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IT 313 - Systems Analysis and Design

PASTA PRESTO

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Submitted to:

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Leading Innovations, Transforming Lives, Building the Nation

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PASTA PRESTO

I. INTRODUCTION

1.1 Background of the Study

The restaurant industry has increasingly relied on digital solutions to streamline operations and enhance customer service. Traditional methods of ordering, such as in-person or via phone, often lead to miscommunication, order inaccuracies, and inefficient transaction processing. To address these challenges, the development of a dedicated food ordering system becomes essential. "Pasta Presto" is an artisanal pasta business that requires a robust and user-friendly platform to manage its online presence, process customer orders, and handle administrative tasks efficiently. This system is designed to bridge the gap between the customer's dining desires and the restaurant's operational workflow, providing a seamless digital experience from browsing the menu to order fulfillment.

1.2 Purpose of the System

The system is developed to:

- Provide customers with a convenient and reliable digital platform to browse the menu, place orders, and make payments online.

- Automate and centralize the order management process for the restaurant, reducing manual errors and improving efficiency.

- Offer a dedicated admin dashboard for the business owner to manage menu items, track orders, monitor sales performance, and view reports in real-time.

- Clearly define and communicate the service area for deliveries to manage customer expectations regarding availability and delivery times.

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1.3 Scope and Limitations

Scope

- The system includes a customer-facing interface for browsing menu categories (e.g., Traditional Italian Pasta, Premium Pasta, Desserts), viewing item details and prices, and managing a shopping cart.

- It implements a secure checkout process with multiple payment method options, including Cash on Delivery, Credit/Debit Card, and integrated mobile wallets like GCash (for demo purposes).

- An administrative dashboard is provided for managing all aspects of the business, including order tracking, menu item management, user management, and sales reporting with visual data representations.

- The system is designed to handle the complete order lifecycle, from order placement to status updates (e.g., Pending, Completed).

Limitations

- The system's delivery service is geographically restricted and currently operates only within specific areas and its immediate surrounding barangays.

- The payment integration, particularly for GCash, is for demonstration purposes only. The system does not process real financial transactions in its current state.

- The system is primarily designed for single-business use (Pasta Presto) and is not initially intended to function as a multi-vendor marketplace.

- Customer accounts and profiles are managed within the system, but it does not include advanced features like loyalty programs or personalized marketing automation.

II. SYSTEM DESCRIPTION

2.1 System Users

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- **Customer** – registers, browses items, places orders
- **Staff** – manages menu items, order status, and orders delivery rider
- **Admin** – manages categories, menu items, and user accounts
- **Rider** – manages order delivery status

2.2 System Features

Customer Features

- Register account
- Browse items
- Add items to cart
- Place orders
- View order history

Staff Features

- Add/edit/delete menu items
- Manage order status
- Assign delivery rider

Admin Features

- Manage categories
- Add/edit/delete menu items
- Manage users
- Basic inventory monitoring

Rider Features

- View order details
- Update order delivery status

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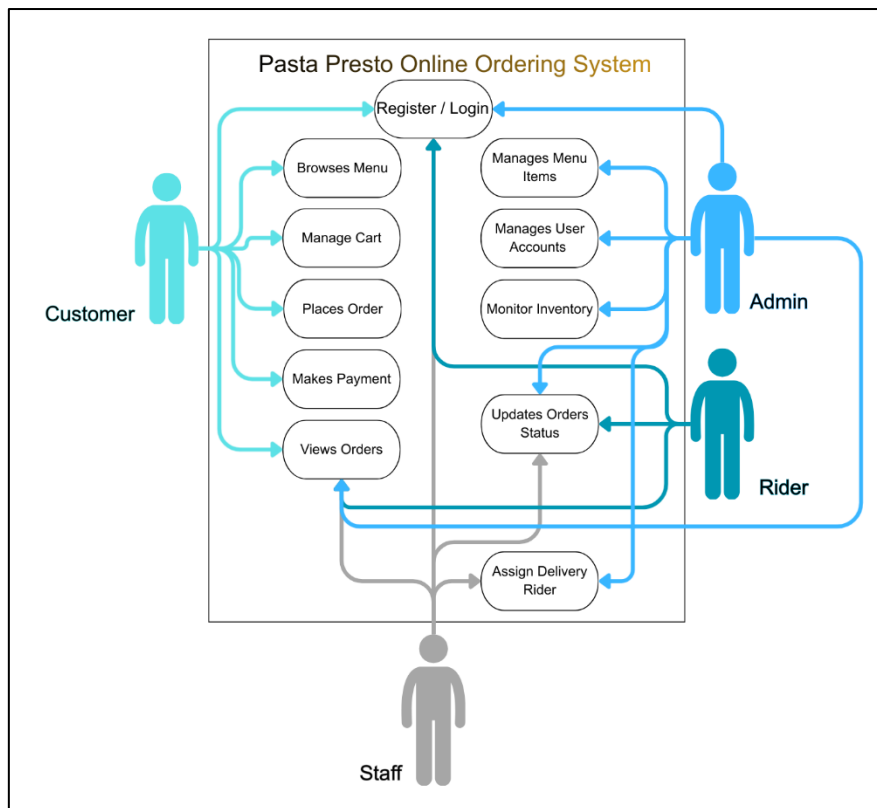**The National Engineering University**
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III. SYSTEM DESIGN

3.1 Use Case Diagram

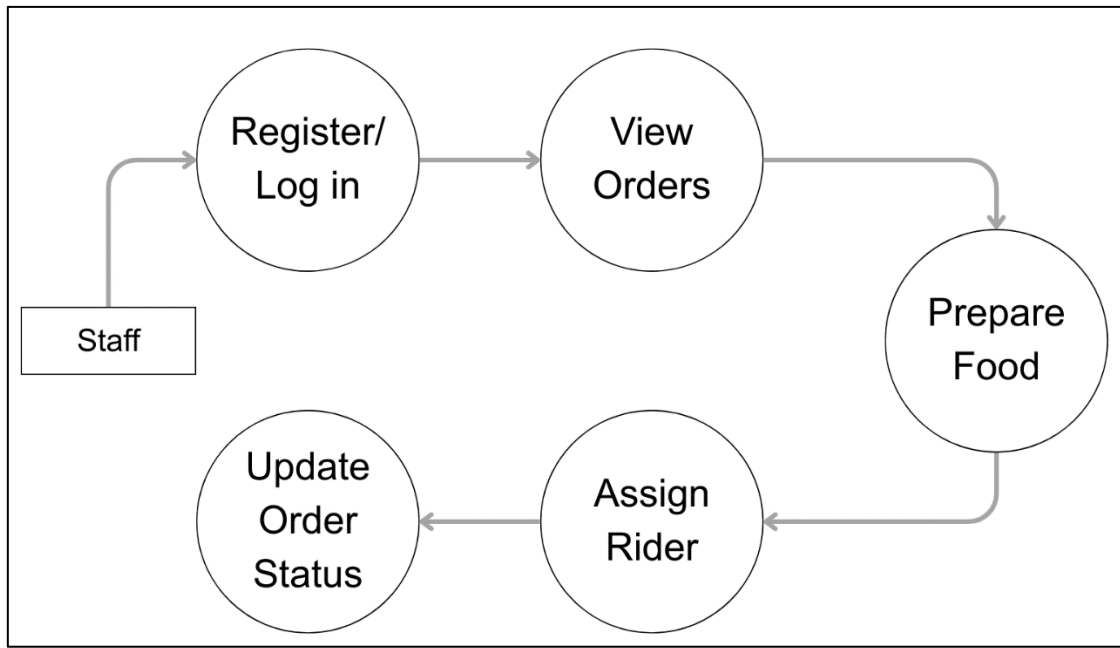### 3.2 Data Flow Diagram

Customer
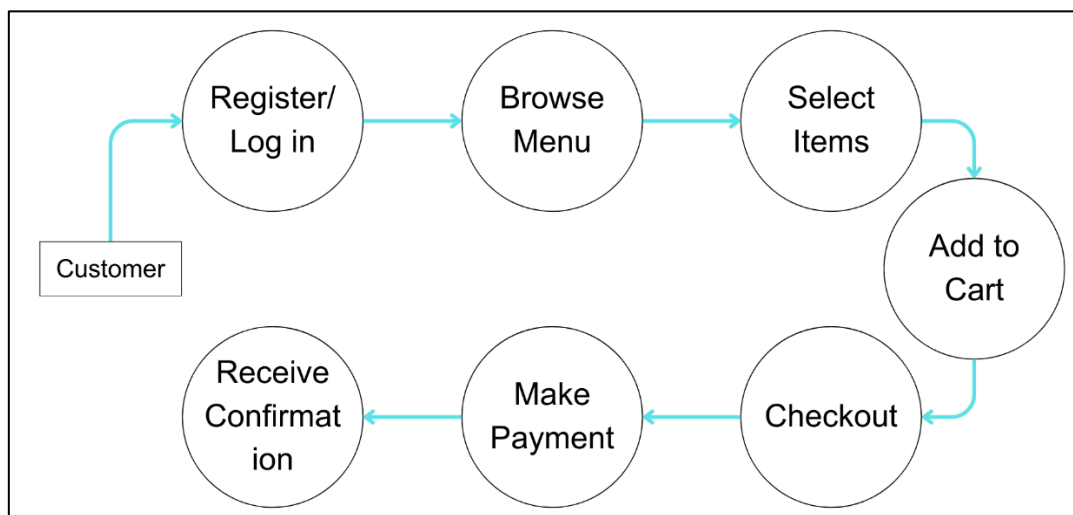
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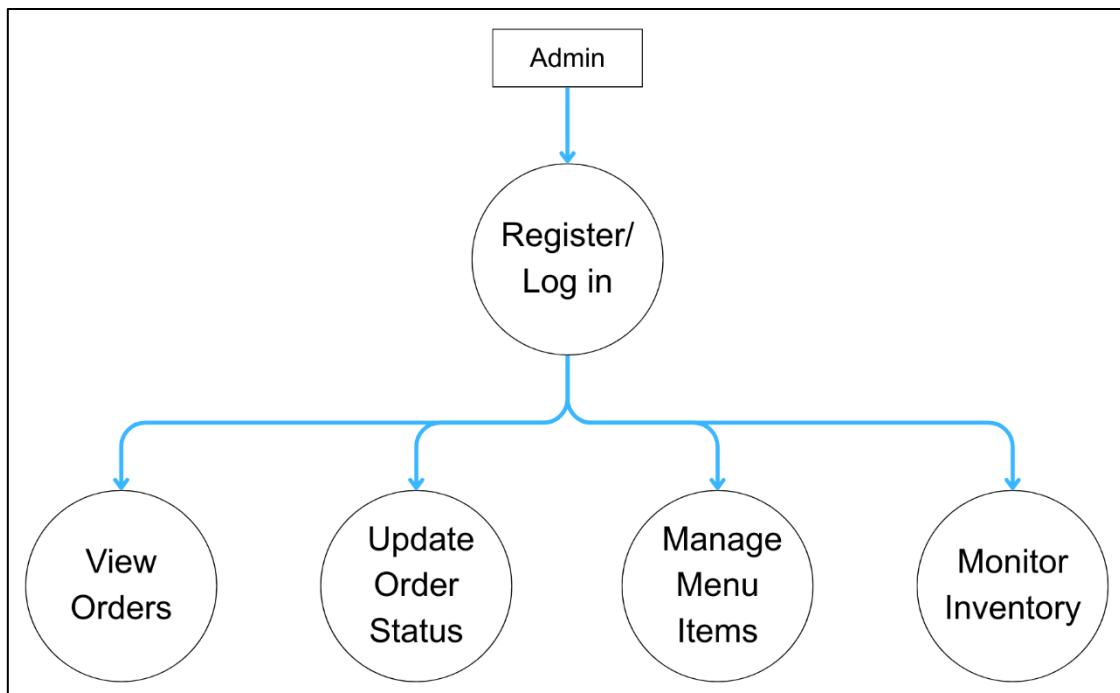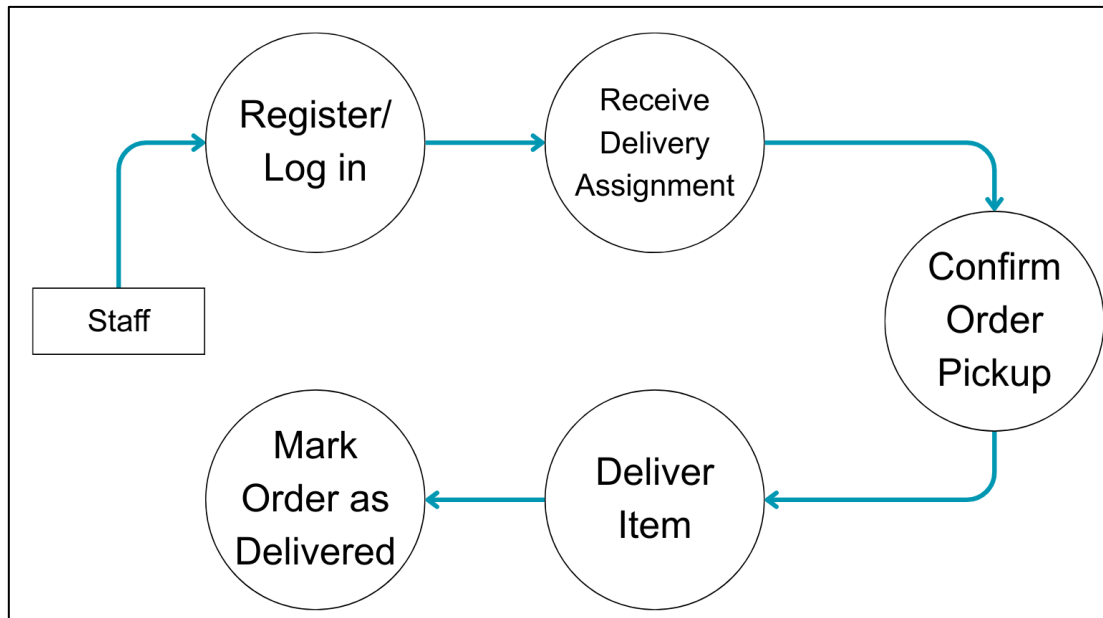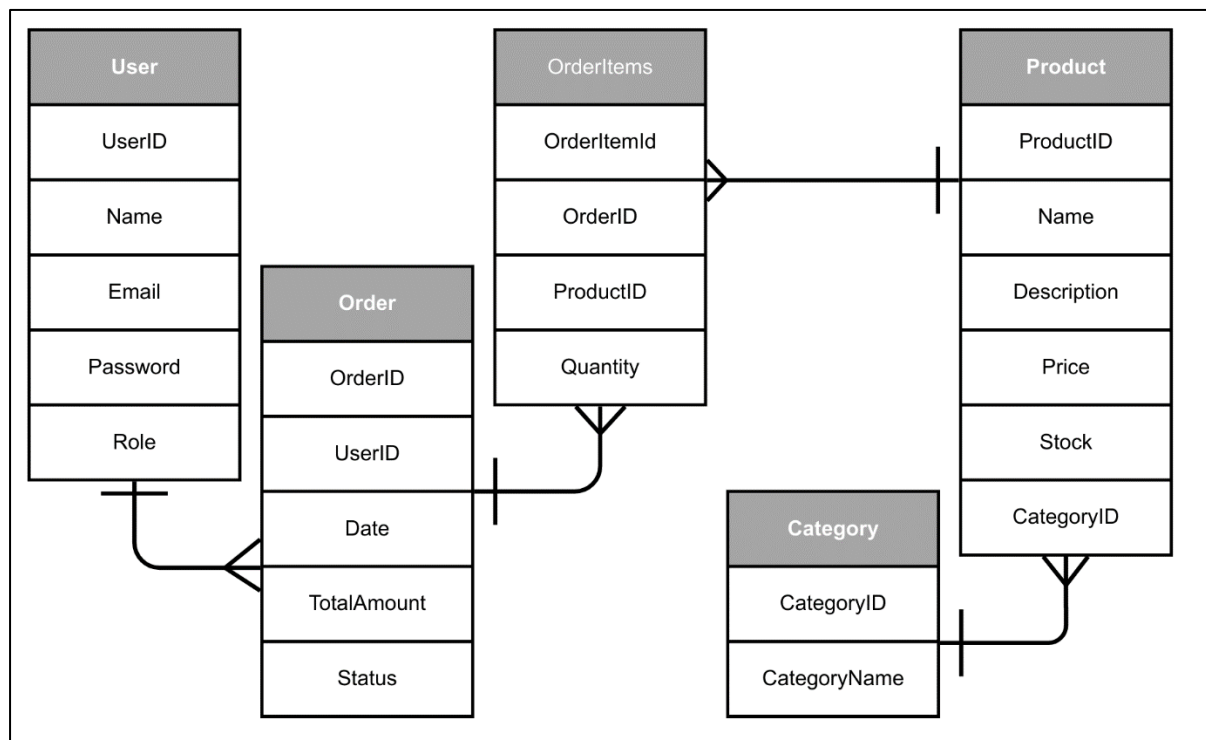Tel Nos.: (+63 43) 425-0143 local 8103
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Staff

Admin

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Rider

3.3 Entity-Relationship Diagram

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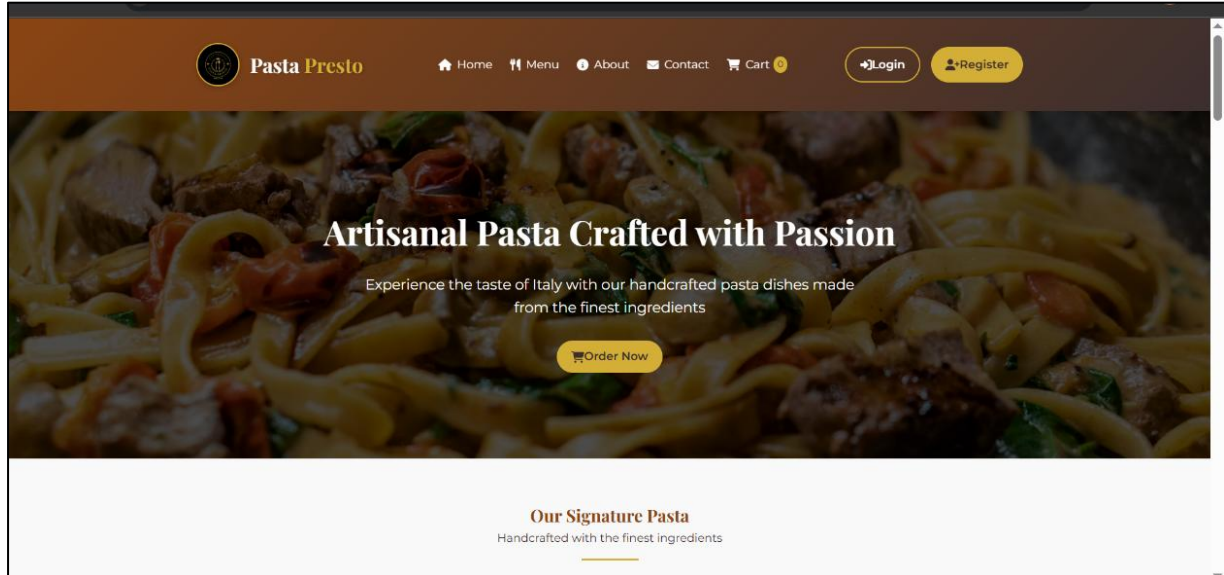
IV. SYSTEM ARCHITECTURE

4.1 Technology Stack

- **Frontend** – HTML, CSS, JavaScript

- **Backend** – PHP

- **Database** – XAMPP SQL

- **Web Server** – Localhost

4.2 Architectural Layout

- Client Side → Web Server → Application Logic → Database Server

V. SCREENSHOTS AND SYSTEM INTERFACE
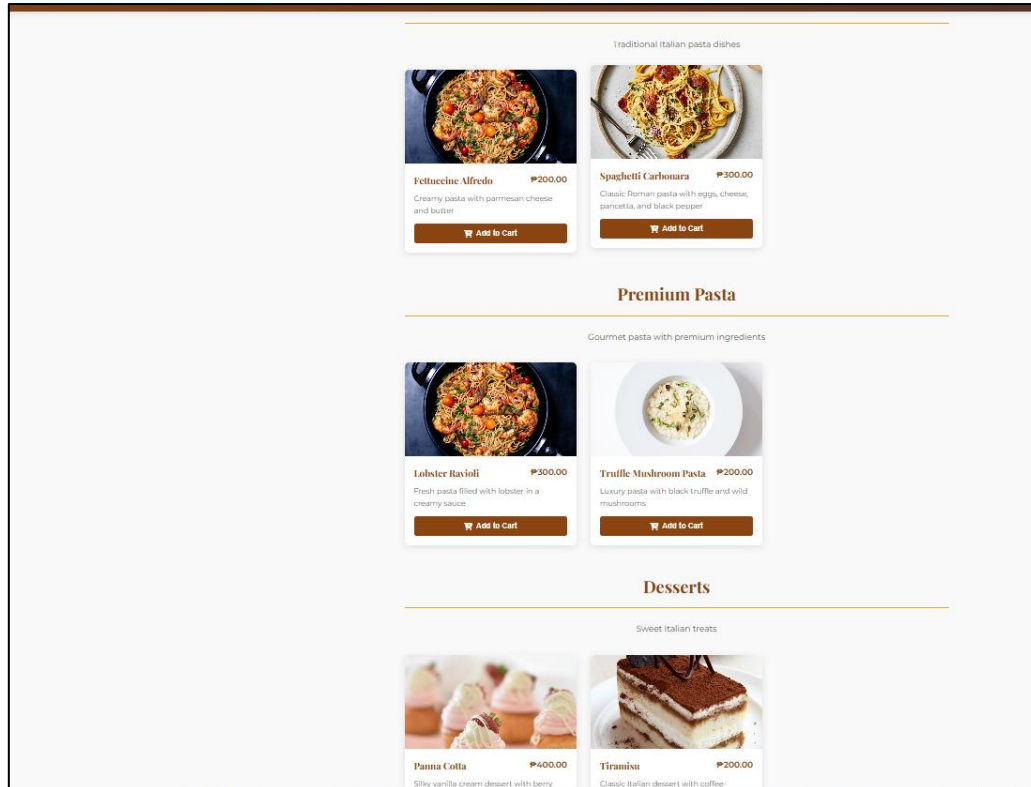
- **Homepage** – displays featured products

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- **Menu Page** – grid of items with price and description

- **Cart Page** – shows items added with quantity controls

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- **Checkout Page** – collects delivery and order info

- **Admin Dashboard** – overview of inventory and orders
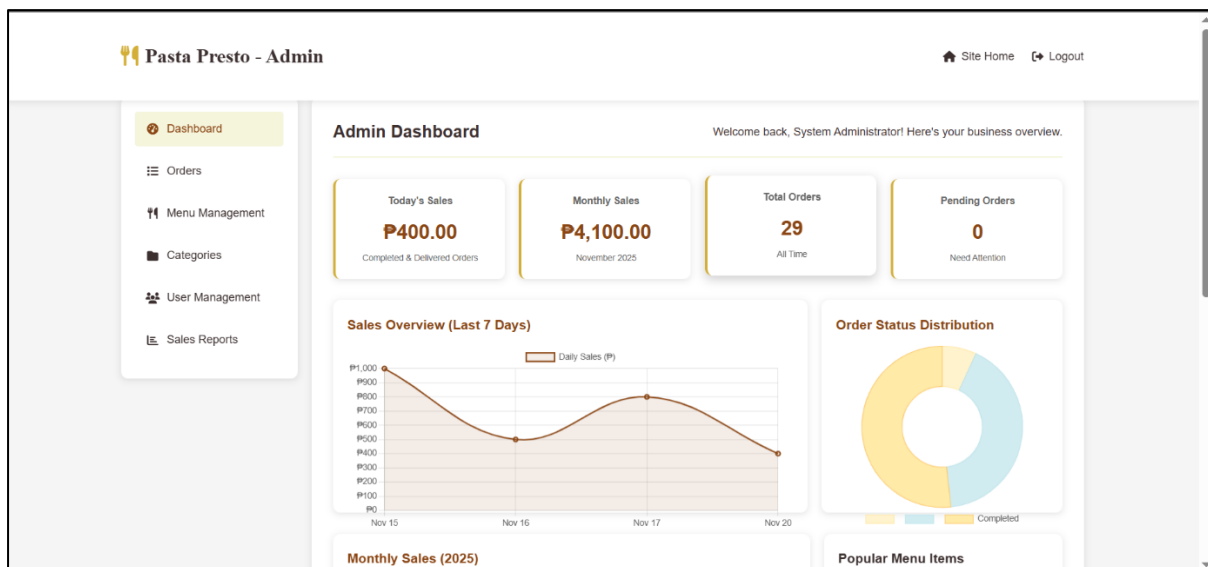
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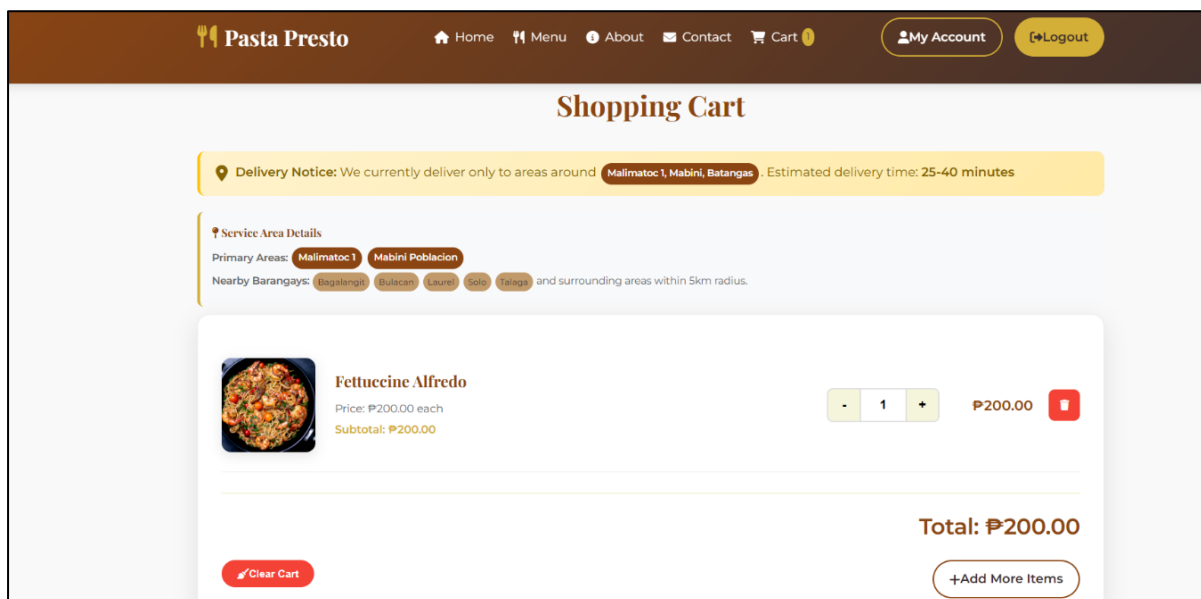Tel Nos.: (+63 43) 425-0143 local 8103
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- **Staff Dashboard** – shows order history

- **Rider Dashboard** – shows delivery task and order history

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VI. TESTING AND EVALUATION

6.1 Test Cases

TEST ID	DESCRIPTION	EXPECTED OUTPUT	STATUS
TC01	Customer logs in with valid account details	Customer successfully logs in and is redirected to homepage	Pass
TCO2	Customer adds pasta item to cart	Customer successfully logs in and is redirected to homepage	Pass
TCO3	Customer places an order	Order is saved in the database and confirmation is shown	Pass
TCO4	Delivery staff updates order status (e.g., "Out for Delivery")	Order status updates and is reflected on customer side	Pass
TCO5	Admin adds a new pasta menu item	New item appears in menu list after refresh	Pass
TC06	Delivery staff marks order as "Out for Delivery"	Order status updates and reflects on both admin and customer side	Pass
TC07	Admin dashboard loads sales charts and statistics	Dashboard displays real-time data without errors	Pass
TC08	Admin updates a menu item	Menu list displays updated item	Pass
TC09	View active orders in kitchen dashboard	"Active Orders" list and count are accurate"	Pass

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TC10	Update order status to "Ready"	Order moves from "Active" to "Ready for Driving" section.	Pass
TC11	Validate Delivery Monitor logic	Times listed are logical, accurate, and non-duplicated.	Pass
TC12	Verify Kitchen Stats calculation	"Completed Today," "Pending Attention," etc., reflect true database state.	Pass
TC13	Check for typos in UI labels	Labels read "Pending Attention" and "Ready for Pickup."	Pass
TC14	Checkout with an empty cart	Clear error message is displayed.	Pass
TC15	Admin saves menu item with invalid data (e.g., negative price)	Input is rejected with a validation error.	Pass
TC16	Validate Delivery Monitor logic	Times listed are logical, accurate, and non-duplicated.	Pass

6.2 Evaluation

The system satisfies its main requirements and performs the necessary functions for basic online ordering and management. Core features such as login, cart updates, order placement, and product modifications work as expected during testing. The Admin Dashboard provides essential information like daily and monthly sales, total orders, pending orders, and basic menu statistics, all updating correctly based on activity. The Staff Dashboard also works properly, allowing staff to view incoming orders, update their status, and

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handle customer details. Additionally, the delivery feature functions as intended, where delivery personnel can receive orders assigned by staff and update the progress until completion. Overall, the system performs its intended tasks reliably without major issues.

VII. CONCLUSION AND RECOMMENDATIONS

7.1 Conclusion

The Pasta Presto Online Ordering System successfully demonstrates the practical application of systems analysis and design principles to create a functional and user-centric solution. The developed system effectively automates the core ordering process, providing a seamless experience for customers from browsing to checkout, while simultaneously streamlining back-end operations for staff and administrators. By centralizing order management, inventory tracking, and sales reporting, the system reduces manual errors, improves operational efficiency, and enhances the overall accessibility of Pasta Presto's services. This project serves as a robust foundation for a digital ordering platform, validating its core objectives of improving service delivery and supporting business workflow.

7.2 Recommendations

For future improvements:

- Integrate advanced reporting and analytics for deeper business intelligence.
- Migrate the system from localhost to a live, cloud-based server for 24/7 accessibility.
- Implement a customer loyalty program and push notifications for order updates.
- Develop a real-time order tracking feature with map integration.
- Transition demonstration payment gateways to live, secure transaction APIs.
- Automate inventory deduction and implement low-stock alerts.