

# **E-COMMERCE WEBSITE USING MERN STACK**

*Mini Project report submitted  
in  
partial fulfillment of requirement for the award of  
degree of*

**Bachelor  
in  
Engineering**

**[ Computer Science & Engineering (AI & ML) ]**

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**AUGUST, 2023**

# CERTIFICATE

This is to certify that the following Students have prepared and presented a report on **“E-COMMERCE WEBSITE USING MERN STACK”** as per partial fulfillment of the term work requirements for the project prescribed by University of Mumbai of Bachelor of Engineering, Year 2023-24.

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# ABSTRACT

In today's generation, most people are using technology to lead their lives and fulfil their daily needs. In this generation, most of us are using E-commerce websites for shopping for clothes, groceries, and electronics. We have developed an E-commerce web application using MERN stack technology, which includes MongoDB, Express.JS framework, React.JS library, and Node.JS platform.

This application is fully functional with different views for users and administrators. It also integrates with a payment gateway for checkout. Using this website, we can buy various variety of products like mobile phones, clothes and electronics and choose different styles based on customer interests.

In this project, we can add different products and delete them as well. We have developed administrative functions for the website, such as creating a product, creating categories, the Admin dashboard, managing products, and managing categories.

For customers, they can quickly add items to their cart. Based on the items in the cart, the bill is generated, and the customer can pay using Stripe.

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# INTRODUCTION

We all know that technology has become an essential tool for online marketing these days. If we look all over the world, most people are showing interest in buying things online. However, we can see that there are many small shops and grocery stores selling their products offline. With this type of selling, most of us may face a bad experience. For instance, in some shops, the seller may have the product on offer, but the buyer may not know about it. Or, the customer may need the product urgently and go to the shop, only to find it out of stock. In such cases, they will have a bad experience. Moreover, in online shopping, customers can choose from a wide range of products based on their interests and compare prices from one store to another.

By addressing all the problems and weaknesses of the offline shopping system, creating an e-commerce web application becomes necessary for searching and shopping in each shop. These days, we have witnessed the creation of many e-commerce websites like Flipkart, Amazon, and Myntra, where one can easily purchase necessary products from the comfort of their home. By using these websites, customers can also notice the price difference between products. The cost of products tends to be slightly higher in offline shopping compared to online shopping.

To create these types of e-commerce web applications, the MERN stack is the best option, as it can help us create the most effective and powerful web applications.

# SYSTEM FEATURES

## ❖ E-commerce Website using MERN Stack

The E-commerce website built on the MERN stack offers a user-friendly platform for online shopping. Users can register, browse a diverse product catalog, add items to their shopping cart, and securely complete their purchases. The website provides order management, reviews, and admin controls for product and user management. It also supports secure payment options, real-time order tracking, and multilingual support, ensuring a seamless shopping experience for customers.

Coupled with responsive design, the website ensures a smooth experience across various devices. It prioritizes security, safeguarding user data and payments. Additionally, it integrates with shipping carriers for efficient order fulfillment and offers customer support for inquiries and assistance. With SEO optimization, social integration, and personalized recommendations, this E-commerce platform strives to enhance customer engagement and satisfaction.

# SYSTEM REQUIREMENTS

## HARDWARE REQUIREMENTS

- Processor – Dual-core (2.5 GHz).
- RAM – Minimum 4GB.
- Storage – Minimum 1GB free space.
- Network – Stable internet connection.

## SOFTWARE REQUIREMENTS

- Operating System – Windows 11
- IDE – Visual Studio Code
- Node.js – Version 1.8 or higher.
- MongoDB – Install locally or use MongoDB Atlas (Cloud Service).
- Browser - Chrome



# METHODOLOGY

## ❖ THIS DESIGNED SYSTEM THAT WILL MANAGE:

- A. User / Customer and Admin Registration and Login.
- B. After Login comes the Home page.
- C. From the home page we can search for specific product or go to products section.
- D. Then comes the products whole description page.
- E. On the product page there is a “Add to Cart” option.
- F. Then after that there is the payment page.

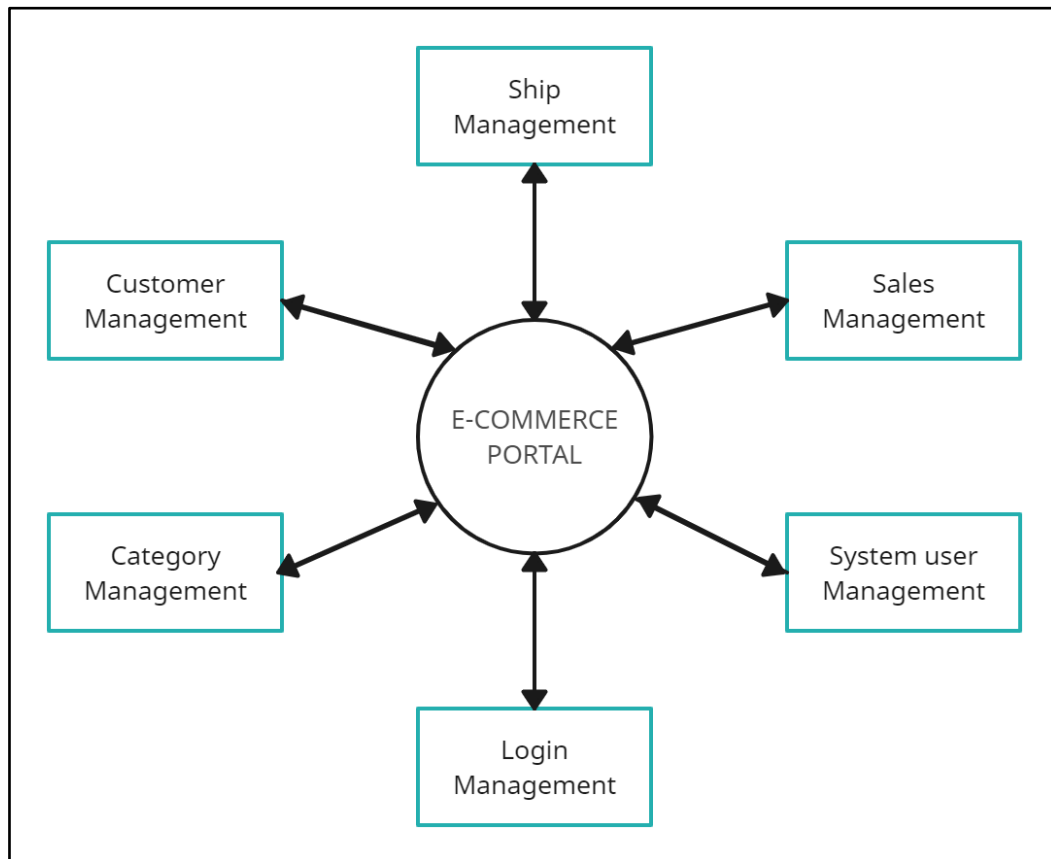
## ❖ Admin MODULE:

- A. Admin will register and login.
- B. Admin then enters the home page from where he can edit the home page, products and many more.
- C. Also, he can view and edit the products ordered by customers.

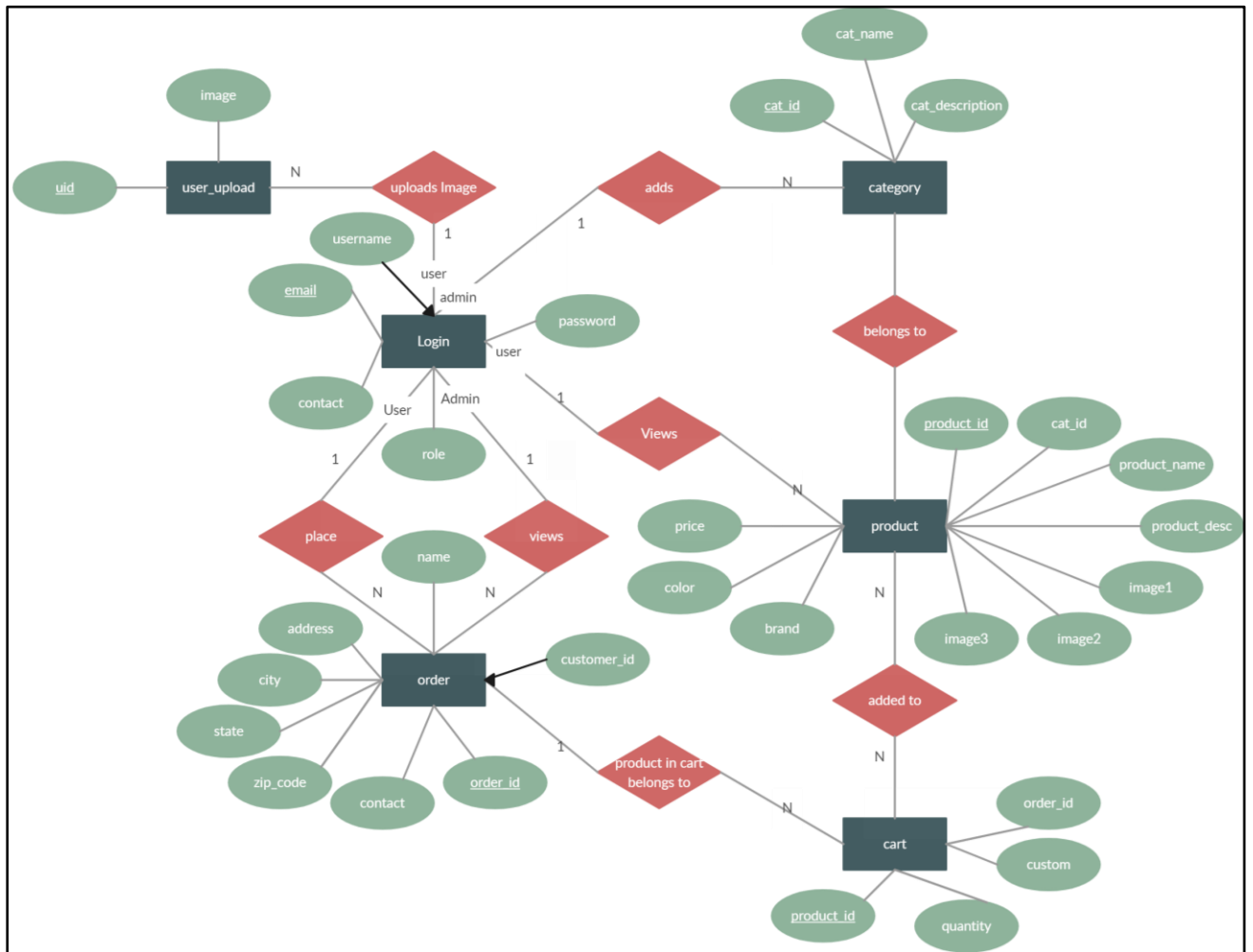
## ❖ User Module

- A. User / Customer Registration and Login.
- B. User / Customer will view various products on Products page.
- C. User will then select the product they want to buy and add it to cart.
- D. User will then go to the cart page and can increase or decrease the quantity of the product added and then proceed to pay.
- E. The user has 2 options to pay i.e., COD and Credit / Debit and he can also track the order.

➤ DATA FLOW DIAGRAM



## ❖ E-R Diagram:

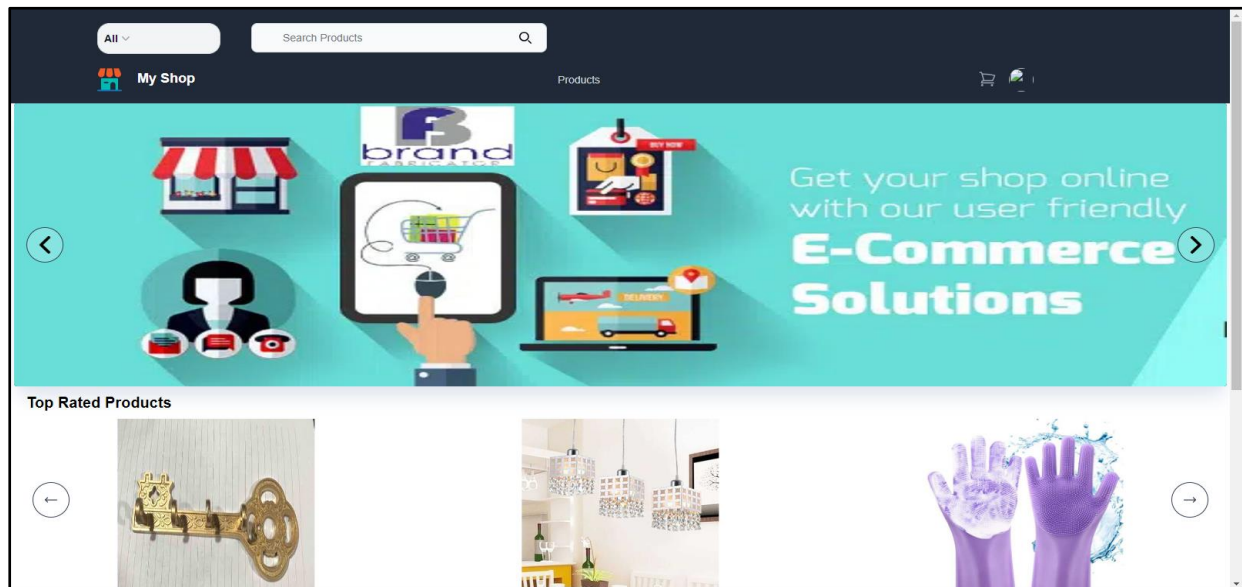


# IMPLEMENTATION

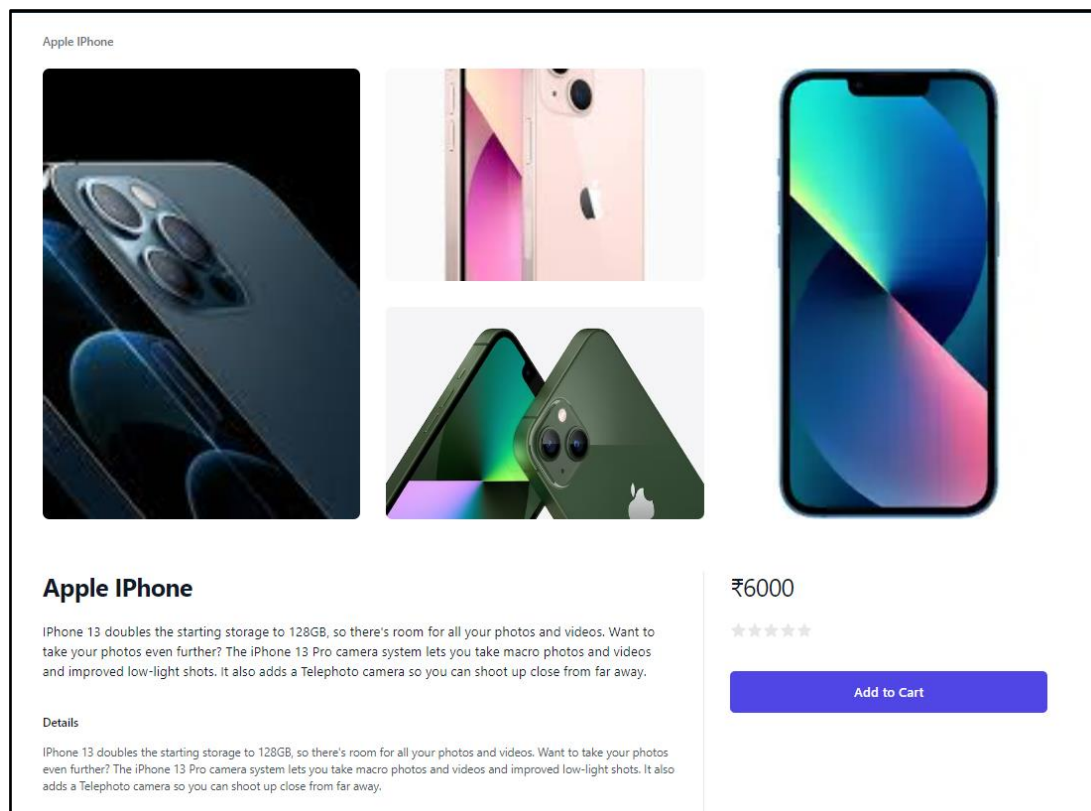
## ❖ RESULTS (SCREENSHOTS)

### ➤ User Module

#### 1. Home Page




#### 2. Product Details



### 3. Cart Page

#### My Cart

	Apple	Qty 1	\$6000	<a href="#">Remove</a>
Subtotal			\$ NaN	
Total Count			1 items	
Shipping and taxes calculated at checkout.				
<a href="#">Checkout</a>				
<a href="#">orContinue Shopping →</a>				

### 4. Checkout Page

#### Personal Information

Use a permanent address where you can receive mail.

Full Name

Email address

Phone No

Street address

City

State / Region

ZIP / Postal code

[Reset](#) [Add Address](#)

Address

Choose from Existing address

☐ maharashtra  
lane 2  
415803

Rushikesh Nilesh Amberkar  
7789885858


Payment Methods

Choose One

☒ Cash

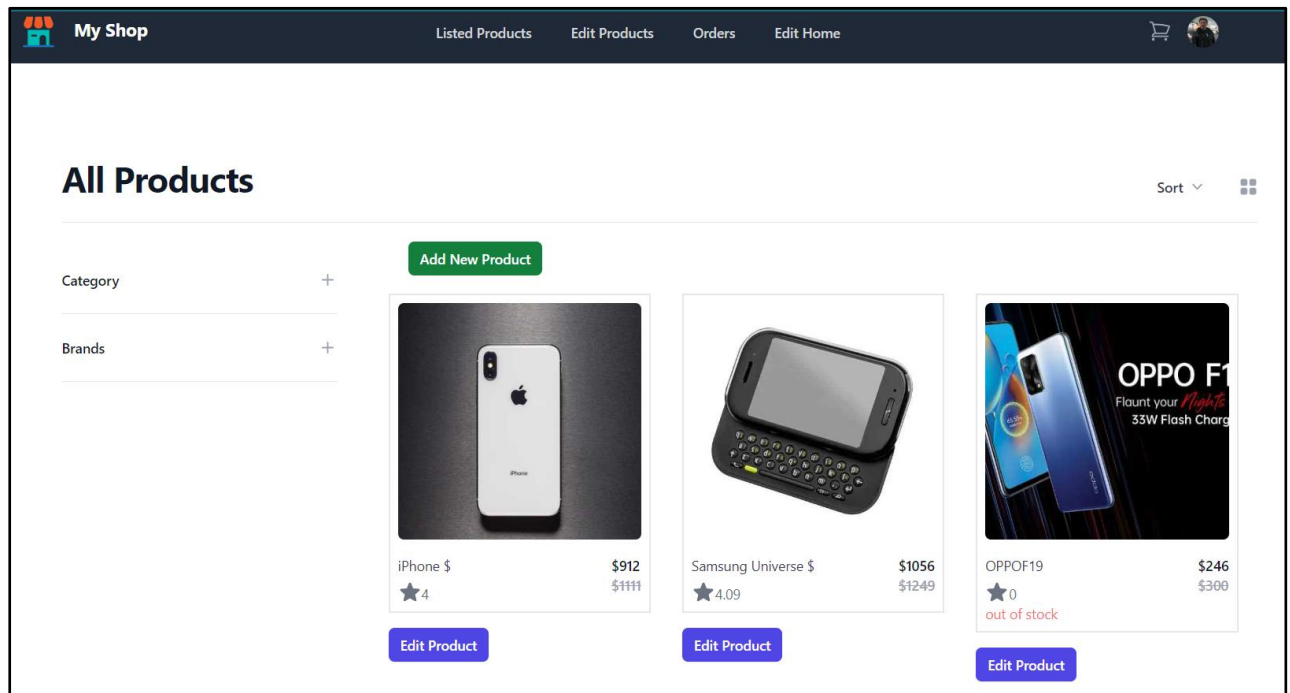
☐ Card Payment

#### My Cart

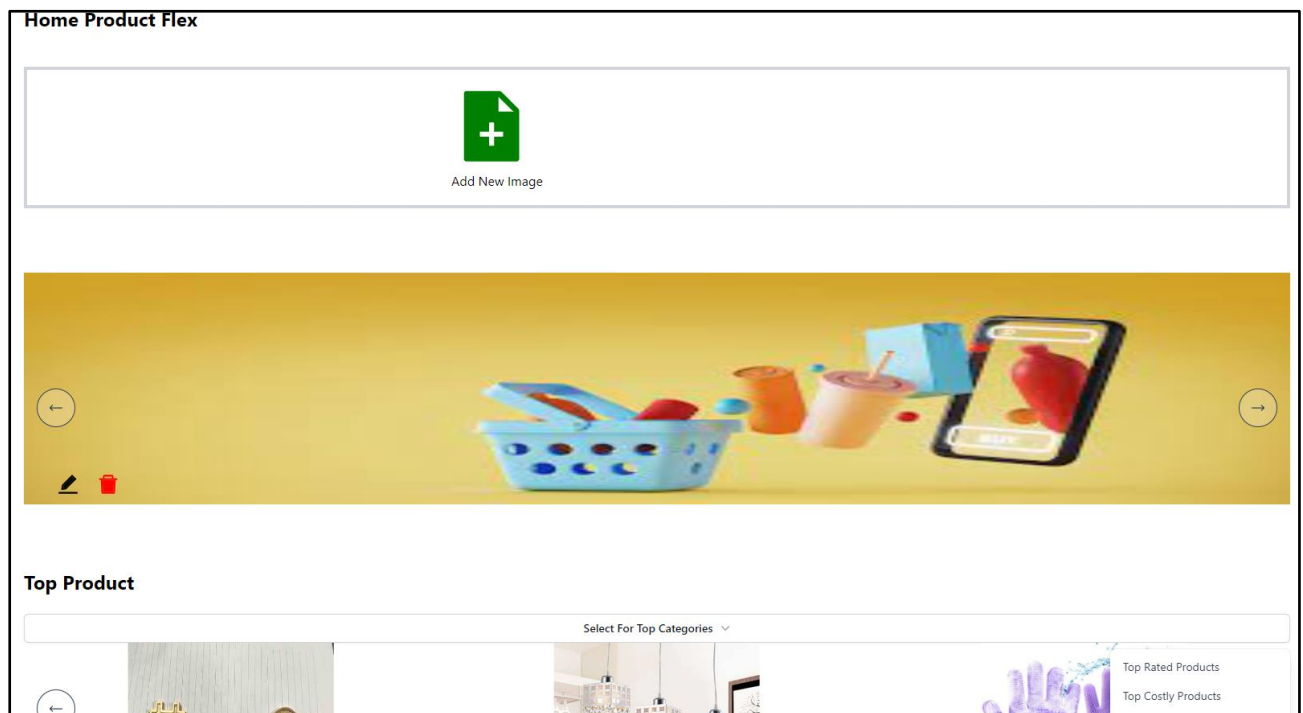
	Apple	Qty 1	\$6000	<a href="#">Remove</a>
Subtotal			\$ NaN	
Total Count			1 items	
Shipping and taxes calculated at checkout.				
<a href="#">Order Now</a>				
<a href="#">orContinue Shopping →</a>				

## ➤ Admin Module












### 1. Admin Product Edit



### 2. Home Page Edit



### 3. Look over every order

ORDER#	ITEMS	TOTAL AMOUNT	SHIPPING ADDRESS	ORDER STATUS	PAYMENT METHOD	PAYMENT STATUS	ORDER TIME	LAST UPDATED	ACTIONS
64ba997ad679fd52e79e92a7	 iPhone \$ - #1 - \$912	\$912	Admin, lai, pali, kaha, 452565, 7789885858,	pending	cash	pending	7/21/2023, 8:13:06 PM	7/21/2023, 8:13:06 PM	 
64ba99d4d679fd52e79e9389	 Mobile X - #1 - \$475	\$475	Admin, lai, pali, kaha, 452565, 7789885858,	pending	cash	pending	7/21/2023, 8:14:36 PM	7/21/2023, 8:14:36 PM	 
64ba99fbd679fd52e79e93eb	 iPhone \$ - #2 - \$912	\$1824	Admin, lai, pali, kaha, 452565, 7789885858,	pending	cash	pending	7/21/2023, 8:15:15 PM	7/21/2023, 8:15:15 PM	 
65192832bae8d67bb4434b3e	 Apple iPhone - #1 - \$5100	\$5100	Admin, lai, pali, kaha, 452565, 7789885858,	dispatched	cash	pending	10/1/2023, 1:35:06 PM	10/1/2023, 1:36:34 PM	 

## ADVANTAGES

- A Huge Market.
- Wide Product Variety.
- Convenient and Safe.
- Always Open.
- More accurate decision making.

## DISADVANTAGES

- Security.
- Delaying in Delivery.
- Technology Cost.



## FUTURE SCOPE

In the future, we envision enhancing the user experience and expanding the functionalities of the e-commerce website. Some of the potential areas for future development include:

1. **User Profiles:** Implementing user profiles that allow customers to save their favourite products, track their order history, and receive personalized recommendations based on their preferences.
2. **Advanced Search and Filters:** Introducing advanced search options and filters to help users quickly find their desired products, such as filtering by size, colour, price range, and more.
3. **Wishlist:** Adding a wishlist feature that allows users to save products they're interested in for future purchase, promoting engagement and retention.
4. **Multiple Payment Options:** Incorporating a variety of secure payment options, including digital wallets and payment gateways, to cater to different customer preferences.
5. **Social Media Integration:** Integrating social media sharing options that allow users to easily share their favourite products with friends and followers, thereby increasing the website's reach.

# CONCLUSION

In conclusion, our project centers on developing an advanced E-Commerce website using the MERN stack. This website offers an enhanced customer experience, benefiting both small-scale industries and large retailers by enabling direct sales and cost savings. Our technology choices prioritize project requirements, development efficiency, scalability, and security.

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