

# **Full Stack Development with MERN**

## **Project Documentation**

**E-Commerce Web Application (ChicMart)**

## **DHAANISH AHMED COLLEGE OF ENGINEERING**

**Department of Computer Science And Engineering**

### **Team Members:**

- |                  |                         |
|------------------|-------------------------|
| 1. R.Ramya       | UI/UX Developer         |
| 2. V.Swetha      | Frontend Developer      |
| 3. M.Sivananthan | Backend Developer       |
| 4. S.Shyam       | Manual/Automated Tester |

**Submitted to Naan Mudhalavan Team**

**ANNA UNIVERTSITY.**

**UNDER THE GUIDANCE OF**

**PROF Dr.M.Sree Rajeshwari**

## 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

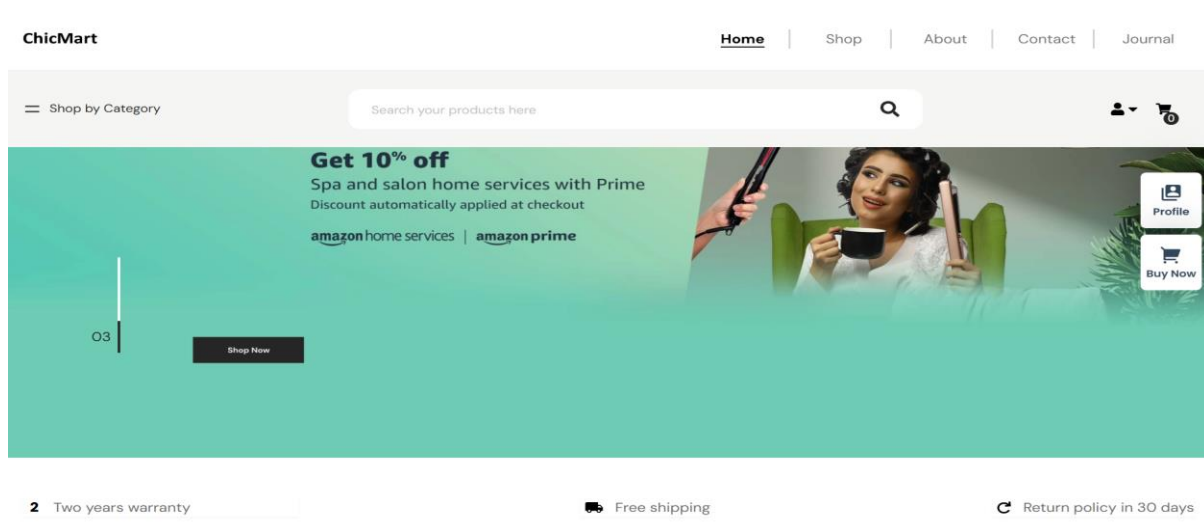
- Test the application on various devices (desktops, tablets, smartphones) to ensure it is fully responsive and functional.

### ➤ 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:



[Shop by Category](#)

Search your products here

[Accessories](#)[Furniture](#)[Electronics](#)[Clothes](#)[Bags](#)[Home appliances](#)[Shop Now](#)

## your first Fashion order

Use the code: **15OFF**

Easy and FREE Returns\*

\*T&amp;Cs apply

[Profile](#)[Buy Now](#)

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:

ChicMart

Home | Shop | About | Contact | Journal

Products

> Shop

Shop by Category

New Arrivals

Gadgets

Accessories

Electronics

Others


Shop by Color

Green

Gray

Red

New




Cap for Boys

Blank and White

\$35.00

New



Tea Table

Gray

\$180.00

Sort by: Best Sellers

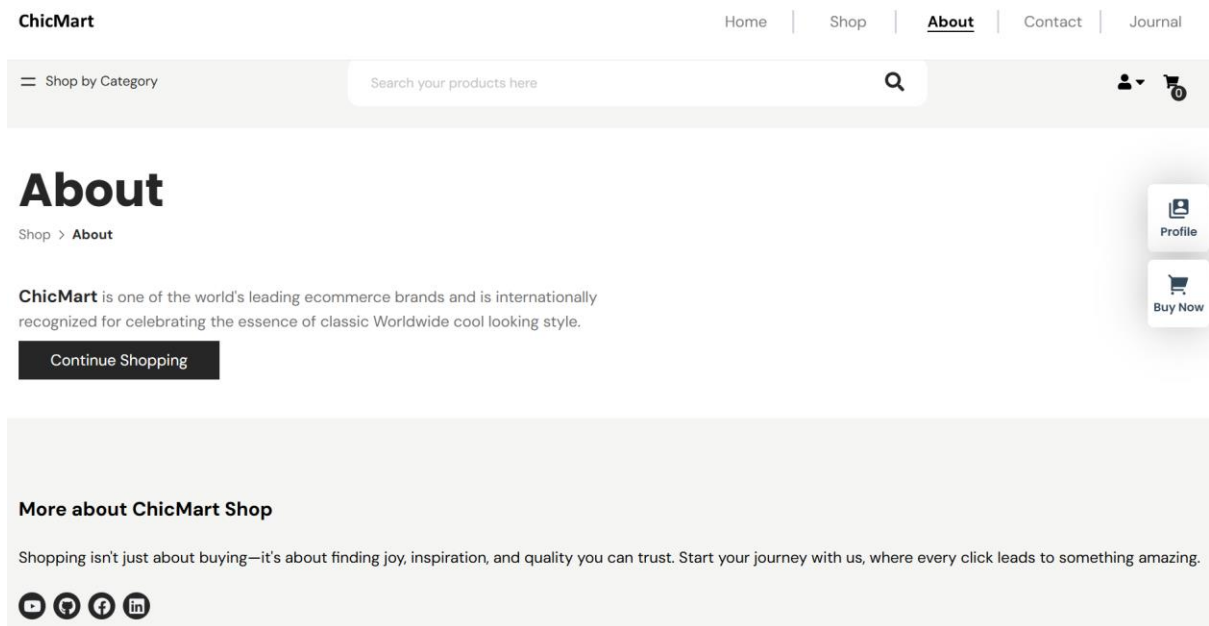
Show: 12

Profile

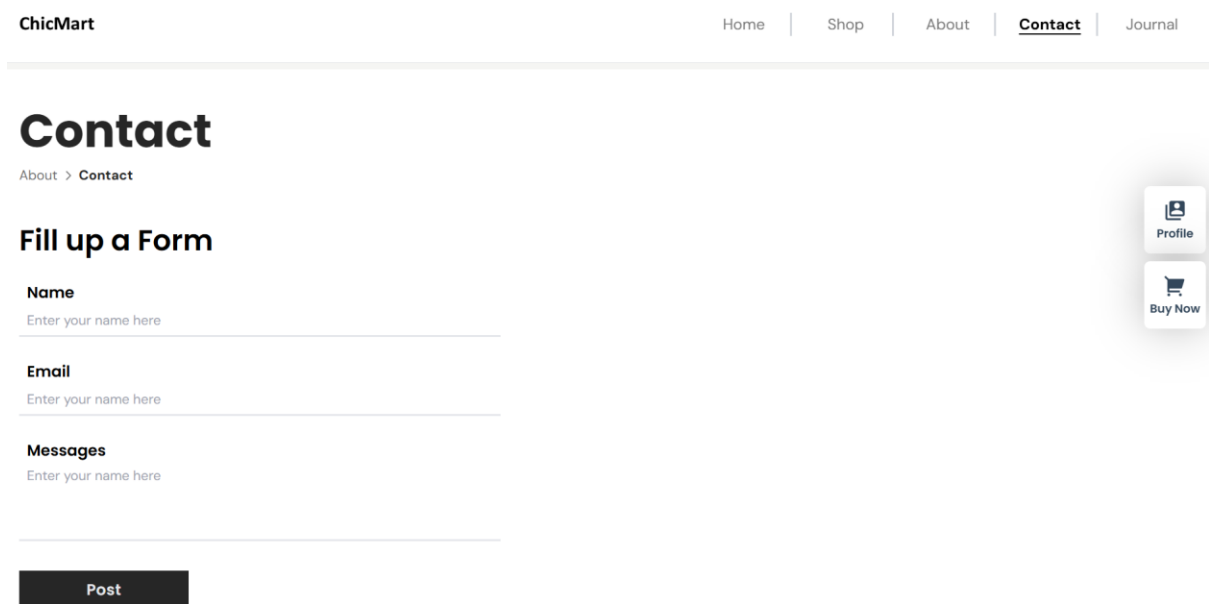
Buy Now



## About Page:



## Contact Page :



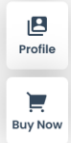
**Journal Page:**

## 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](#)





### 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:

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

[RESET CART](#)

[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.

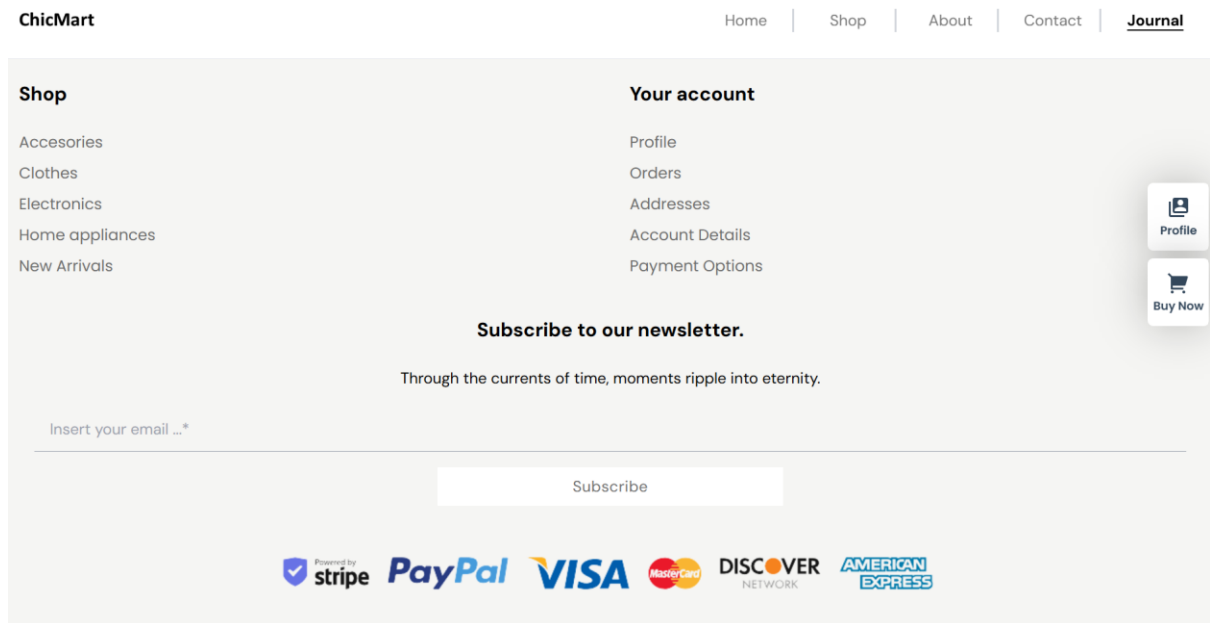
Through the currents of time, moments ripple into eternity.

Insert your email ...\*

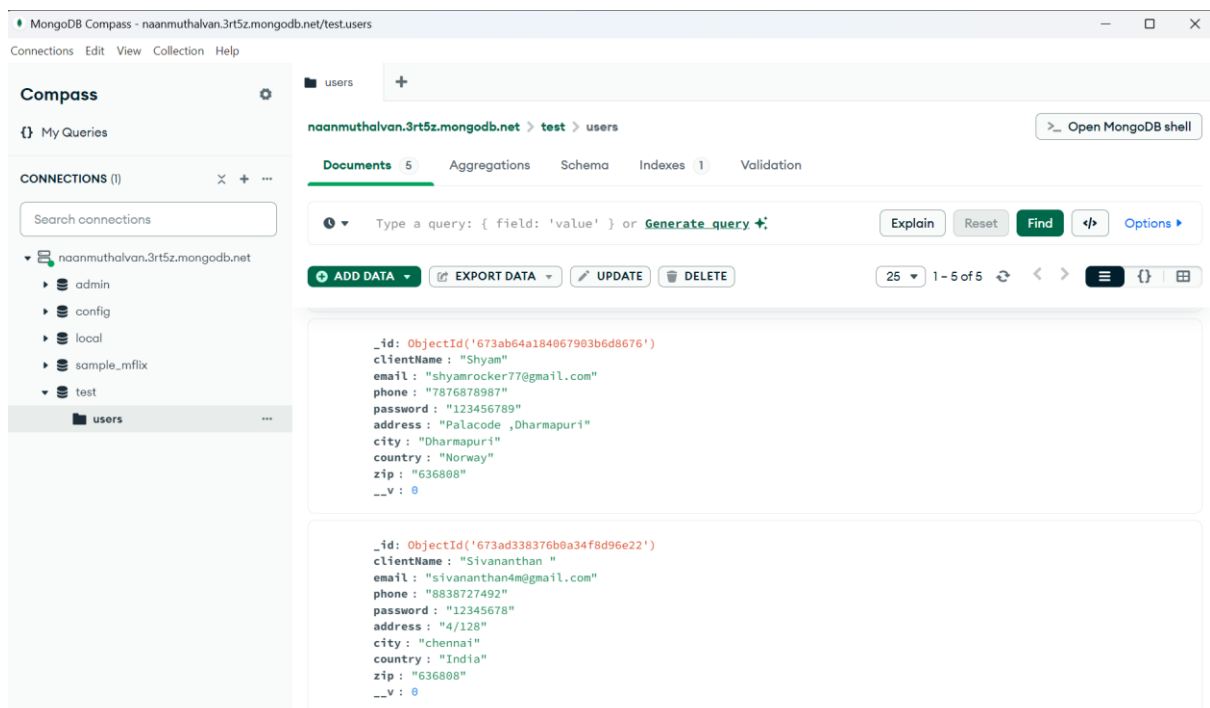
Subscribe



## Payment Option :



## 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.”

**GITHUB REFERENCE LINK :**

<https://github.com/MSivananthan/NM-E-commerce-Site.git>

**DEMO REFERENCE VIDEO :**

[https://drive.google.com/file/d/14iPfAVONCu-4eXOJe\\_4hZJ1Is2fPvH-j/view?usp=sharing](https://drive.google.com/file/d/14iPfAVONCu-4eXOJe_4hZJ1Is2fPvH-j/view?usp=sharing)