E-COMMERCE WEBSITE

A PROJECT REPORT
for
Mini Project (KCA353)
Session (2023-24)

Submitted by
Anshuman Patek
(University Roll No.2200290140036)
Anshu
(University Roll No.2200290140035)
Submitted in partial fufillment of the
Requirements for the Degree of

MASTER OF COMPUTER APPLICATION

Under the Supervision of
Dr.Amit Kumar
Associate Professor

Submitted to
DEPARTMENT OF COMPUTER APPLICATIONS
KIET Group of Institutions, Ghaziabad
Uttar Pradesh-201206

(JANUARY 2024)

CHAPTER 1
INTRODUCTION

The "Online E-commerce System" has been developed to override the problems prevailing in the practicing manual system. This software is supported to eliminate and in some cases reduce the hardships faced by this existing system. Moreover this system is designed for the particular need of the company to carry out operations in a smooth and effective manner. The application is reduced as much as possible to avoid errors while entering the data. It also provides error message while entering invalid data. No formal knowledge is needed for the user to use this system. Thus by this all it proves it is user-friendly. Online E-commerce System, as described above, can lead to error free, secure, reliable and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus it will help organization in better utilization of resources. Every organization, whether big or small, has challenges to overcome and managing the information of Item Category, Men, Woman, Delivery Address, Order. Every Online E-commerce System has different Food needs, therefore we design exclusive employee management systems that are adapted to your managerial requirements. This is designed to assist in strategic planning, and will help you ensure that your organization is equipped with the right level of information and details for your future goals. Also, for those busy executive who are always on the go, our systems come with remote access features, which will allow you to manage your workforce anytime, at all times. These systems will ultimately allow you to better manage resources.

1.2 Hardware / Software Requirement

Hardware Requirement

S. N.	Description
1	PC with 5 GB or more Hard disk.
2	PC with 2 GB RAM.
3	PC with core i3 or above processor.

2 Software Requirements

S. N.	Description	Type
1	Operating System	Windows 10 or 11 or Ubuntu 18.04 or above
2	Language	Javascript
3	Front End	React 18
4	IDE	VS Code
5	Browser	Chrome, Firefox, Edge

CHAPTER 2
Functional Requirments:

1. User Registration and Authentication:

- Users should be able to register with the website.
- User authentication mechanisms like login/logout should be implemented.
- Password recovery or reset functionality.

2. Product Management:

- Ability to add, edit, and delete products.
- Categorization of products for easy navigation.
- Display of product details including images, descriptions, and prices.

3. Shopping Cart:

- Users should be able to add products to their shopping cart.
- View and modify the contents of the shopping cart.
- Calculate and display the total price of items in the cart.

4. Order Processing:

- Users should be able to place orders securely.
- Confirmation email upon successful order placement.
- Order history for users to track their purchases.

5. Payment Gateway:

- Integration with a secure and reliable payment gateway.
- Support for multiple payment methods (credit cards, PayPal, etc.).

6. Search and Navigation:

- Search functionality for users to find products.
- Filters and sorting options for search results.
- Intuitive navigation through categories.

7. Mobile Responsiveness:

- The website should be responsive and accessible on various devices.

8. Notifications:

- Email notifications for order confirmation, shipping updates, and promotions.
- Push notifications for mobile users (if applicable).

9. Accessibility:

- Compliance with web accessibility standards (WCAG) to ensure inclusivity.

10. Performance:

- Fast loading times for pages.
- Scalability to handle increased traffic during peak times.

Non Functional Requirments:

1. **Performance Requirements**

- The website should load within 3 seconds.
- The system should handle 1000 simultaneous users.

2. **Security Requirements**

- User passwords should be stored securely using encryption.
- Secure sockets layer (SSL) should be implemented to secure data in transit.

3. **Reliability and Availability**

- The system should have 99% uptime.
- Regular backups of the database should be performed.

4. **Maintainability**

- The system should be easily upgradable to accommodate future enhancements.
- Code should be well-documented for ease of maintenance

5. **Portability**

- The website should be accessible on major web browsers (Chrome, Firefox, Safari).

6. **Usability**

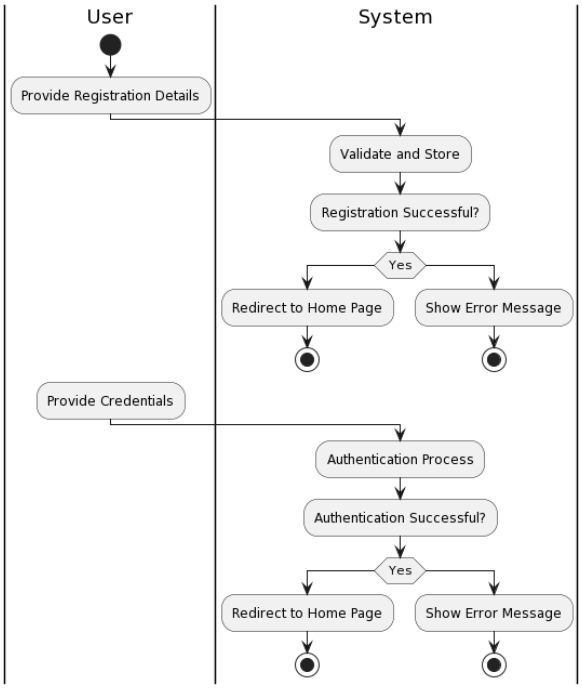
- The user interface should be intuitive for users of all technical levels.
- Accessibility features should be implemented

7. **Legal and Regulatory Requirements**

- The system should comply with relevant data protection regulations.

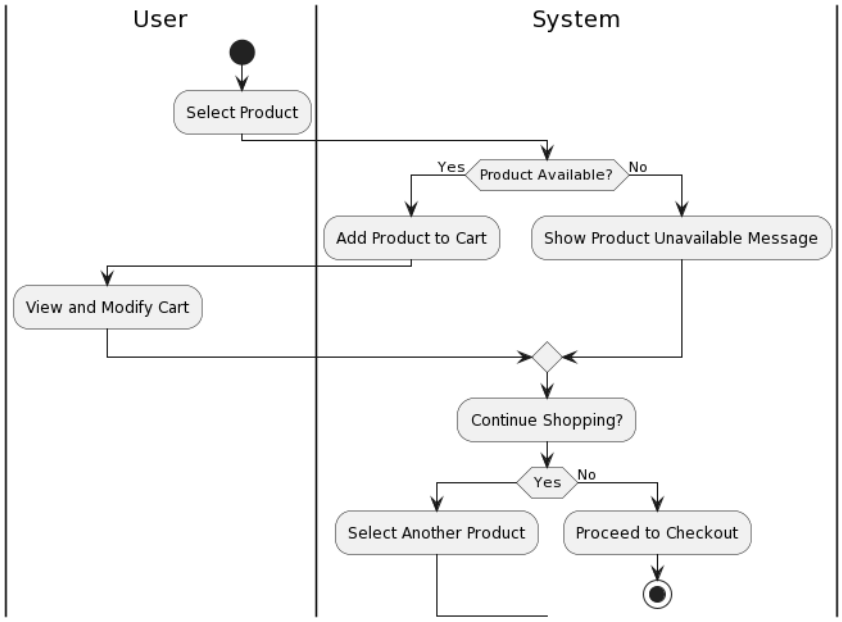
FLOW CHARTS

1. User Registration and Authentication:
   Process:
   - User provides registration details.
   - Registration details are validated and stored
   - Users authenticate using credentials



2. Shoping
   Process:
   - Users add products to the cart.

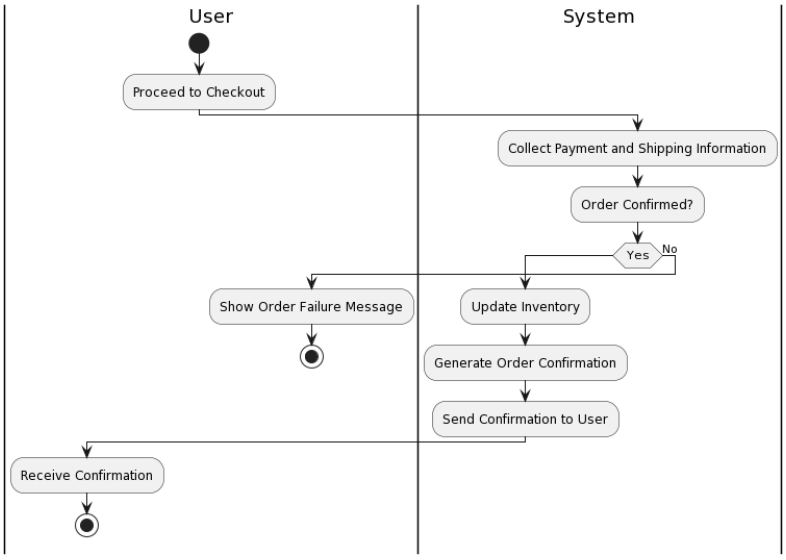
- Users view and modify the cart.



3. Order Processing

Process:

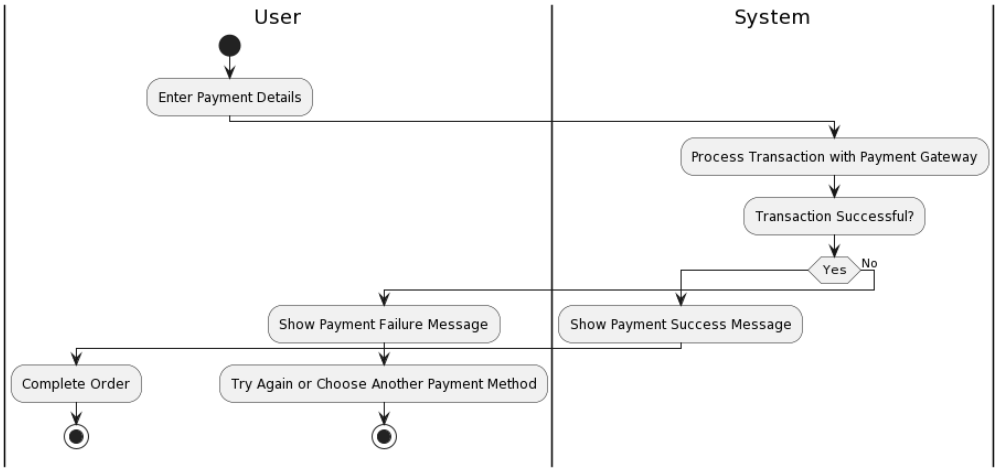
- Users proceed to checkout.
- Payment and shipping information are collected
- Order is confirmed, and inventory is updated



4. Payment Gateway Integration:

Process:

Users enter payment details.

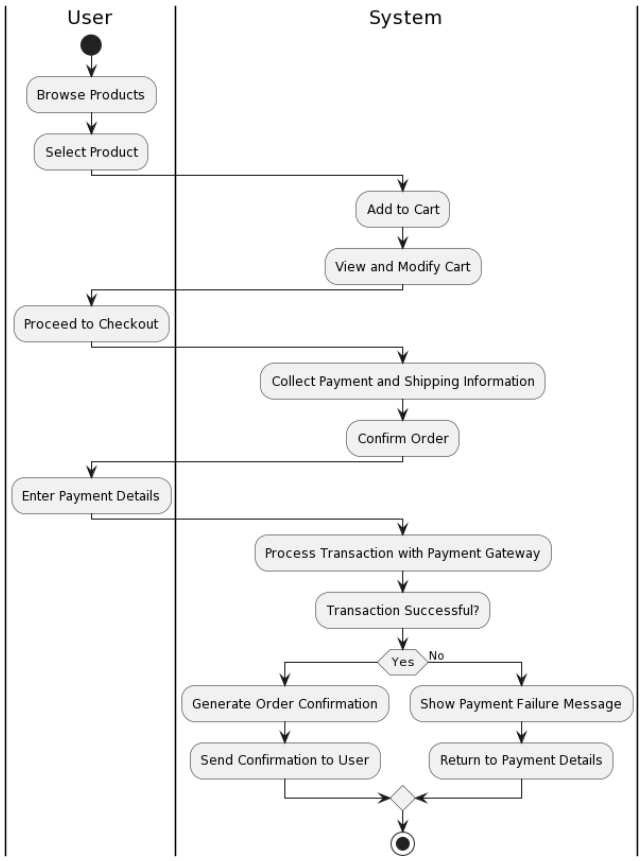

User
System
Enter Payment Details
Process Transaction with Payment Gateway
Transaction Successful?
Yes
No
Show Payment Failure Message
Show Payment Success Message
Complete Order
Try Again or Choose Another Payment Method

Activity daigram

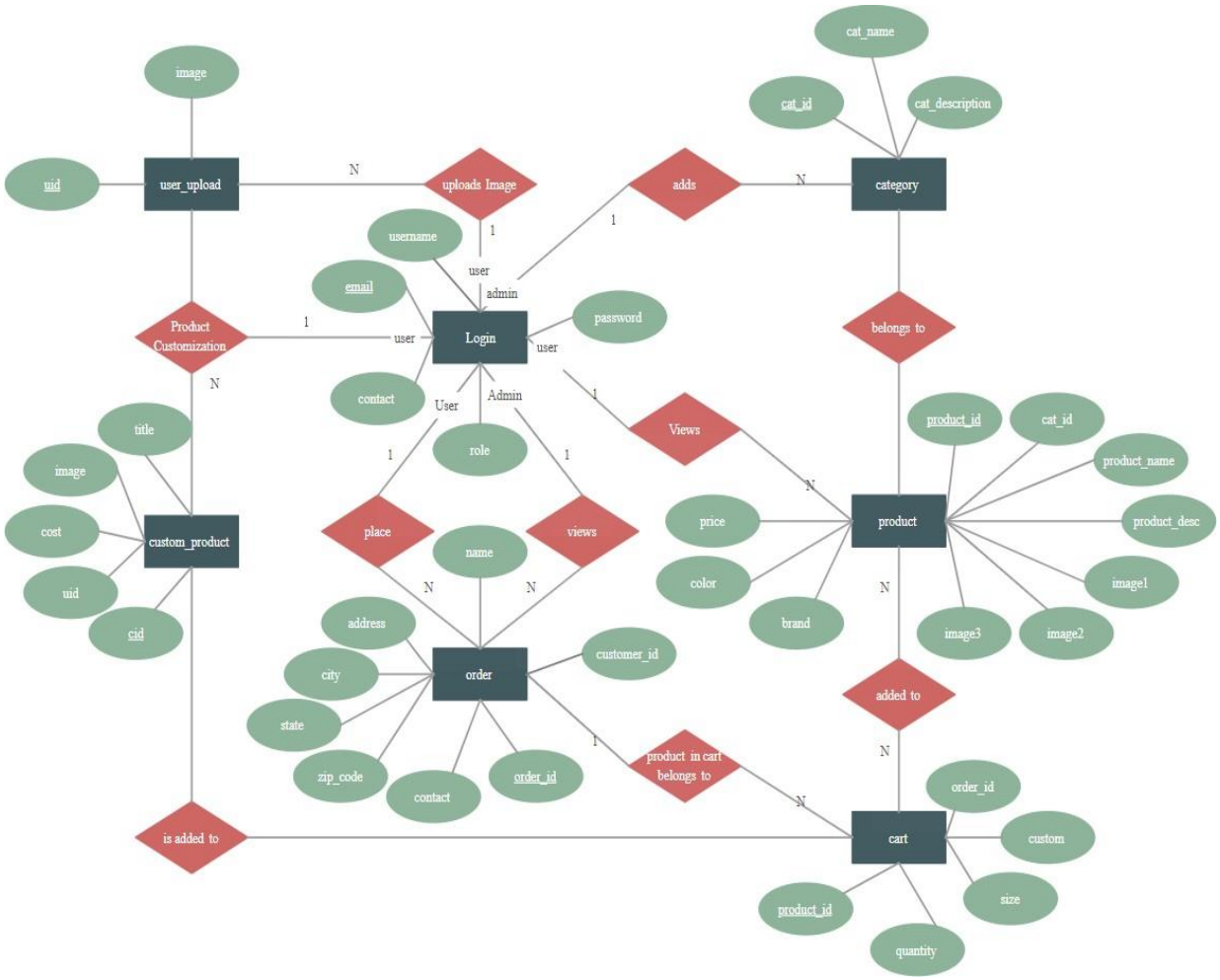
1. Start:
   Begin with an initial node representing the start of the process.

2. User Login:
   Action: User enters login credentials.
   Decision: Verify credentials.
   Alternative Paths: If credentials are incorrect, prompt the user to re-enter.

3. Browse Products:
   Action: User browses products.
   Decision: Select a product or category.
4. Add to Cart:
   Action: User adds a product to the shopping cart.
   Decision: Continue shopping or proceed to checkout.
5. Update Cart:
   Action: User can update quantities or remove items from the cart.
6. Checkout:
   Action: User proceeds to checkout.
   Decision: Confirm order details.
7. Payment:
   Action: User enters payment information.
   Decision: Verify payment details.
8. Order Confirmation:
   Action: Display order confirmation.
   End: End the process.
9. Account Management:
   Action: User can manage account settings.
   Decision: Update information, change password, etc.
10. Logout: Action: User logs out.
    End: End the process.


User
System
Browse Products
Select Product
Add to Cart
View and Modify Cart
Proceed to Checkout
Collect Payment and Shipping Information
Confirm Order
Enter Payment Details
Process Transaction with Payment Gateway
Transaction Successful?
Yes
No
Generate Order Confirmation
Show Payment Failure Message
Send Confirmation to User
Return to Payment Details

E-R Diagram

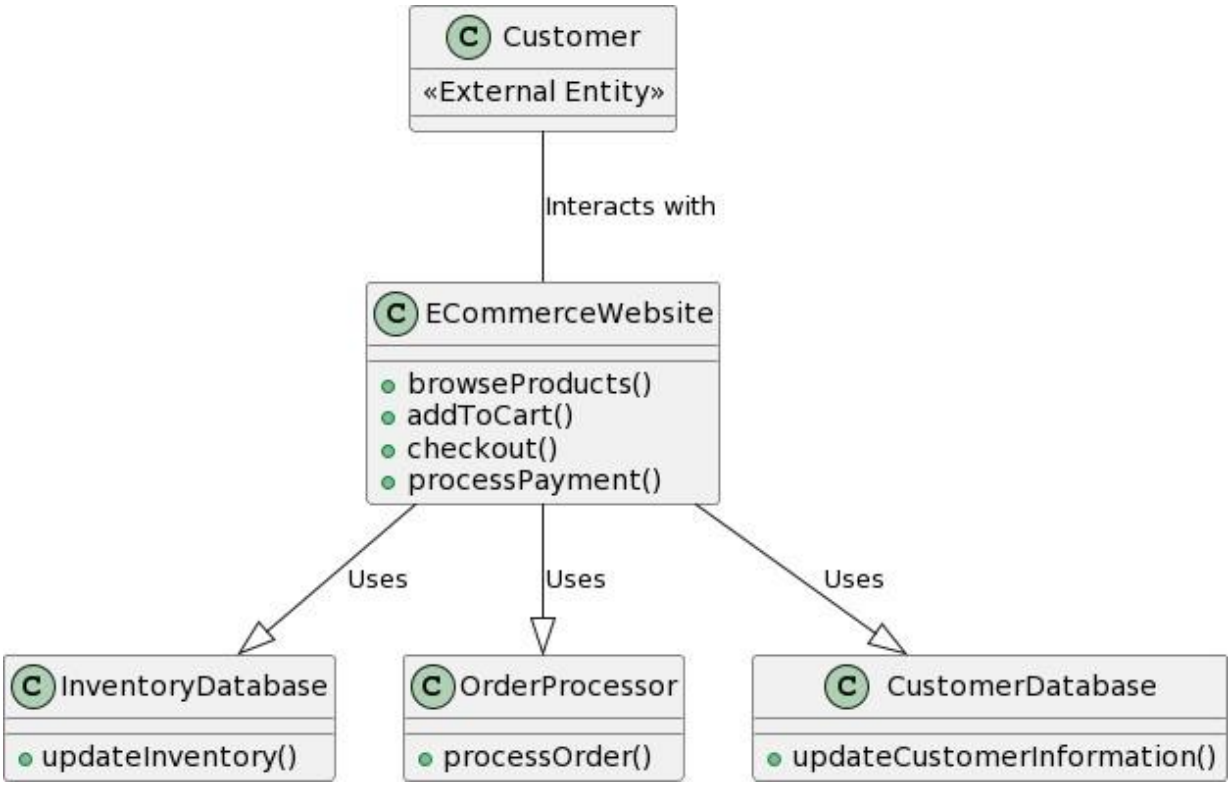


Entities

1. Category
2. Login
3. Product
4. Cart
5. User_Details

DATA FLOW DAIGRAM

Designing a Data Flow Diagram (DFD) for an e-commerce website involves identifying the key processes, data stores, external entities, and data flows. Here's a 0-level example for an e-commerce system:

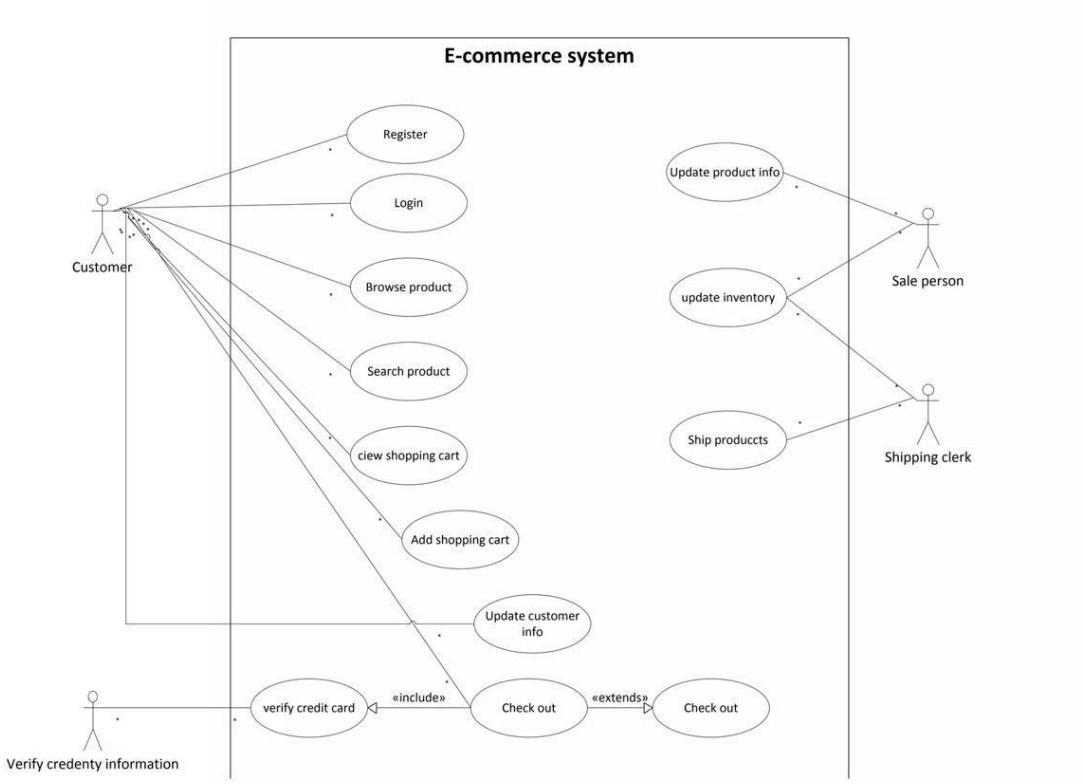


In this example:

- "E-commerce Website" is the main process.
- "Customer" is an external entity representing users interacting with the system.
- "Browse Products," "Add to Cart," "Checkout," and "Process Payment" are key processes or functions.
- "Inventory Database" is a data store containing information about available products.
- "Update Inventory" and "Update Customer Information" are processes that interact with data stores.

USE CASE DAIGRAM

While considering the scope of the individual functionalities draw the use case diagram for each of it.



Use case description:

Register:

If a customer is new user, he can request to register page. A register page open and asks total information about customer and also asks to customer to choose login (email address) and password.

Login:

The customer can login by enter name and password. The system verifies the name and password matches. If not matches, error messages shows to the customer.

Use case Diagram of e-Commerce system

Browse products:

The customer requests to view the product in product category. The system will display the information about product of selected category.

Search product:

The customers enter the search product parameters and request a search product. The system search through products category in database and gives information. If not matches, gives fail message.

View shopping cart:

The customer request to view the shopping cart. The system returns the shopping cart to customer, the price and total price shows to customer.

Add shopping cart:

When customer finds the product he wants, add to shopping carts. The systems stores and track the information about product.

Update customer info:

The customer request to update customer info about his name, address.... Etc. If updated information system stores in database which is updated. After purchase one product the payment information stores in current information.

Check out:

The customer completes the shopping he request to checkout. If the payment information exists the credit card information sends to Credit Verification Company. If credit card information not matches it shows enter valid information or cancel order. If the credit card is valid, the order form will be processed by the system and checkout is complete.

Verify credit card:

The credit verification company is validating the credit card information. If the information correct returns to sales person. If not, the customer will be asked to re-input his payment information.

Update product info:

The sales clerk request to update product info includes price, brand...etc. and system updates in database.

SAMPLE TEST CASES

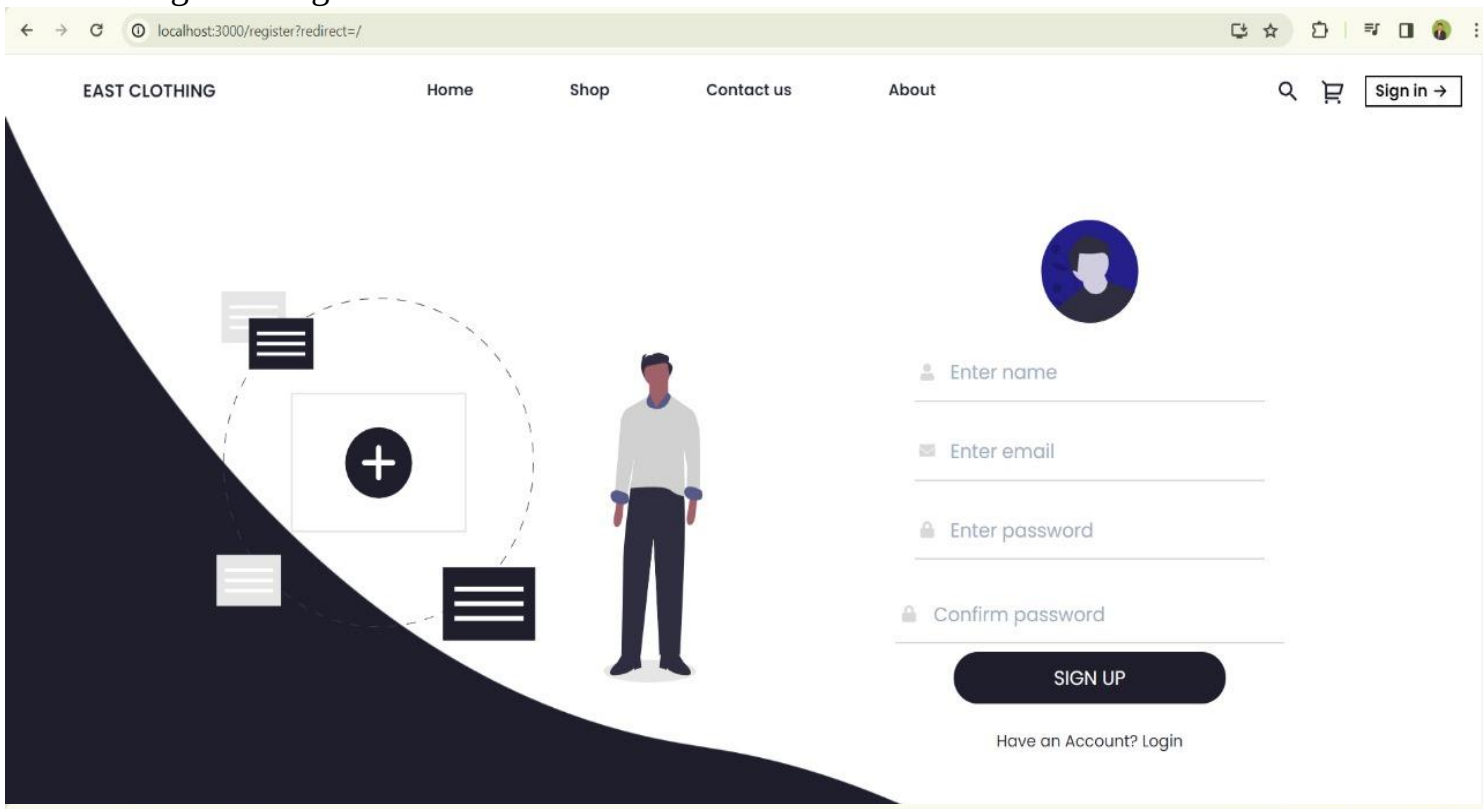
On the basis of required validations map the different test cases to handle all possible critical cases which may arise during the life cycle of the software.

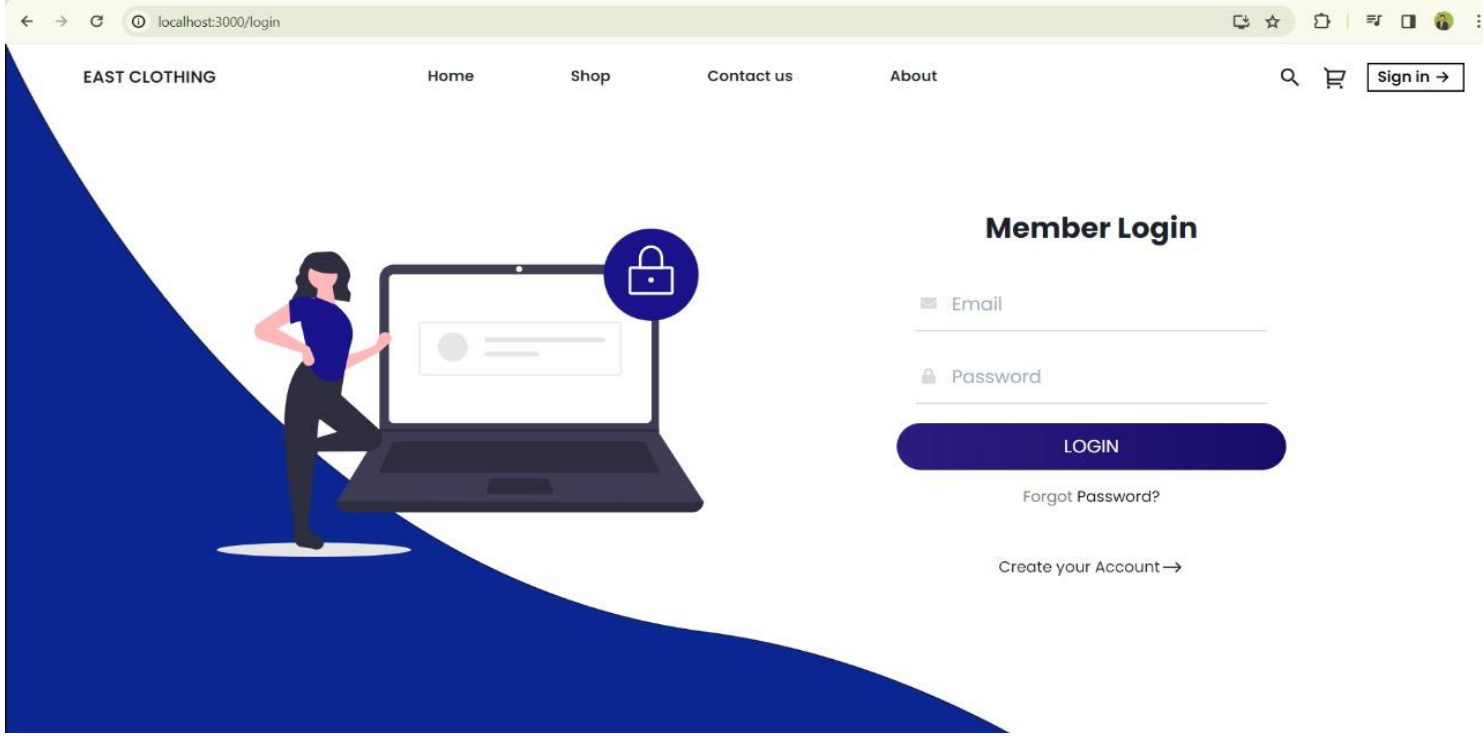
Test Case	Payment Method	Order Total($)	Expected Action
TC1	Credit Card	300	Process order immediately
TC2	Credit Card	700	Verify payment, initiate processing
TC3	PayPal	500	Process order immediately
TC4	Bank Transfer	800	Verify payment, initiate processing
TC5	Debit Card	120	Confirm order, initiate processing
TC6	Credit card	100	Verify payment, initiate processing
TC7	Debit Card	500	Hold order for manual verification
TC8	PayPal	800	Process order immediately
TC9	Debit Card	300	Confirm order, initiate processing

- **Test Case**: A unique identifier for each test case.
- **Payment Method**: The method the customer uses to pay for the order.
- **Order Total**: The total amount of the customer's order.
- **Expected Action**: The anticipated action based on the decision rules outlined in the decision table.

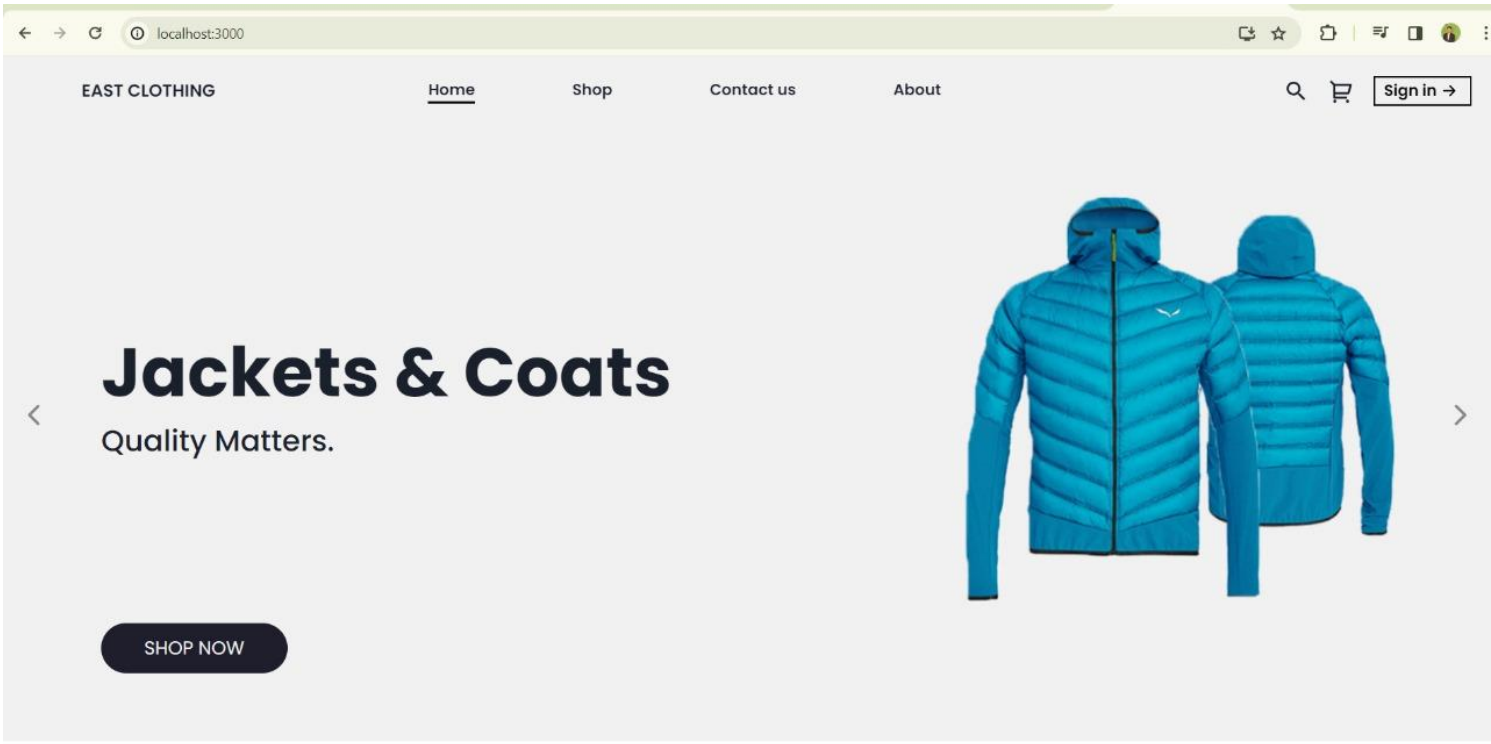
Chapter 4: Screenshots

- Sign UP Page:

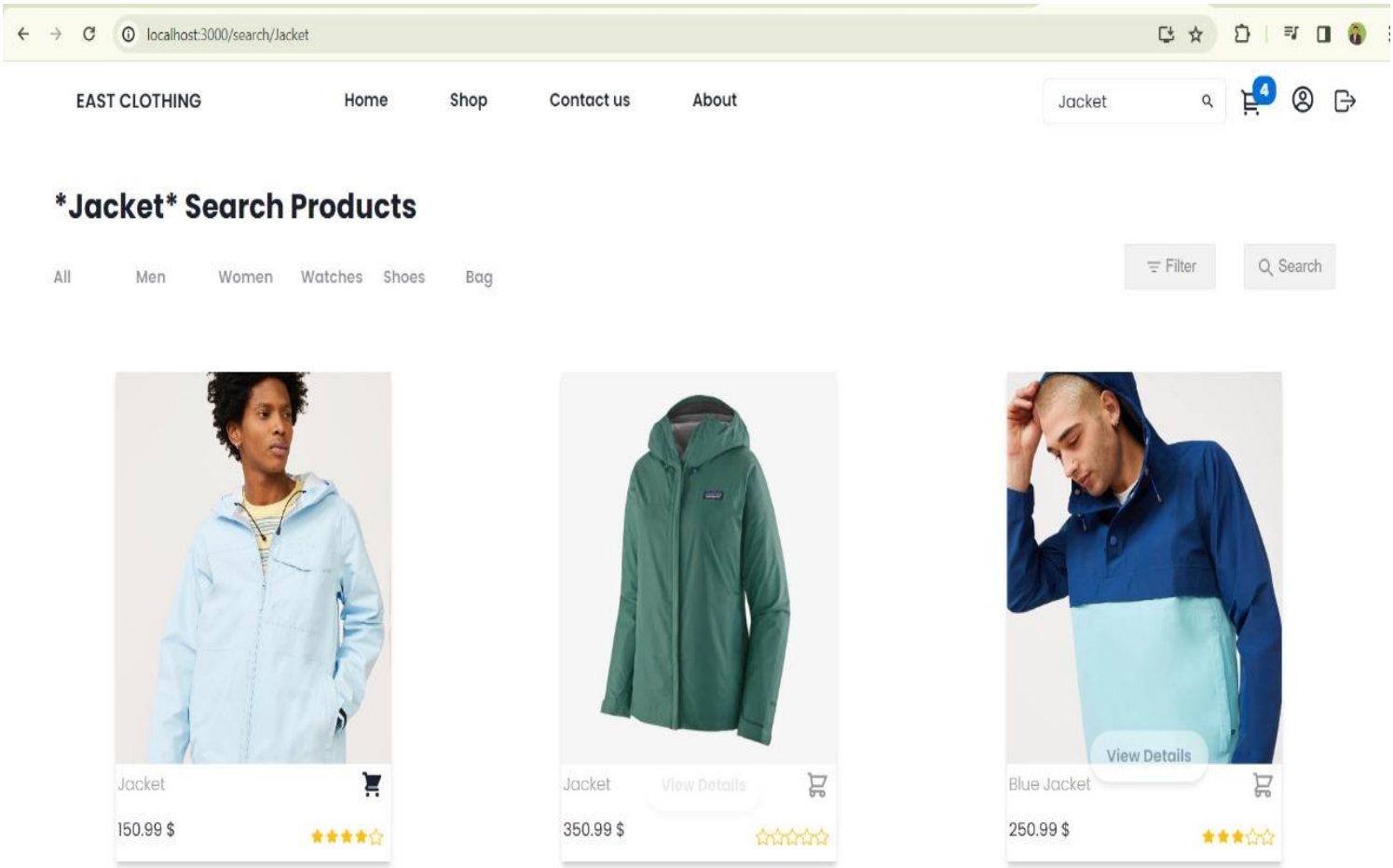




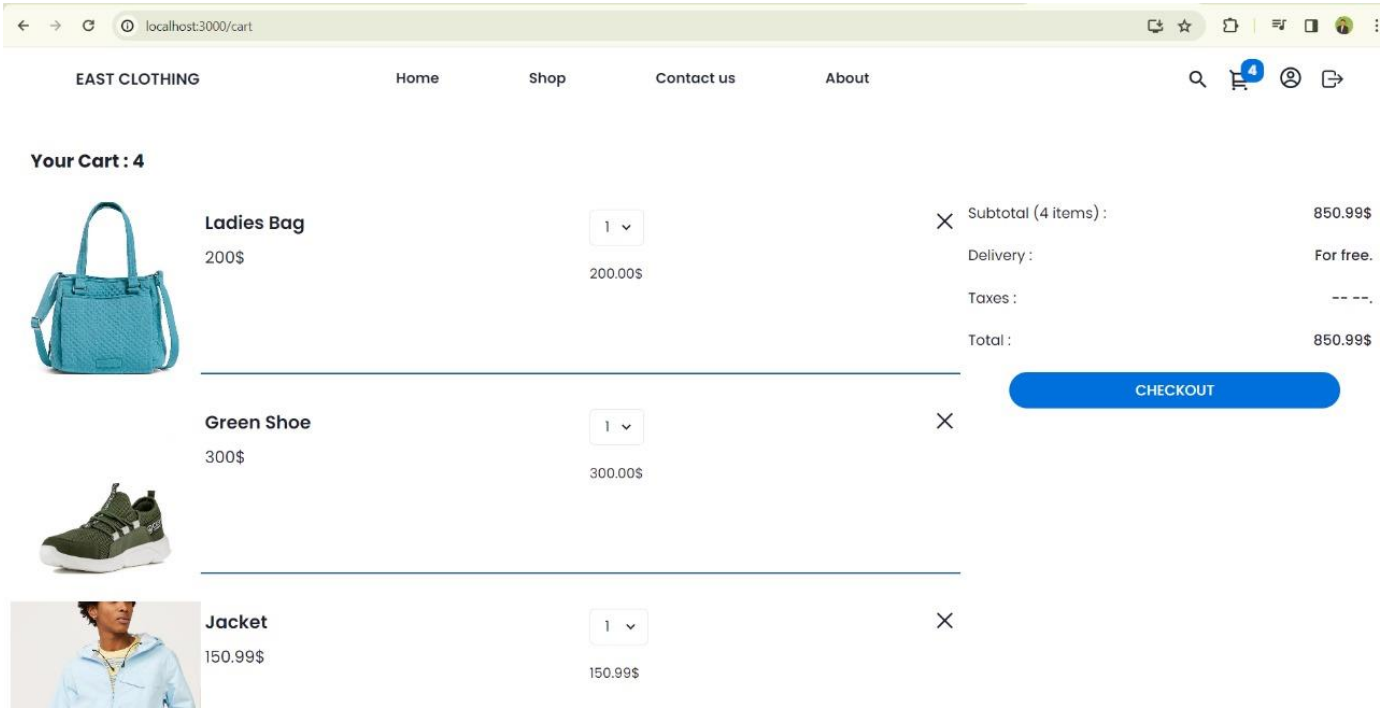
Home Page:


localhost:3000
EAST CLOTHING
Home
Shop
Contact us
About
Sign in →
Jackets & Coats
Quality Matters.
SHOP NOW

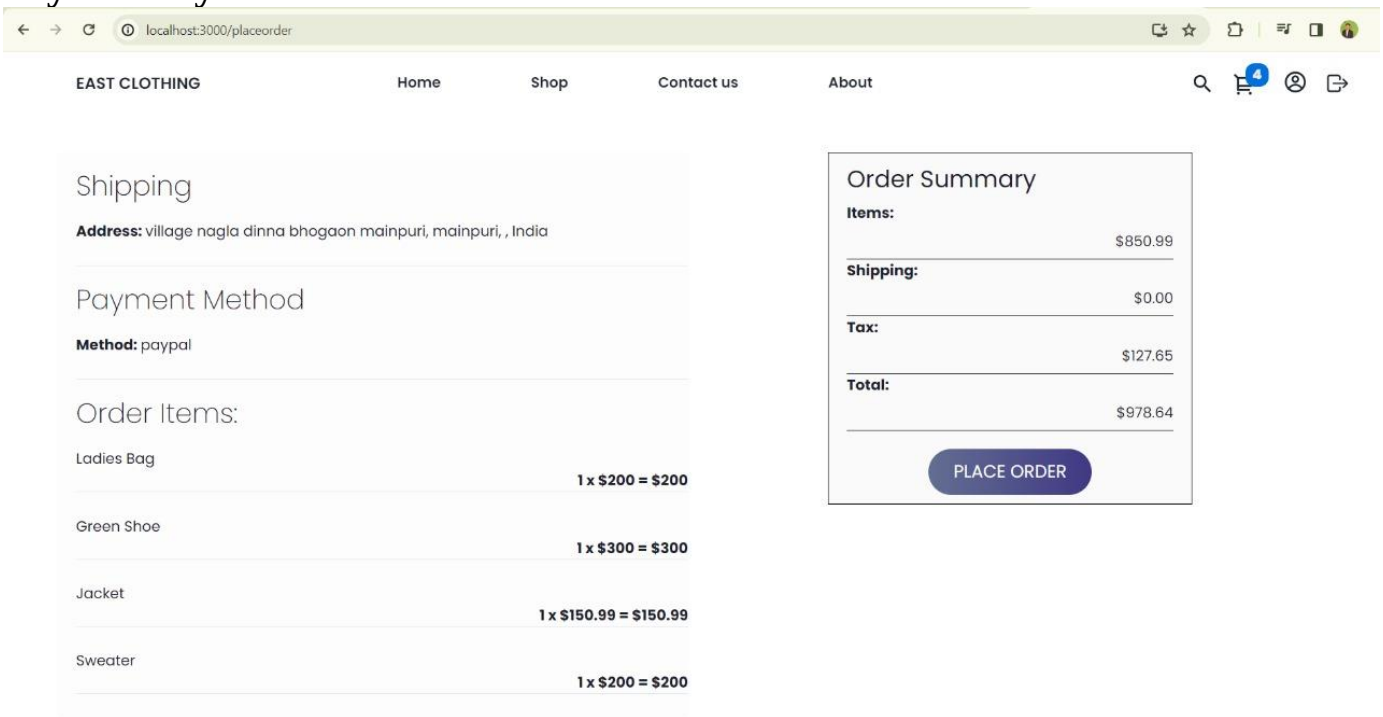
Browsing Product:



Carting System:



Payment System:



Chapter 5 –CONCLUSION

The electronic shop was developed using React, Mongo-DB, and Express js ,Node Js ,PayPal Integration technology. User can browse products, add, replace or delete a product from the cart. The user can log in, with his information such as his email and password. If the login does not go through, the user can re-register. After login, the user can see the product in the cart and proceed onwards. The product can be paid with PayPal. However the consumer can still look at the orders in his or her account. The ordered price is saved in the database.