

# **PROJECT REPORT**

FOR THE PARTIAL FULFILLMENT OF THE DEGREE OF  
**MCA ( MASTER IN COMPUTER APPLICATION )**  
**SESSION 2022-2024**

## **Ecommerce Website**



## **Sunder Deep Engineering College, Ghaziabad**

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## **Introduction**

E-commerce, or electronic commerce, refers to buying and selling goods or services online. It has transformed traditional business models, offering global reach, convenience, and cost-effectiveness. E-commerce enables businesses to reach a wider audience, reduce operational costs, and provide personalized shopping experiences. With the increasing reliance on digital platforms, e-commerce has become indispensable in modern business, driving growth, innovation, and competitiveness.

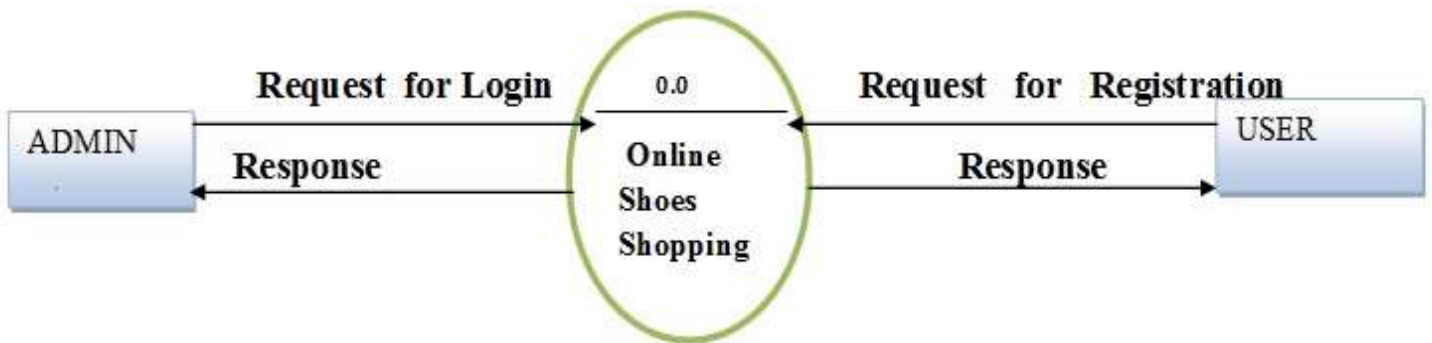
Django, a Python web framework, stands out for its simplicity, scalability, and built-in features like ORM and authentication. It streamlines development tasks, making it suitable for a wide range of web projects, from simple blogs to complex, database-driven applications.

Our aim is to utilize Django to develop a fully functional e-commerce website. Leveraging Django's robust features and flexibility, we seek to create a seamless online shopping experience for users while empowering businesses with efficient management tools.

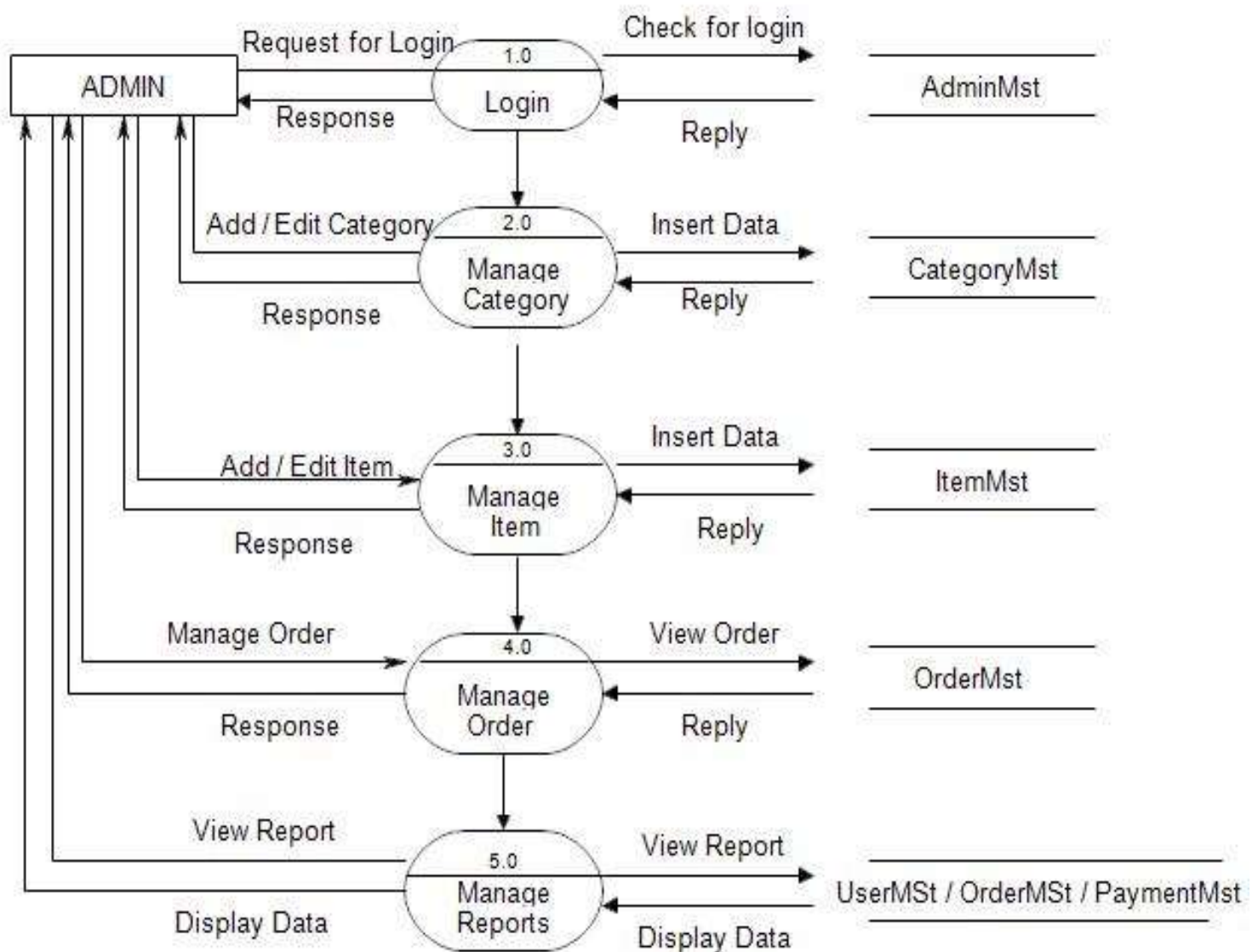
## **Project Objective:-**

- 1- The e-commerce website endeavors to facilitate easy product discovery, secure transactions, and efficient order management. Key functionalities include user registration, product categorization, search functionality, cart management, secure payment processing, order tracking, and an admin dashboard for inventory management and sales analytics, ensuring a seamless shopping.
- 2- The platform targets tech-savvy consumers seeking convenience and variety in online shopping. It caters to a diverse market niche, including individuals and businesses looking for a wide range of products, from electronics and fashion to household goods. The platform aims to provide a comprehensive online marketplace for these demographics.
- 3- The e-commerce platform includes robust user authentication mechanisms to secure user accounts. It offers a comprehensive product catalog with intuitive search and categorization. Users can add items to their shopping cart for seamless checkout. Integration with secure payment gateways ensures smooth and secure transaction processing for customers.

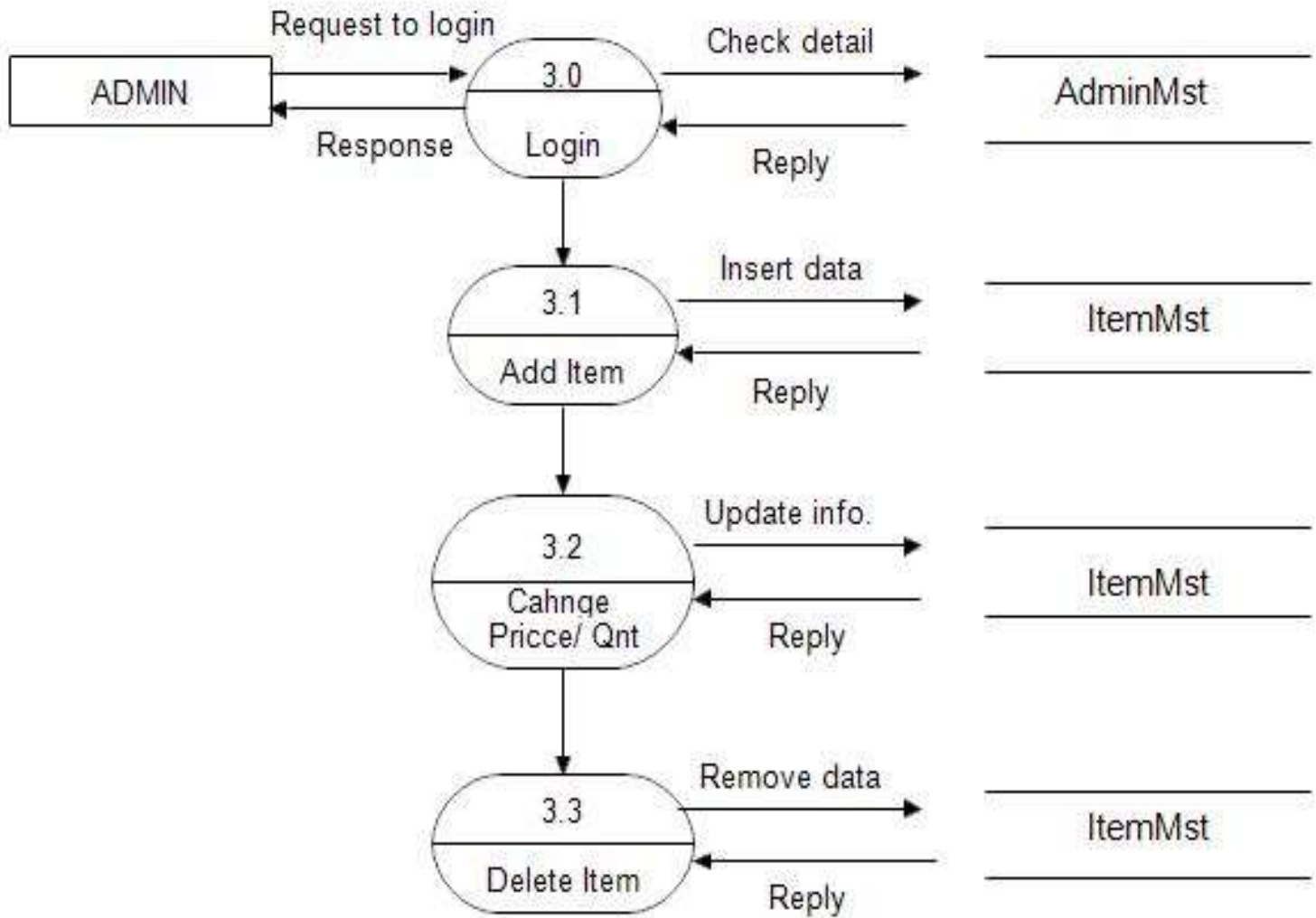
## Admin Side DFD – 0<sup>th</sup> Level



## Admin Side DFD - 1st Level



## 2nd Level Admin DFD - (3.0)



## **Methodology:-**

1. The development process follows a systematic approach, beginning with thorough planning to define project goals and requirements. Design phase encompasses creating wireframes and user interfaces. Implementation involves coding based on design specifications. Rigorous testing, including unit, integration, and user acceptance testing, ensures functionality and reliability before deployment.

### **Tools and Technologies:**

2. The development utilizes Django framework for backend functionality, HTML/CSS for frontend design, and database management systems like Sqlite server or MySQL for data storage. Additional tools may include JavaScript for client-side interactivity, Bootstrap for responsive design, and Git for version control, ensuring efficient development and maintenance of the e-commerce platform.

### **Agile Development and Version Control:**

3. Agile methodologies such as Scrum or Kanban facilitate iterative development, fostering collaboration and adaptability. Version control systems like Git enable efficient management of code changes, ensuring team coordination, tracking of modifications, and easy rollback if needed, thus promoting a streamlined and organized development process for the e-commerce project.

## **Tools and Technologies:**

### **Technologies--**

- 1. HTML**
- 2. CSS**
- 3. JavaScript**
- 4. Bootstrap 5**
- 5. Jquery**
- 6. Font Awesome**
- 7. Owl Carousel**
- 8. Python**
- 9. Django**
- 10. Digital Ocean (Hosting)**

### **Tools--**

- 1. Django Admin: A built-in administrative interface for managing website.**
- 2. Django ORM (Object-Relational Mapping): Allows developers to interact with database.**
- 3. Django REST Framework: A powerful toolkit for building web APIs.**
- 4. Django Templates: A templating engine for generating HTML dynamically.**
- 5. Django Forms: Simplifies the creation and handling of HTML forms.**



## **System Requirements:**

### **Minimum Hardware Requirements:-**

Processor	2.0GHz
SSD	128GB
Monitor	Color monitor
RAM	4 GB

### **Minimum Software Requirements:-**

FRONT END	HTML,CSS,BOOTSTRAP
BACK END	MYSQL,SQLITE3
WEB SERVER	SHOPIFYAPI
OPERATING SYSTEM	WINDOWS 8 /10 /11
INTERNET BROWSER	ALL BROWSERS SUPPORTS
SCRIPTING LANGUAGE	JAVASCRIPT, BOOTSTRAP,PYTHON

# **IMPLEMENTATION:**

## **User Registration/Login:**

**Create a User model:** Utilize Django's built-in User model or create a custom User model to store user information like username, email, password (preferably hashed).

**Implement registration form:** Create a form using Django's forms module to capture user registration details such as username, email, and password.

**Implement registration view:** Create a view that handles registration form submission, validates user input, and creates a new user instance in the database.

## **Product Management:**

**Create a Product model:** Define a Product model to represent products in the database, including attributes like name, description, price, and image.

**Implement CRUD operations:** Create views and forms for performing CRUD (Create, Read, Update, Delete) operations on products. These views will handle adding new products, displaying product details, updating existing products, and deleting products.

**Implement product listing:** Create a view to display a list of all products available in the store, along with pagination if necessary.  
**Implement product search:** Implement a search feature to allow users to search for products based on keywords or filters.

## **Order Processing:**

**Create an Order model:** Define an Order model to represent orders in the database, including attributes like order date, user etc.

**Implement cart functionality.**

**Implement checkout process.**

**Implement order history.**

## **Testing and Evaluation:**

### **Unit Testing:**

Utilize Django's built-in testing framework or third-party libraries like pytest to write unit tests for individual components such as models, views, forms, and utility functions.

Test each component in isolation to ensure that it behaves as expected and meets its specification.

### **Integration Testing:**

Test the integration of different components/modules within the Django application to verify that they work together correctly. Test interactions between views, models, forms, and database operations to ensure data consistency and integrity.

### **User Acceptance Testing (UAT):**

Conduct UAT with actual end-users or stakeholders to validate that the application meets their requirements and expectations.

Create test scenarios and scripts that represent common user workflows and use cases.

### **Regression Testing:**

Perform regression testing after making changes or updates to the application to ensure that existing features still work as expected.

Re-run unit tests, integration tests, and UAT scripts to verify that new changes have not introduced any unintended side effects or regressions.

## CONCLUSION

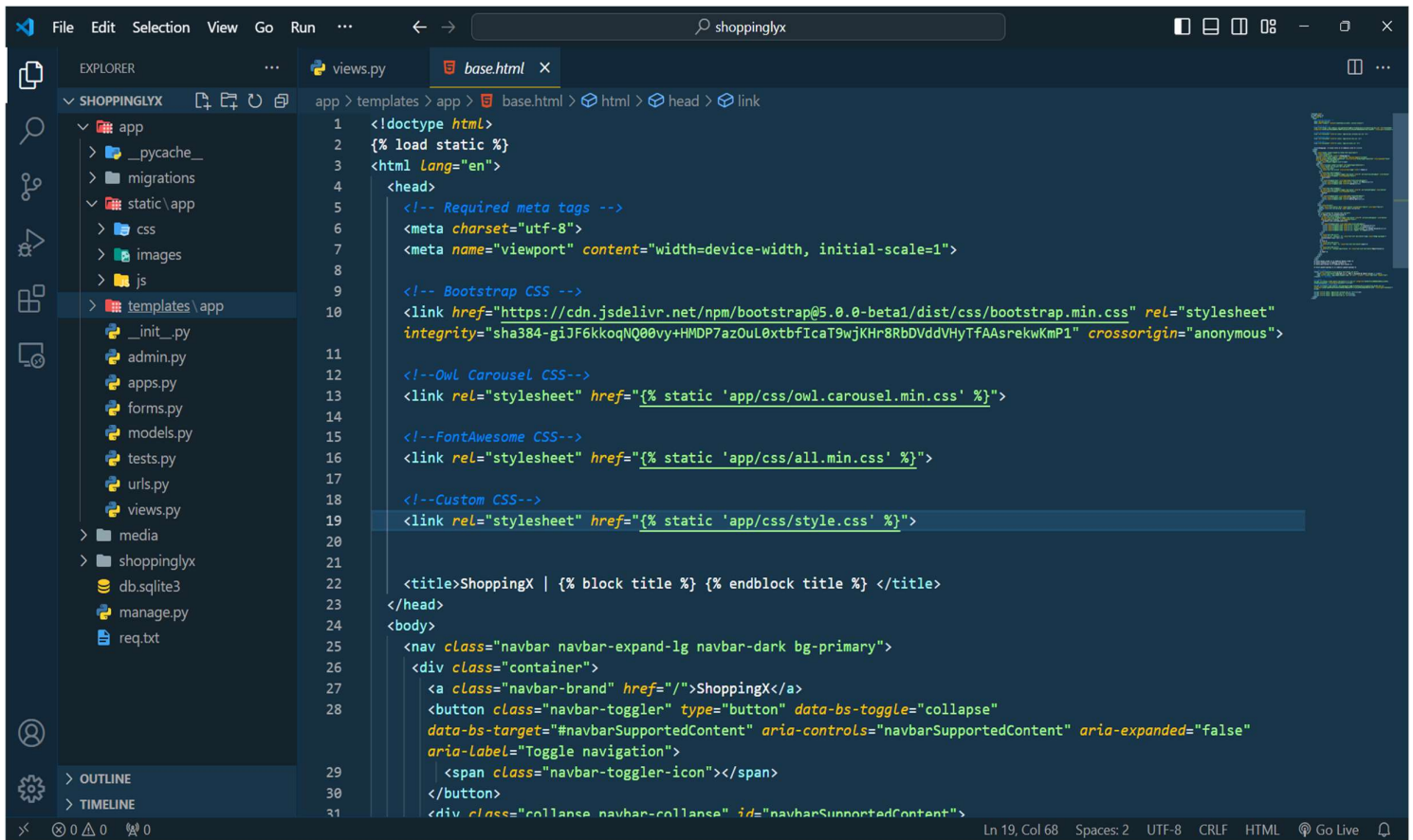
1. Django e-commerce website embodies efficiency and security through its robust framework. While benefiting from Django's built-in features, we've encountered some customization challenges. However, our commitment to iterative improvement ensures ongoing optimization to meet evolving customer demands and maintain a competitive edge in the e-commerce market.
2. By prioritizing user experience, security, and marketing effectiveness, we have created a platform that not only meets but exceeds customer expectations.
3. Through continuous iteration and feedback integration, we are committed to further enhancing our website to drive growth, foster customer loyalty, and maintain our competitive edge in the ever-evolving e-commerce landscape.
4. Django's robustness streamlines development with built-in features like ORM, authentication, and admin interface, enhancing productivity and security.
5. Customization may be challenging due to Django's opinionated structure, potentially requiring workarounds for specific e-commerce requirements. Additionally, its asynchronous capabilities for high-traffic scenarios might need third-party integrations.

## FUTURE SCOPE OF THE PROJECT

1. **Expand product range:** Increasing the variety of products offered on the platform can attract a wider range of customers and cater to different needs and preferences.
2. **Personalization for users:** Implementing personalized recommendations and user experiences based on individual preferences and behavior can enhance customer satisfaction and drive repeat purchases.
3. **Explore international markets:** Venturing into international markets opens up new opportunities for growth and revenue. This may involve localization efforts to adapt the website for different regions and languages.
4. **Improve mobile experience:** With the rising trend of mobile shopping, optimizing the website for mobile devices is essential to provide a seamless and user-friendly experience for mobile users.
5. **Optimize scalability and performance:** Ensuring that the website can handle increasing traffic and maintain optimal performance during peak periods is crucial for providing a smooth and reliable shopping experience.
6. **Integrate social commerce features:** Integrating features that enable customers to make purchases directly through social media platforms can capitalize on the popularity of social commerce and reach customers where they spend time online.

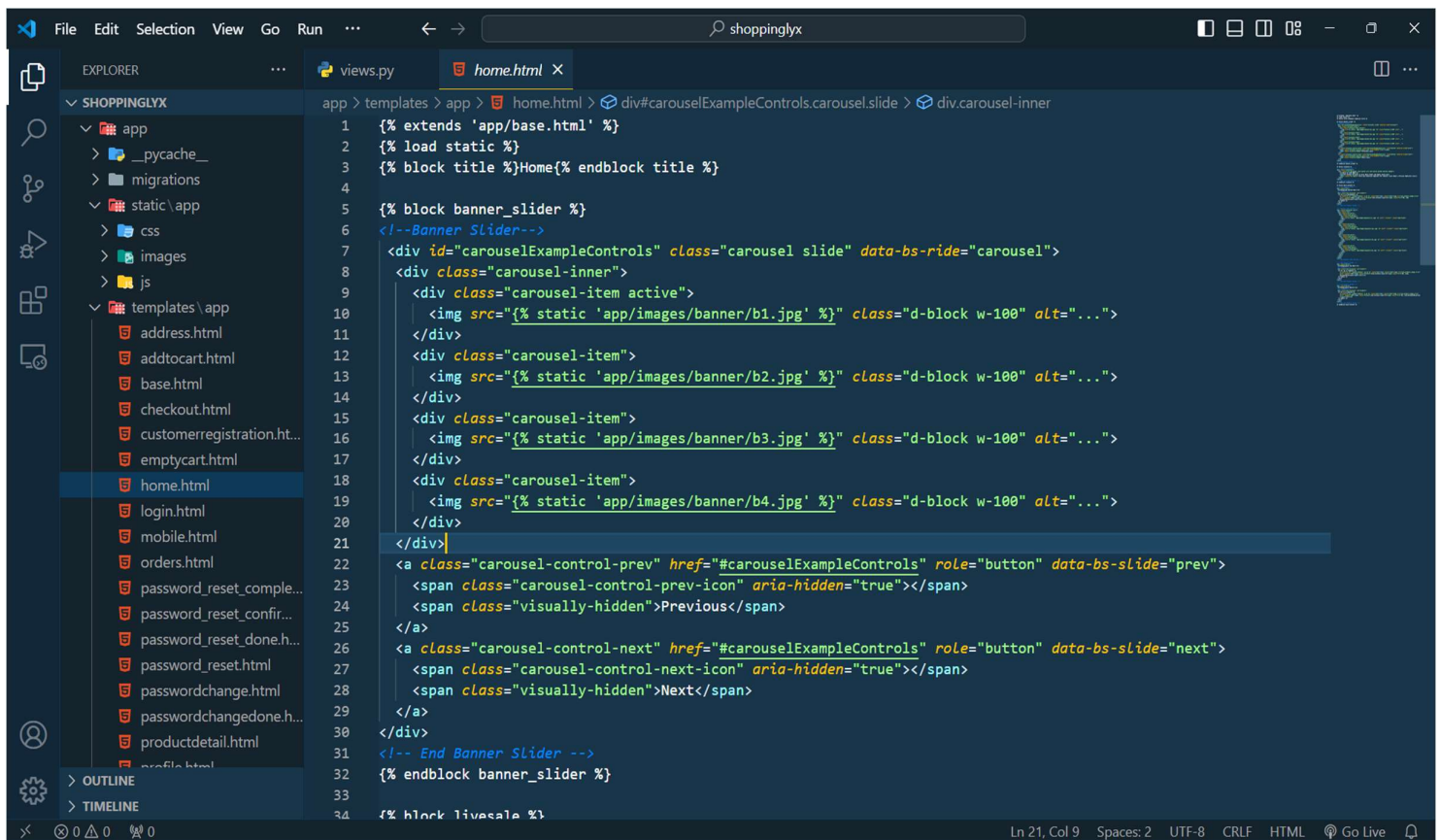
**By focusing on these areas of development, the e-commerce platform can continue to evolve, attract more customers, and drive business growth in the future.**

# Code of base.html



```
1 <!doctype html>
2 {% load static %}
3 <html lang="en">
4   <head>
5     <!-- Required meta tags -->
6     <meta charset="utf-8">
7     <meta name="viewport" content="width=device-width, initial-scale=1">
8
9     <!-- Bootstrap CSS -->
10    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.0.0-beta1/dist/css/bootstrap.min.css" rel="stylesheet"
11        integrity="sha384-giJF6kkoqN000vy+HMDP7az0uL0xtbFicaT9wjKhr8RbDVddVHyTfAAsrekWkmp1" crossorigin="anonymous">
12
13    <!-- Owl Carousel CSS -->
14    <link rel="stylesheet" href="{% static 'app/css/owl.carousel.min.css' %}">
15
16    <!-- Font Awesome CSS -->
17    <link rel="stylesheet" href="{% static 'app/css/all.min.css' %}">
18
19    <!-- Custom CSS -->
20    <link rel="stylesheet" href="{% static 'app/css/style.css' %}">
21
22    <title>ShoppingX | {% block title %} {% endblock title %}</title>
23  </head>
24  <body>
25    <nav class="navbar navbar-expand-lg navbar-dark bg-primary">
26      <div class="container">
27        <a class="navbar-brand" href="/">ShoppingX</a>
28        <button class="navbar-toggler" type="button" data-bs-toggle="collapse"
29            data-bs-target="#navbarSupportedContent" aria-controls="navbarSupportedContent" aria-expanded="false"
30            aria-label="Toggle navigation">
31          <span class="navbar-toggler-icon"></span>
32        </button>
33        <div class="collapse navbar-collapse" id="navbarSupportedContent">
```

# Code of home.html



```
1 {% extends 'app/base.html' %}
2 {% load static %}
3 {% block title %}Home{% endblock title %}
4
5 {% block banner_slider %}
6 <!-- Banner Slider -->
7 <div id="carouselExampleControls" class="carousel slide" data-bs-ride="carousel">
8   <div class="carousel-inner">
9     <div class="carousel-item active">
10      
11    </div>
12    <div class="carousel-item">
13      
14    </div>
15    <div class="carousel-item">
16      
17    </div>
18    <div class="carousel-item">
19      
20    </div>
21  </div>
22  <a class="carousel-control-prev" href="#carouselExampleControls" role="button" data-bs-slide="prev">
23    <span class="carousel-control-prev-icon" aria-hidden="true"></span>
24    <span class="visually-hidden">Previous</span>
25  </a>
26  <a class="carousel-control-next" href="#carouselExampleControls" role="button" data-bs-slide="next">
27    <span class="carousel-control-next-icon" aria-hidden="true"></span>
28    <span class="visually-hidden">Next</span>
29  </a>
30 </div>
31 <!-- End Banner Slider -->
32 {% endblock banner_slider %}
33
34 {% block livesale %}
```

# Home Page

ShoppingX | Home


127.0.0.1:8000

ShoppingX Home Electronics Fashion

Search

S Ramesh

1 Cart



# Fashion > Game on

SALE IS LIVE NOW


5% Instant Discount on Axis Bank Credit and Debit Card  
Term and Condition Applied (For details visit Bank's official Website)

127.0.0.1:8000/#carouselExampleControls


ShoppingX | Home

127.0.0.1:8000


ShoppingX Bottom Wear




**Jeans 3**  
Rs. 550.0




**Jeans 4**  
Rs. 800.0




**Jeans 5**  
Rs. 450.0




**Jeans 6**  
Rs. 305.0




**Track Pant 7**  
Rs. 100.0



**UPI**  
UNIFIED PAYMENTS INTERFACE



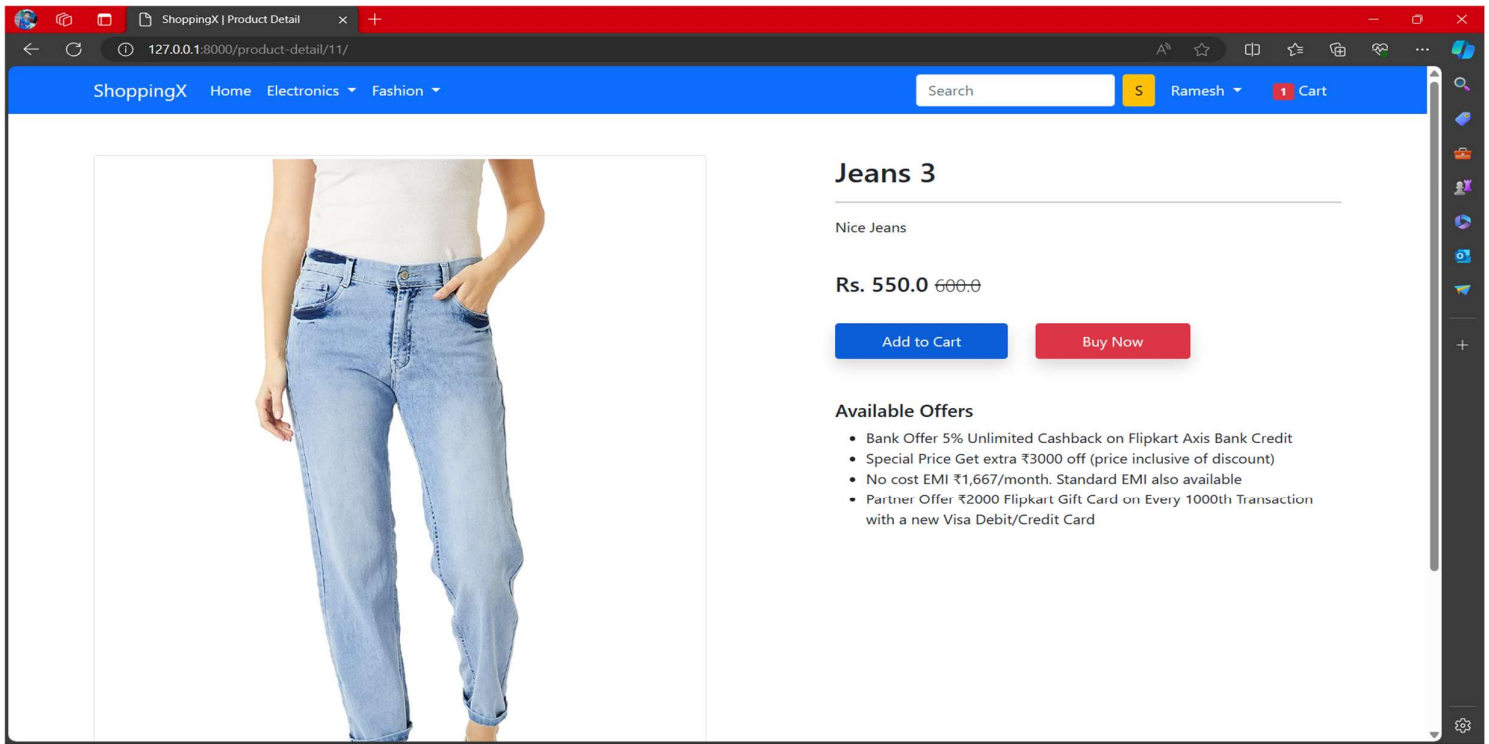
Online Banking



**BAJAJ FINSERV**

ShoppinglyX Top Wear





## Django Administration

