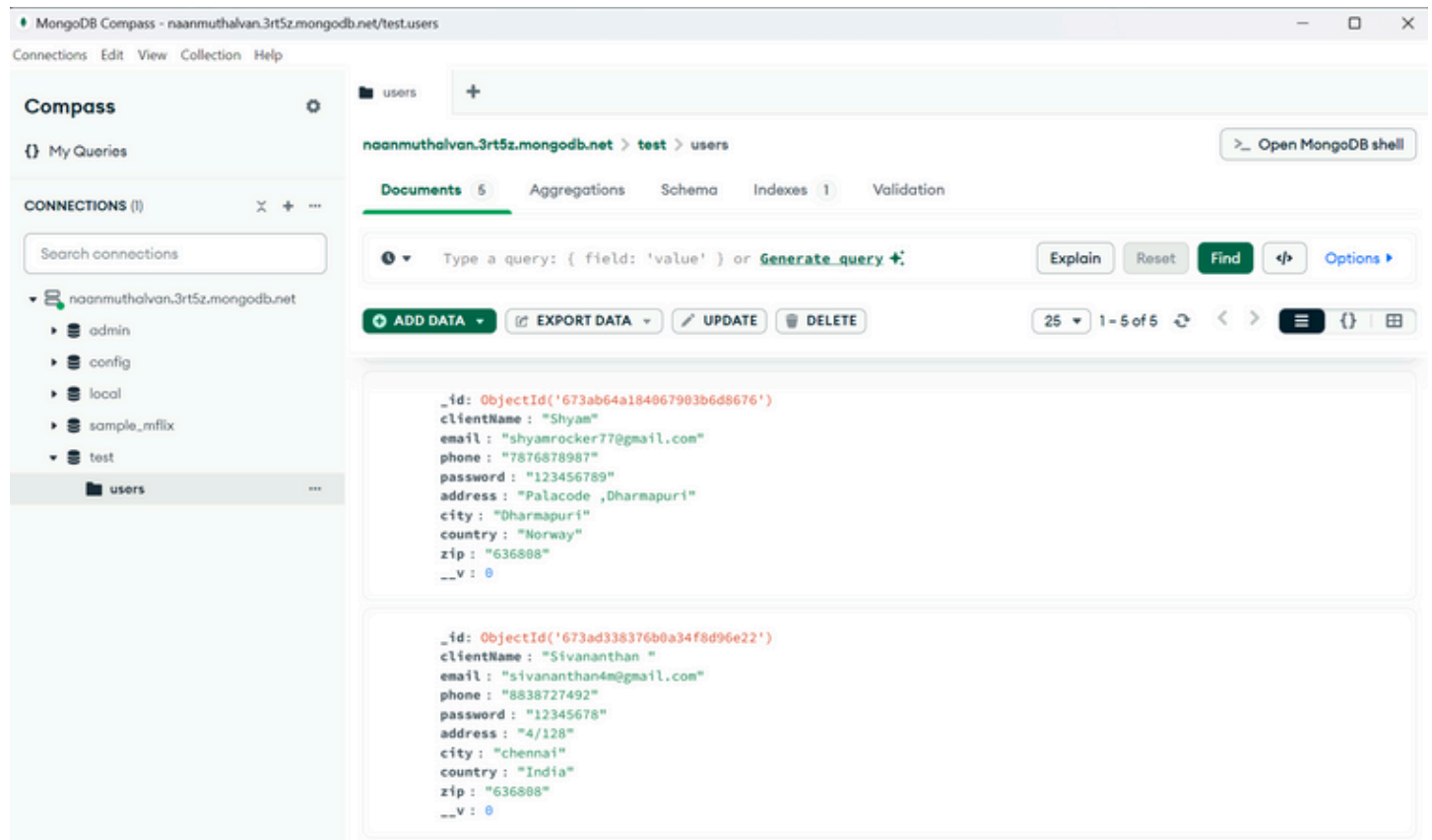
VISA

MasterCard

DISCOVER NETWORK

AMERICAN EXPRESS

Database:



12. KNOWN ISSUES

- In the context of software development, particularly for applications built using the MERN stack, the inability to explore the application through automated testing can present significant challenge for us.

13. FUTURE ENHANCEMENTS

“ Develop voice-activated shopping capabilities through virtual assistants (e.g., Amazon Alexa, Google Assistant) to facilitate hands-free browsing and purchasing.”

