Tribhuvan University

Amrit Science Campus

E-Commerce Project Report

On

"Food Ordering E-commerce Site"

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I would also like to extend my thanks to the numerous online resources, tutorials, and documentation available on platforms like YouTube, Weblogs etc. These platforms provided me with a wealth of knowledge and served as valuable references during the development process.

ABSTRACT

This project presents a simple food-ordering e-commerce website developed using HTML, CSS, and Vanilla JavaScript. The website offers users the ability to browse a catalog of food items, add them to their shopping cart, and proceed through a simulated checkout and payment process. Notably, the shopping cart dynamically updates in real time as items are added or removed, displaying the grand total. The use of local storage ensures the persistence of cart data between sessions. The checkout process includes options for payment methods, such as Cash on Delivery, eSewa, and Khalti. This project provides a practical demonstration of web development and user interface design while offering a functional and responsive platform for food ordering.

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Chapter One: Introduction

1.1 Introduction

In today's digital age, the e-commerce industry has witnessed significant growth, with a particular emphasis on online food ordering and delivery services. As consumer preferences continue to shift towards the convenience of ordering food from the comfort of their homes, the development of user-friendly and efficient food ordering platforms becomes paramount. This project introduces a simple yet effective solution - a food ordering e-commerce website developed using HTML, CSS, and Vanilla JavaScript.

1.2 Problem Statement

The project addresses the growing demand for online food ordering and delivery services while recognizing the need for a straightforward and user-friendly platform. Traditional food ordering websites often come with complexities, making it challenging for users to quickly browse, order, and pay for their desired food items. Our goal is to provide a streamlined solution that eliminates unnecessary complexities, offering a seamless and enjoyable food ordering experience.

1.3 Objectives

The primary objectives of this project are as follows:

- To develop a user-friendly and responsive food ordering website that simplifies the ordering process.
- To enable users to browse a catalog of food items and add them to their shopping cart with ease.
- To implement real-time cart updates, including the display of the grand total.
- To integrate local storage for cart data persistence between sessions.
- To simulate a checkout and payment process, providing options for payment methods.
- To offer a practical demonstration of web development and user interface design principles.

1.4 Scope and Limitation

The scope of this project encompasses the development of a functional food ordering ecommerce website. While the project offers a simplified and user-friendly ordering experience, it does not include advanced features such as user registration, real payment processing, or integration with external APIs. The focus remains on creating a responsive and efficient platform for food ordering within the specified constraints.

1.5 Development Methodology

The development methodology employed in this project follows a structured approach, combining elements of agile and iterative development. This methodology allows for flexibility in design and implementation while ensuring regular testing and refinement of features. By adopting this approach, we aim to deliver a reliable and user-centric food ordering website.

Chapter Two: Literature Review

2.1 Background Study

The success of e-commerce platforms in various industries has been driven by factors such as convenience, accessibility, and user experience. In the context of the food industry, the adoption of online food ordering and delivery services has surged in recent years. This section provides a background study on the growth of the online food ordering market, emphasizing the importance of user-friendly platforms and efficient processes.

2.1.1 Online Food Ordering Market

The online food ordering market has witnessed remarkable growth, driven by changing consumer preferences and advancements in technology. Consumers increasingly seek the convenience of ordering food from a wide variety of restaurants and cuisines through online platforms. This trend has created opportunities for businesses to cater to the demand for convenient food delivery services.

2.1.2 User Expectations

With the proliferation of food ordering apps and websites, users have come to expect seamless and intuitive experiences. They demand platforms that offer easy navigation, clear menu presentations, quick order placement, and transparent payment processes. User satisfaction is closely tied to the usability and efficiency of the platform.

2.2 Literature Review

To develop an effective food ordering website, it is essential to draw insights from existing literature and studies related to user interface design, e-commerce, and online food ordering systems. This literature review section provides a summary of key findings and insights from relevant research.

2.2.1 User Interface Design

User interface design plays a pivotal role in the success of e-commerce websites. Studies emphasize the importance of clear and intuitive user interfaces that guide users through the ordering process. Factors such as visual hierarchy, menu presentation, and responsive design have been identified as critical elements in ensuring a positive user experience.

2.2.2 E-commerce Best Practices

E-commerce best practices offer valuable insights into optimizing online shopping experience. Research highlights the significance of efficient cart management, including real-time updates, cart persistence, and seamless checkout processes. Additionally, studies emphasize the need for transparent payment options and secure transaction processes.

2.2.3 Online Food Ordering Systems

Studies on online food ordering systems have identified user preferences and expectations. Users value platforms that offer a diverse selection of food items, detailed menu descriptions, and real-time updates on order status. Additionally, the availability of various payment methods is a crucial factor in user satisfaction.

Conclusion

The literature review provides valuable insights into the importance of user interface design, e-commerce best practices, and user expectations in the context of online food ordering platforms. These findings serve as a foundation for the design and development of a user-friendly and efficient food ordering website in this project.

This chapter discusses the background study of the online food ordering market and user expectations. It also summarizes relevant literature on user interface design, e-commerce best practices, and online food ordering systems, laying the groundwork for the project's design and development.

Chapter Three: System Analysis

3.1 System Analysis

System analysis is a critical phase in the development of our food ordering ecommerce website. This chapter delves into the systematic examination and evaluation of the project's requirements, feasibility, and overall functionality.

3.1.1 Requirement Analysis

Requirement analysis is the initial step in understanding and defining the needs of the project. It involves gathering and documenting both functional and non-functional requirements.

3.1.1.1 Functional Requirements

Functional requirements outline the specific features and capabilities that the food ordering website must possess. These requirements are crucial for achieving the project's objectives.

Key Functional Requirements:

- Catalog Display: The website must display a catalog of food items with detailed descriptions and prices.
- Add to Cart: Users should be able to add food items to their shopping cart.
- Real-time Updates: The cart must dynamically update in real-time as items are added or removed.
- Cart Management: Users should be able to adjust the quantity of items in the cart or remove items.
- Checkout: The website should provide a simulated checkout process with payment method options.
- Payment Simulation: Simulated payment processing with options for Cash on Delivery, eSewa, and Khalti.

3.1.1.2 Non-Functional Requirements

Non-functional requirements focus on the qualities of the system, such as performance, security, and user experience.

Key Non-Functional Requirements:

- User-Friendly Interface: The website should have an intuitive and user-friendly interface to enhance the user experience.
- Performance: The system must perform efficiently, ensuring quick response times.
- Security: User data, including payment information, must be securely handled and protected.
- Responsive Design: The website should be responsive, adapting to various screen sizes and devices.

3.1.2 Feasibility Analysis

Feasibility analysis is conducted to assess the practicality and viability of the project. It involves technical and operational considerations.

3.1.2.1 Technical

Technical feasibility examines whether the required technology and resources are available to implement the project successfully.

Technical Feasibility Findings:

- The development tools and technologies (HTML, CSS, and Vanilla JavaScript) are readily available.
- Local storage can be utilized for cart data persistence.
- Simulated payment methods can be implemented without actual payment gateways.

3.1.2.2 Operational

Operational feasibility assesses whether the project aligns with operational goals and objectives.

Operational Feasibility Findings:

- The project aligns with the goal of providing a user-friendly and efficient food ordering platform.
- The absence of real payment processing aligns with the project's scope and objectives.

3.1.3 Analysis

The analysis phase involves creating visual representations of the system's processes and data flow to aid in the understanding of the system's functionality.

3.1.3.1 Flowchart

A flowchart is a graphical representation of the processes and decision points within the system.

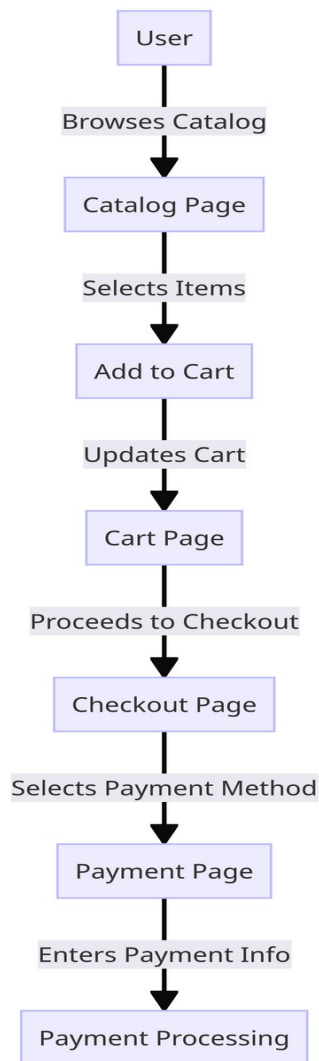The flowchart diagram for this ecommerce system is given below:

Fig: Flowchart of Simple Food ordering Ecommerce system

3.1.3.3 Process Modeling using DFD

Data Flow Diagrams (DFD) depict the flow of data within the system and the processes that manipulate it.
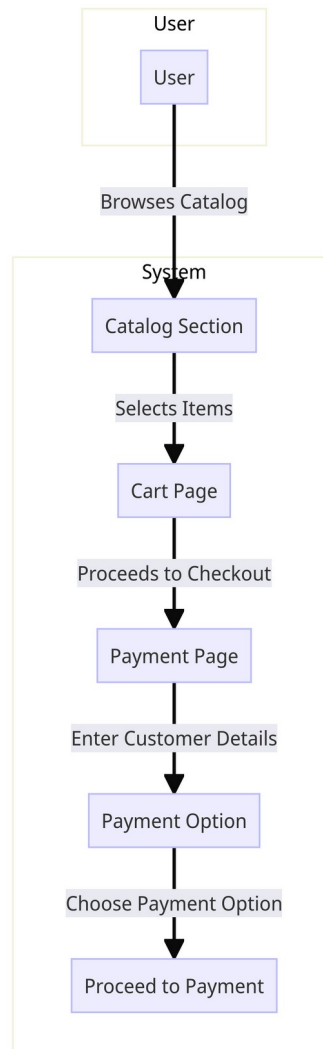

Fig: DFD of the ecommerce system

Conclusion

The system analysis phase has provided a comprehensive understanding of the project's requirements, feasibility, and functionality. It has laid the groundwork for the design and implementation phases of the food ordering website, ensuring that the project aligns with its goals and objectives.

Chapter Four: System Design

4.1 Design

The system design phase is a critical step in the development of our food ordering ecommerce website. This chapter focuses on the architectural design and overall structure of the system.

4.1.1 System Architecture and Overview

The system architecture defines the high-level structure and components of the website. It provides an overview of how different modules and functionalities are organized.
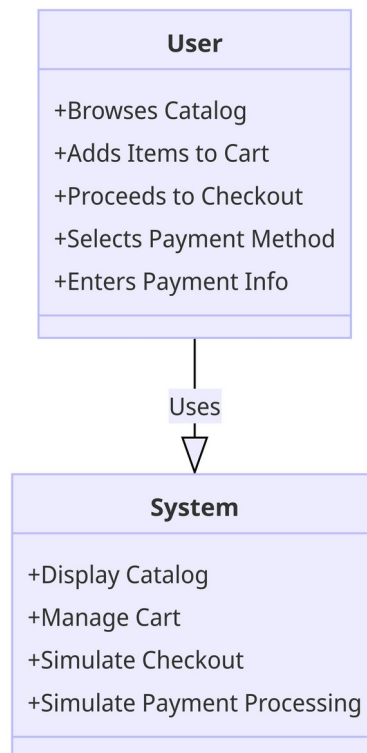
User

+Browses Catalog

+Adds Items to Cart

+Proceeds to Checkout

+Selects Payment Method

+Enters Payment Info

Uses

System

+Display Catalog

+Manage Cart

+Simulate Checkout

+Simulate Payment Processing

Fig: Use Case Diagram of Food Ordering Ecommerce system

4.1.1.1 Front-End Design

The front-end of the website is responsible for the user interface and user experience. It includes the design of web pages, navigation, and user interactions.

Key Front-End Design Aspects:

- Responsive Layout: The website is designed to be responsive, ensuring that it adapts seamlessly to various screen sizes and devices.
- User-Friendly Interface: The user interface is intuitive and easy to navigate, enhancing the user experience.
- Catalog Display: The catalog page presents food items with detailed descriptions and prices.
- Cart Management: The cart page allows users to add and remove items.

4.1.1.2 Back-End Design

The back-end of the website handles data processing, business logic, and communication with the front-end.

Key Back-End Design Aspects:

- Data Management: Data, including food item information and cart contents, is managed using JavaScript and local storage.
- Cart Updates: Real-time cart updates are achieved through JavaScript event handling.

Conclusion: The system design phase outlines the architectural structure of the food ordering website, emphasizing front-end and back-end design aspects. This design serves as the foundation for the development and implementation phases, ensuring that the project aligns with its objectives and user expectations.

Chapter Five: Implementation and Testing

5.1 Implementation

The implementation phase is a crucial step in bringing our food ordering ecommerce website to life. This chapter discusses the practical aspects of building and coding the system.

5.1.1 Tools Used

The development of the website involves the use of various tools and technologies to create a functional and user-friendly platform.

5.1.1.1 HTML, CSS, and JavaScript

The core technologies used for building the website are HTML for structuring web pages, CSS for styling, and JavaScript for interactivity. These technologies enable the creation of a responsive and dynamic user interface.

5.1.1.2 Local Storage

Local storage is utilized to store and manage cart data. JavaScript is used to interact with local storage, ensuring that cart items persist between sessions.

5.2 Testing

Testing is a critical phase to ensure the functionality and reliability of the food ordering website. Various testing methods are employed to identify and address issues.

5.2.1 Manual Testing

Manual testing involves hands-on evaluation of the website's features and functionalities. It is performed by testers who navigate through the site, interact with different elements, and verify that each aspect functions as intended.

Key Aspects of Manual Testing:

- Catalog: Testers browse the catalog, verify item details, and ensure a smooth selection process.
- Cart Management: Testing includes adding items, adjusting quantities, and removing items from the cart.

- Responsiveness: Testing across various devices and screen sizes ensures a consistent and user-friendly experience.

Conclusion

The implementation and testing phases play a vital role in transforming the design into a fully functional food ordering website. The use of HTML, CSS, JavaScript, and local storage, coupled with rigorous manual testing, ensures that the website meets user expectations and delivers a seamless ordering experience.

Chapter Six: Conclusion and Future Recommendations

6.1 Conclusion

The development of the food ordering ecommerce website has reached its conclusion, and this chapter summarizes the key findings, achievements, and outcomes of the project.

6.1.1 Achievements

Throughout the course of this project, several key achievements were realized:

- User-Friendly Interface: The website offers a user-friendly interface that simplifies the food ordering process and enhances the user experience.
- Real-time Cart Updates: Users can dynamically update their shopping cart, with the grand total displayed in real-time.
- Cart Persistence: The implementation of local storage ensures that cart data is retained between sessions.
- Simulated Checkout: The website simulates the checkout and payment process, offering users multiple payment method options.

6.1.2 Project Objectives

The project successfully met its objectives:

- To create a user-friendly and responsive food ordering website.
- To enable users to browse food items, add them to the cart, and proceed through a simulated checkout.
- To implement real-time cart updates and cart data persistence.
- To offer options for payment methods, including Cash on Delivery, eSewa, and Khalti.

6.2 Future Enhancements

While the project has achieved its core objectives, there are opportunities for future enhancements and improvements:

6.2.1 Integration with Real Payment Gateways

To provide a fully functional and secure payment experience, consider integrating with real payment gateways to process actual payments. This would enhance the authenticity and completeness of the website.

6.2.2 User Registration and Profiles

Implement user registration and profile management features to allow users to create accounts, save preferences, and track order histories. This would enhance user engagement and retention.

6.2.3 Restaurant Management

Expand the system to allow restaurants to manage their menu items, pricing, and availability, creating a more comprehensive platform for food businesses.

6.2.4 Order Tracking

Implement order tracking functionalities that enable users to monitor the status of their orders in real-time, providing transparency and reassurance.

6.2.5 Mobile Applications

Consider developing mobile applications for Android and iOS platforms to reach a wider audience and offer a seamless mobile ordering experience.

6.2.5 User Registration and Profiles

Implement user registration and profile management features. Allow users to create accounts, sign in securely, and manage their profiles. This will enable features such as saving order histories, tracking favorite items, and personalizing the user experience.

6.2.6 Admin Login Panel

Introduce an admin login panel with restricted access for restaurant owners or administrators. Admins can manage their restaurant's menu, view and fulfill orders, and access analytics and reporting tools.

6.2.7 Database Integration

Incorporate a database system to store essential data, such as user profiles, order histories, restaurant menus, and inventory. Using a database will improve data management, scalability, and data retrieval efficiency.

6.2.7 Restaurant Management Dashboard

Create a restaurant management dashboard where restaurant owners can update their menu items, pricing, and availability in real-time. Provide analytics and reporting tools to help restaurant owners optimize their operations.

6.2.8 User Reviews and Ratings

Incorporate a user review and rating system to allow customers to provide feedback on their food and delivery experiences. This can help improve the overall quality of the platform and build trust among users.

6.2.9 Multiple Language Support

Consider adding multiple language support to cater to a diverse user base. This can expand the reach of the platform and make it more accessible to non-English-speaking users.

Conclusion

In conclusion, the food ordering ecommerce website project has delivered a simplified yet effective solution for online food ordering. It meets its objectives by providing a user-friendly interface, real-time cart updates, and a simulated checkout process. Future enhancements can further enrich the platform, making it more comprehensive and feature-rich to meet evolving user demands.

Appendices

Appendix A: Source Code

For easy access to the source code of the food ordering ecommerce website, please visit the GitHub repository at the following link:

https://github.com/darshanbajgain/FoodEcommerceSite

Appendix B: Live Preview

For Live Preview of the project visit the link given below:

https://momosandmore-bydarshanbajgain.netlify.app/

This project is hosted on Netlify directly from my above GitHub repository.

Appendix B: User Interface Screenshots

The screenshots of user interface look like this:

Desktop views:
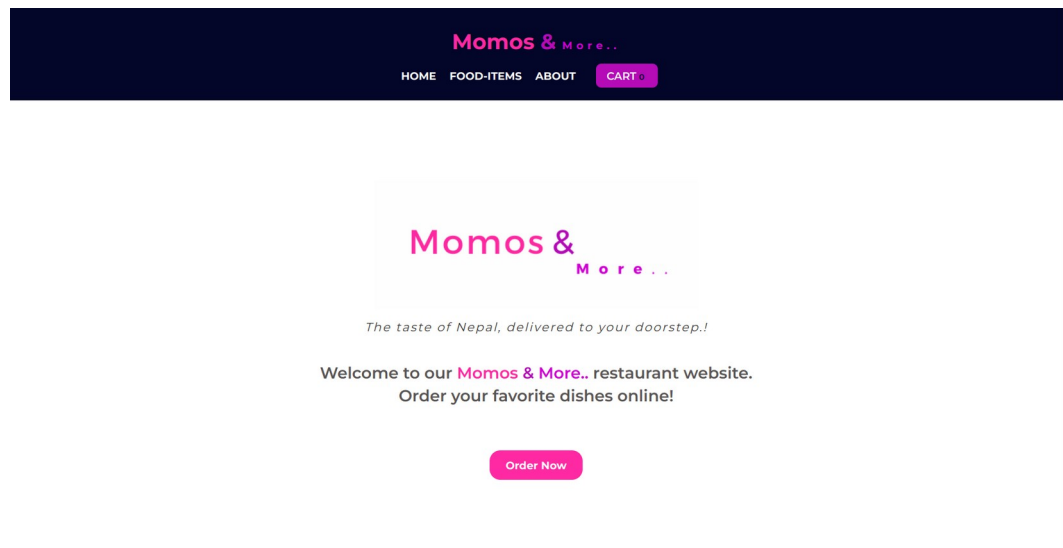
HOME   FOOD-ITEMS   ABOUT   **CART** 10

Items:

Chicken Momo

Chicken Momos with Tomato Achar.

NRS. 160   Add to Cart   Buy

Veg Momo

Veg Momos with Tomato Achar.

NRS. 120   Add to Cart   Buy

Momos & More..

HOME   **CART** 10

Your Food Item Carts

Product	Item Price	Quantity	Total Cost	Remove
Chicken Momo	Rs. 160	9	Rs. 1440	✖
Veg Momo	Rs. 120	1	Rs. 120	✖
		Grand Total	**Rs. 1560**	

Buy

HOME

Payment

Enter Your Details

Name:

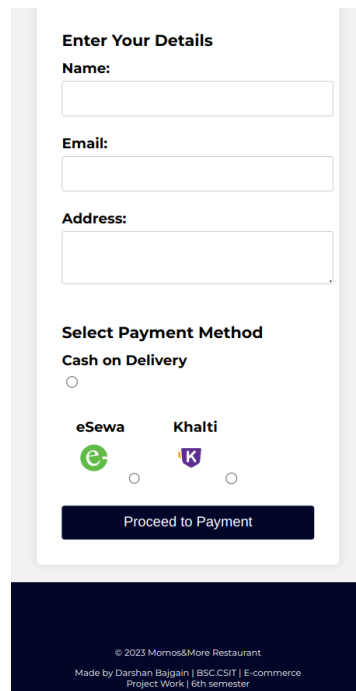Email:
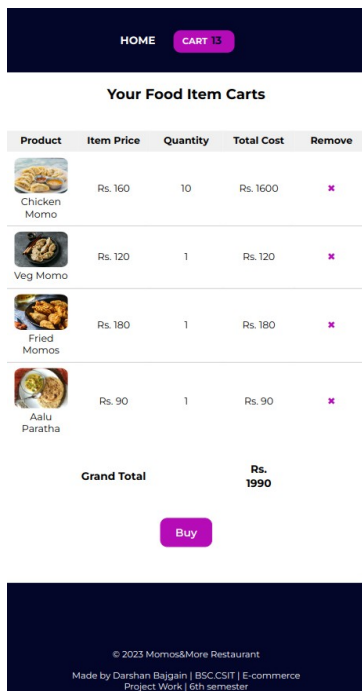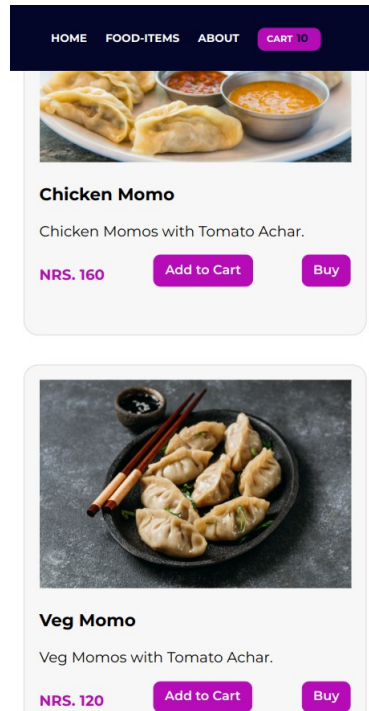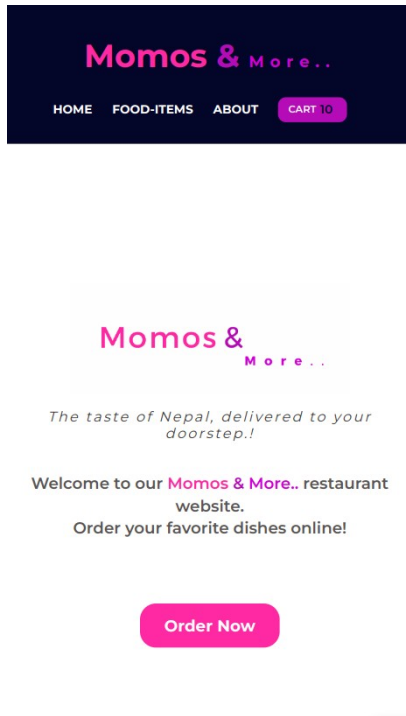
Address:

Select Payment Method

Cash on Delivery

eSewa   Khalti

Proceed to Payment

Mobile view:

References

YouTube Videos

The following YouTube video playlist provided valuable guidance and assistance during the development of this project:

YouTube Channel: @Telmosampaio

Title: " JavaScript Shopping Cart Tutorial "

URL: https://www.youtube.com/playlist?list=PLD9SRxG6ST3HignjcXUX6w8RcT0_b5ihV

JavaScript Shopping Cart Tutorial

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