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Shopping Application

Kratika Gupta¹, Kumar Gaurav², Yash Sharma³, Dr. Aparna Gupta⁴

^{1,2&3}Student, Department of ECE, Lakshmi Narain College of Technology and Science, Bhopal, India

⁴Project Guide, Department of ECE, Lakshmi Narain College of Technology and Science, Bhopal, India

Abstract— This project presents the development of a sophisticated shopping application designed to enhance the user experience in the e-commerce sector. The application features a user-friendly interface that simplifies navigation and improves accessibility for users of all ages. To personalize the shopping experience, advanced machine learning algorithms provide tailored product recommendations based on user behavior, preferences, and purchase history. Security is a top priority, and the application incorporates a robust payment gateway supporting various payment methods, including credit/debit cards and digital wallets, with enhanced security protocols to safeguard user data. Real-time inventory management ensures accurate stock levels are displayed, minimizing the risk of order cancellations due to stockouts. An AI-powered chatbot offers round-the-clock customer support, handling a wide range of inquiries from product details to order tracking. The application also integrates augmented reality (AR) technology, enabling users to visualize products in their real-world environment, particularly useful for items like furniture and home decor.

Keywords— Shopping, Chatbot, Augmented Reality, Stockouts, Digital, Wallets.

I. INTRODUCTION

The proliferation of e-commerce has significantly transformed consumer shopping habits, necessitating the development of sophisticated shopping applications to meet growing demands. This minor project focuses on the creation of an innovative shopping application designed to provide a seamless and enriched user experience. Key features include an intuitive user interface, personalized product

recommendations, and a secure payment gateway. Additionally, real-time inventory management ensures accurate stock information, while an AI-powered chatbot offers 24/7 customer support. By integrating augmented reality (AR) for product visualization and leveraging social media for enhanced user engagement, this application aims to set a new standard in online shopping, catering to the needs of modern consumers.

Background- Creating a shopping website involves several key components, each aimed at facilitating the process of shopping. Here's a breakdown of what typically goes into the background of such a website:

Purpose and Mission: The primary purpose of our shopping application is to revolutionize the online shopping experience by providing a platform that is intuitive, secure, and personalized. This application aims to cater to the diverse needs of modern consumers, making shopping not only convenient but also enjoyable. By integrating advanced technologies such as artificial intelligence, machine learning, and augmented reality, our application seeks to bridge the gap between traditional in-store experiences and the convenience of online shopping.

User Experience (UX) Design: Our shopping application prioritizes an intuitive and seamless user experience (UX) by featuring a clean, easy-to-navigate interface that caters to users of all ages. Personalized product recommendations are provided based on user behavior, enhancing engagement and satisfaction.

Registration and Authentication: The shopping application features a secure registration and authentication process, requiring users to create an account using their email or social media profiles, followed by multi-factor authentication to ensure account security.



II. LITERATURE SURVEY

Kanwal Gurleen (2012) [1] this paper focuses on the understanding of demographic profiles of adopters and non-adopters of online shopping. The following four factors were found to be significant Price Consciousness, Convenience and Variety, Easy Payment options and Challenges of Online Shopping. Most of the consumers prefer to buy some selected products online because they will get heavy discounts in comparison to store purchases. Also, the consumer feels that there are good websites available which can be trusted for purchases. The only worry of consumers is regarding the trustworthiness of some websites, since they have to give their credit card details to shop online.

D.R.M.Rajesh and G.Purushothaman (2013) [2] studied E-shopping has become growing more popular, the main reason is convenience (and often lower prices). Usually in the holiday season, online shopping saves an individual the hassle of searching several stores and then waiting in long queues to buy a certain item. Internet is changing the way consumers shop and buy goods and services, and has quickly evolved into a global phenomenon. Numerous companies have started using the Internet with the purpose of cutting marketing costs, thereby minimizing the price of their products and services in order to face competition. No doubt the Internet has affect our lives deeply in which it plays a pre-eminent and unparalleled role. In addition to the tremendous potential of the E-commerce market, the Internet provides a distinctive opportunity for companies to more efficiently reach existing and potential customers.

K.S. Silpa, P.U. Rajasree and Dr.P. Balasubramanian (2016) [3]: This project was an attempt to study people's perception towards online shopping. As a result of survey the majority of people prefer to do online shopping, even if they felt some difficulties. Majority of the people agree that in the near future, online shopping will be more on demand than offline shopping. Therefore, online marketing have a wider scope in the coming years. More people prefer cash on delivery than net banking. Greater part of respondents encourages other people to enter into e-shopping. Most people do not shop online due to fear of quality of goods, afraid to give out their credit card details and also they find conventional methods

more enjoyable. The fact that a large number of people is getting attracted towards online shopping creates a basis for tremendous prospects for marketers of today and tomorrow.

K. Rama Mohana Rao and Chandra Sekhar Patro (2016) [4] the study focuses on identifying and analyzing the various factors influencing the consumers' perception towards e-shopping on different products available in the online retail market. The findings of the study established the fact that consumer perception on e-shopping depends upon different factors which can be broadly identified as convenience, website design, delivery, price advantage, reliability, and responsiveness. According to the study, most of the respondents are satisfied with the current conditions. But there are still several indicators that are needed to be improved. Due to increase in e-shopping websites, the in-store shoppers need to attract the consumers with more attractive offers and quality products.

Vidyashree.D.V, Alay.P, and Shobha.H.N (2018) [5] examined that consumer's perception on online shopping varies from person to another and the perception is limited to a certain extent with the availability of the proper connectivity and the exposure to the online shopping has to be improved to make the customer satisfied. The perception of the consumer also has similarities and differences based on their personal characteristics usage based on their needs and demand. In the day to come online shopping has tremendous potential and more and more businesses are going to add online platform to offer extended retailer's shelves in the customers.

Muthumani & et.al. (2017) [6] this study shows that the online shopping is one of the most popular way for consumers to make purchases of goods and availing services, but this study identifies that it is not a comfortable and safest one for consumers to make purchases and availing services online. The study also finds that online shopping is gaining popularity among young people to make purchases their requirements.

Madhu & Sampath (2017) [7] in their study online shopping has now become a primary part of any business. This study also stressed that the e-commerce portals have to educate and promote the consumers towards online shopping by determine the factors influencing the consumers towards online



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shopping. This study concludes that the era of information providing new dimension to the marketer and consumer as well by virtual shops in India.

Guo Jun & et.al. (2017) [8] in their study, Online shopping is an innovative platform to do business in this competitive world and it is a classic example of the business revolution. This study focused on online shopping in china and the study states that consumer perceived positively with relate to factors such as usability, safety, privacy, after sales service and quality of products. It also states that most of the young population preferred to use online shopping to make purchase of their necessities.

III. TECHNOLOGY AND WORKING

Creating a website for Shopping involves several software components to ensure functionality, security & user experience. The Shopping website application consist of various languages and written on VS Code writer. We must choose a better development framework for proper building of the website, Frontend technologies for building the structure, style and interactivity of the website. For Backend technologies we must chose a better data base management system to store the user data and other information. Also, we must keep in mind other various terms like security, content management system, version control, hoisting, monitoring and analytics.

Tools & Technologies used-

1. Frontend
2. Backend
3. Webservice
4. Database

Working-

A Creating a project report on the working of a shopping application involves several key sections to comprehensively cover its functionality and design. Here's an outline and a brief explanation for each section:

1. Introduction

- Purpose: Explain the purpose of the shopping application.
- Scope: Define the scope of the project, including what the application will cover and its limitations.
- Objectives: List the primary goals, such as improving user experience, increasing sales, or streamlining inventory management.

2. System Overview

- Architecture: Describe the overall architecture of the application, including client-side, server-side, and database components.
- Technology Stack: List the technologies used, such as programming languages, frameworks, databases, and tools.

3. User Interface Design

- Wireframes: Provide sketches or wireframes of key screens (e.g., home page, product listing, product detail, shopping cart, checkout).
- User Experience (UX): Discuss design principles and considerations for a seamless user experience.

4. Functional Requirements

- User Registration and Authentication: Explain the process for user registration, login, and authentication.
- Product Catalog: Describe how products are displayed, categorized, and searched.
- Shopping Cart: Detail the functionality of adding, removing, and updating products in the cart.
- Checkout Process: Explain the steps involved in the checkout process, including payment and order confirmation.
- Order Management: Describe how orders are tracked and managed, including status updates and history.
- User Profile Management: Explain how users can view and edit their profile information.

5. Non-Functional Requirements

- Performance: Discuss expected response times and performance benchmarks.
- Security: Describe measures taken to ensure data security and privacy.
- Scalability: Explain how the application can scale to handle increased traffic and data.
- Usability: Discuss the usability aspects and how user feedback is incorporated.
- Reliability: Explain measures to ensure the application is reliable and available

6. Database Design

- Schema: Provide an overview of the database schema, including tables and relationships.
- Data Flow: Describe how data flows through the system from user input to database storage and retrieval.

7. Implementation

- Development Process: Describe the development methodology (e.g., Agile, Waterfall).
- Code Structure: Provide an overview of the code structure and key modules.
- APIs: Describe any APIs used or created for the application.

8. Testing

- Test Plan: Outline the testing strategy, including unit tests, integration tests, and user acceptance tests.
- Test Cases: Provide examples of test cases for critical functionalities.
- Bug Tracking: Explain the process for tracking and resolving bugs.

9. Deployment

- Deployment Environment: Describe the environment where the application will

be deployed (e.g., cloud services, on-premises).

- Deployment Process: Explain the steps for deploying the application, including any CI/CD pipelines.

10. Maintenance

- Monitoring: Discuss how the application will be monitored for performance and errors.
- Updates: Explain the process for updating the application with new features or bug fixes.
- Support: Describe the support plan for handling user issues and feedback.

11. Conclusion

- Summary: Summarize the key points covered in the report.
- Future Work: Discuss potential future enhancements and improvements.

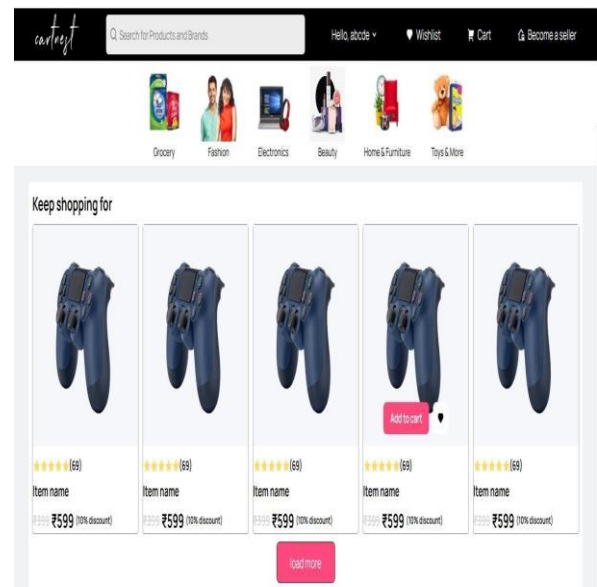


Fig. 1 Home page of the Website (a)

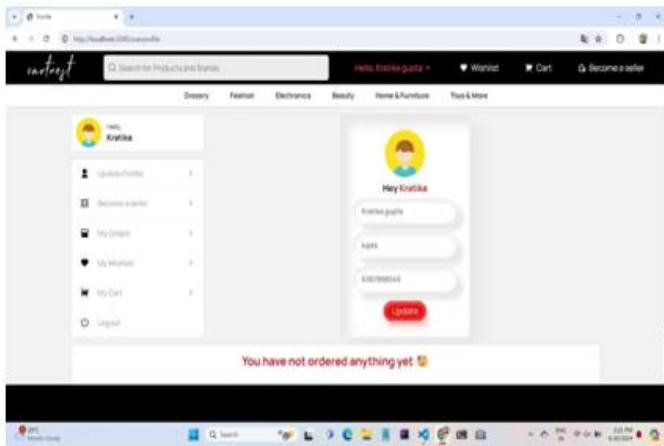


Fig. 2 User profile

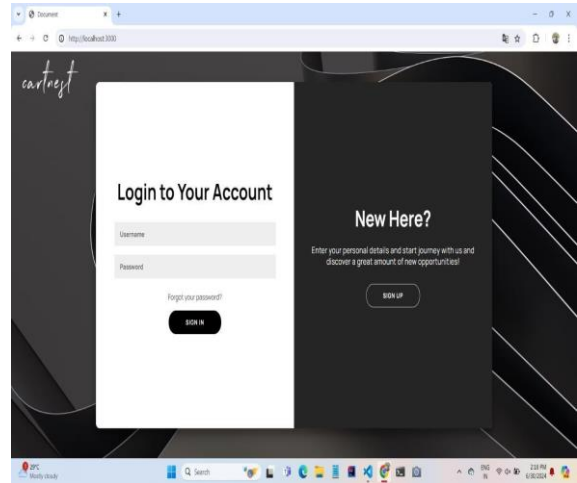


Fig. 5 Login Page

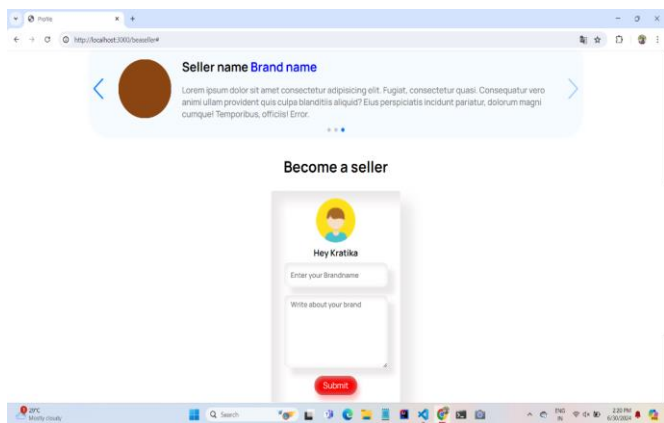


Fig 3 Seller Page

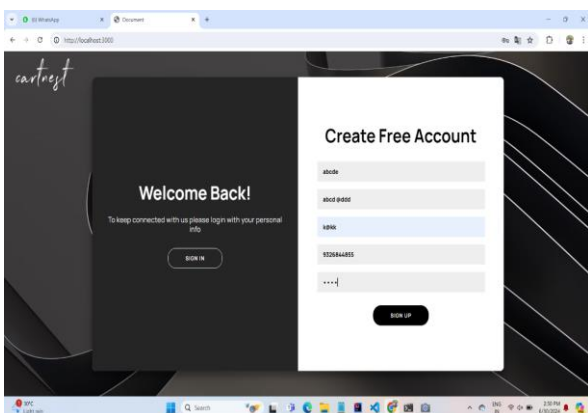


Fig. 4 Registration Page

IV. RESULT

Creating a shopping website as a minor project can be a great way to learn web development skills and understand e-commerce functionalities. Here's a simplified outline of what you might include in your project:

Homepage: Display featured products, promotions, and categories.

Product Listings: Each product should have a name, image, brief description, price, and a button to view details.

Product Details Page: Show detailed information about a selected product, including larger images, descriptions, specifications, and the option to add to cart.

Shopping Cart: Allow users to add products to their cart, view the items they've selected, update quantities, and remove items.

Checkout Process: Guide users through the checkout flow, including entering shipping details, selecting payment methods, and confirming the order.

User Authentication: Implement user registration and login functionality so users can create accounts, save their shipping information, and view order history.

Admin Panel: Create an admin interface where authorized users can add, edit, or delete products, manage orders, and view sales analytics.



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Search and Filtering: Enable users to search for products by name, category, or price range, and provide filtering options to refine results.

Responsive Design: Ensure your website looks good and functions well on different devices and screen sizes (desktops, tablets, smartphones).

Security Considerations: Implement secure practices for handling user data, processing payments (if applicable), and preventing common web vulnerabilities.

Testing and Debugging: Thoroughly test your website to ensure all features work as expected, and debug any issues that arise.

Documentation: Provide clear documentation on how to use the website, including instructions for admins and users.

online shopping will be more on demand than offline shopping. Therefore, online marketing have a wider scope in the coming years.

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