



IT 5/L - IT Elective 2
(2780)

Food Dash
(Food Ordering System)

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December 2025

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Figure 1: Food Dash

Food Ordering System

The Food Ordering System is an online platform that allows customers to browse, place orders, and make payments conveniently through a desktop based application. One of the problem include inaccuracies in ordering and miscommunication at the customer-restaurant-delivery person level, leading to wrong or delayed orders. Order inaccuracy and miscommunication can be resolved by integrating an automated system of order confirmation and real-time tracking that ensures accuracy and transparency between the customer and restaurant [1]. Other challenges involve logistics and delivery issues, like inefficient route planning and high volumes of orders that delay food delivery and lower its quality. Regarding the logistical and delivery challenges, the use of GPS-based route optimization and efficient scheduling of deliveries will improve timeliness and maintain the quality of the food [2]. Lastly, technical glitches and system downtimes can disrupt service operations and irritate customers and restaurants alike. To minimize technical glitches and system downtimes, regular system maintenance ensures reliability, continuity of operation, and availability; infrastructure based on clouds; data backups. [3].

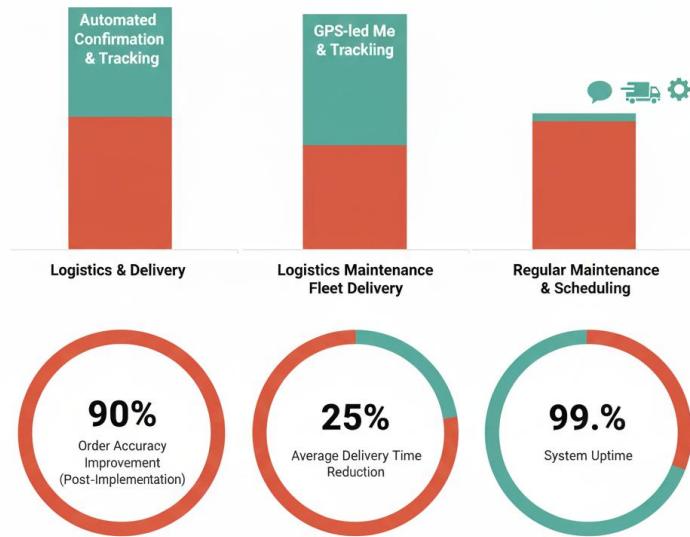


Figure 2. Data and Graph

Problem 1: Delayed Food Deliveries

Online food ordering platforms are often saddled with the problems of wrong deliveries, missing items, and late arrivals that reduce customer trust and satisfaction. According to research from Restaurant Dive, 63% of customers reported having received at least one order incorrectly, while some of the top reasons for customer complaints are delays in delivery [4]. These issues often arise from manual order handling and lack of real-time coordination between customers, restaurants, and delivery riders.

Solution 1: Real-Time Tracking and Automated Order Processing

Food Dash can solve this problem by utilizing automated order management and real-time tracking of deliveries to ensure accuracy and timeliness. Using the power of integrated tracking and notifications, restaurants and customers are engaged on the progress made with the order and in the route leading up to delivery. Real-time tracking systems increase delivery accuracy up to 20%, and boost customer satisfaction due to their transparency and reliability [5].

Problem 2: Ineffectiveness of Traditional Ordering

Traditional methods of ordering food require customers to either visit or call the restaurant, which results in misheard orders, long queues, and limited-service hours. These manual processes irritate customers during rush hour and inaccurate orders due to staff overload are a common issue. In reality, conventional ordering systems tend to be less effective, with a high proclivity for human error, affecting service quality and customer satisfaction [6].

Solution 2: Desktop Based Food Ordering and Management System

Food Dash ensures a shift from the inconvenience and human errors common in traditional ordering by adopting a web and mobile platform where customers place orders directly, thus decreasing miscommunication and lessening the burden on staff. Research indicates that such online ordering systems greatly improve order accuracy and customer satisfaction while streamlining workflows and minimizing manual inputs [7].

Problem 3: Limited Visual Inspection

Traditional inspection techniques involve the use of human vision, which is quite fallible due to fatigue, limitation of attention, and inconsistency in judgment. Subtle defects or variation may be missed, which can have further consequences on the quality of the product and overall manufacturing costs. Studies suggest that use of only human vision for inspection reduces defect detection efficiency and even hampers the performance of all operations [8].

Solution 3: Interactive Digital Menu with Customization Features

Food Dash is integrated with an interactive digital menu, for improving customer service by showing detailed information about a dish, images, and allowing real-time customization of orders. This system enhances the ordering experience by reducing miscommunication, accelerating decision-making, and improving the quality of service [9].

Conclusion

Food Dash combines convenience, precision, and personalization to enhance the dining experience. Customers can now navigate through meal options easily with an interactive digital menu that allows them to see visuals and make modifications to preference or dietary needs. For restaurants, it streamlines operations regarding orders and Food Dash System bridges the gap between traditional ordering and modern digital service, promoting faster, clearer, more enjoyable interactions between customers and restaurants [10].

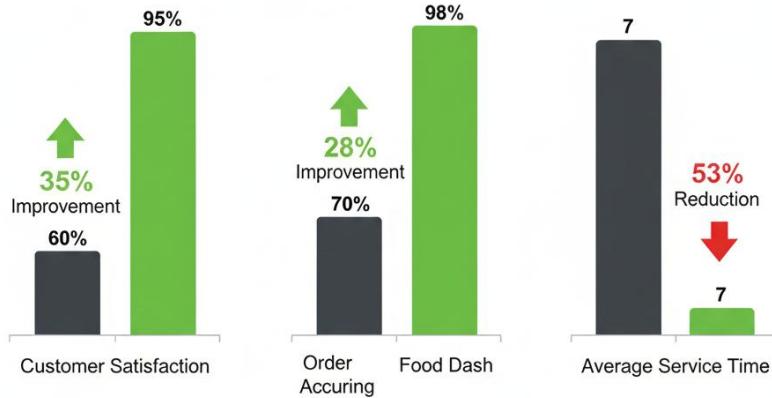


Figure 3. Data and Graph

Tools

This system will be developed using Python as the primary programming language due to its simplicity and versatility in building interactive applications. The development process will be carried out in PyCharm, an integrated development environment (IDE) that provides efficient tools for coding, debugging, and project management. To design the system's graphical user interface, the PyQt6 library will be utilized, allowing the creation of a responsive and user-friendly application interface. For database management, the system will use XAMPP, which provides an integrated platform with MySQL for storing and managing user, order, and menu data efficiently.

Use Cases

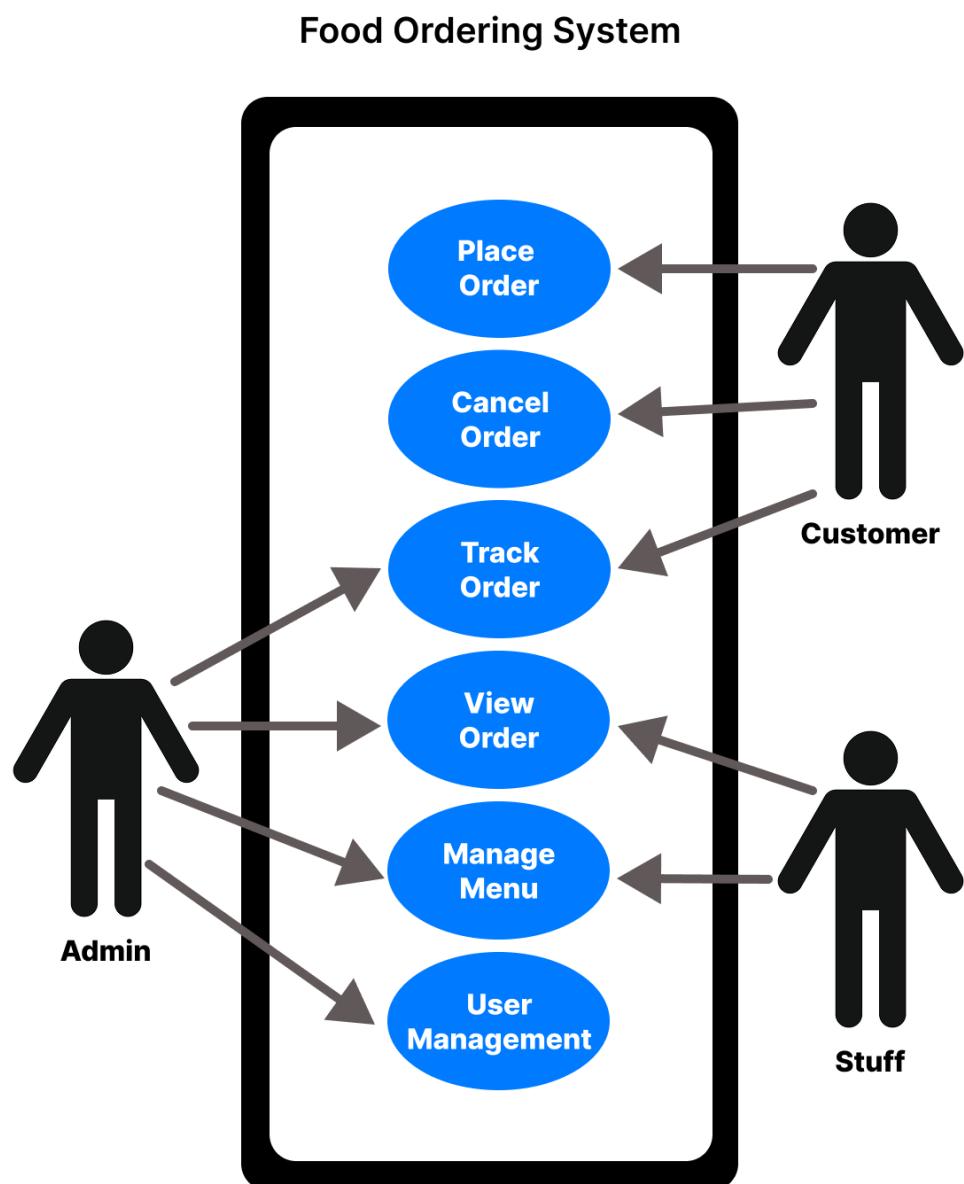


Figure 4: Food Ordering System

Entity Relationship Diagram

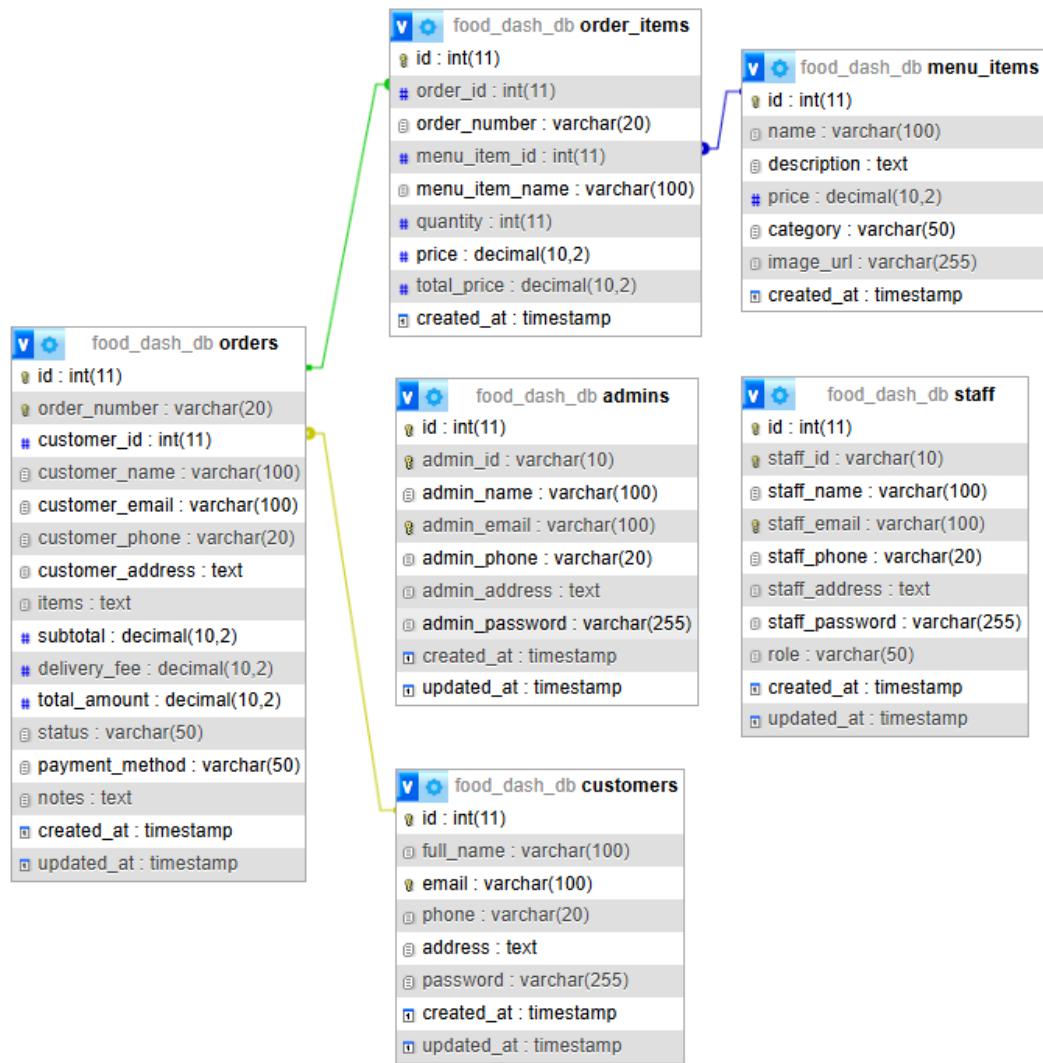


Figure 5. Entity Relationship Diagram

Data Dictionary

customers

Column	Type	Null	Default	Comments
id <i>(Primary)</i>	int(11)	No		
full_name	varchar(100)	No		
email	varchar(100)	No		
phone	varchar(20)	No		
address	text	No		
password	varchar(255)	No		
created_at	timestamp	No	current_timestamp()	
updated_at	timestamp	No	current_timestamp()	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	32	A	No	
email	BTREE	Yes	No	email	32	A	No	

Figure 7. User

staff

Column	Type	Null	Default	Comments
id <i>(Primary)</i>	int(11)	No		
staff_id	varchar(10)	Yes	NULL	
staff_name	varchar(100)	No		
staff_email	varchar(100)	No		
staff_phone	varchar(20)	No		
staff_address	text	No		
staff_password	varchar(255)	No		
role	varchar(50)	Yes	staff	
created_at	timestamp	No	current_timestamp()	
updated_at	timestamp	No	current_timestamp()	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	5	A	No	
staff_email	BTREE	Yes	No	staff_email	5	A	No	
staff_id	BTREE	Yes	No	staff_id	5	A	Yes	

Figure 6. User

orders

Column	Type	Null	Default	Comments
id (Primary)	int(11)	No		
order_number	varchar(20)	No		
customer_id	int(11)	Yes	NULL	
customer_name	varchar(100)	No		
customer_email	varchar(100)	No		
customer_phone	varchar(20)	No		
customer_address	text	No		
items	text	No		
subtotal	decimal(10,2)	No		
delivery_fee	decimal(10,2)	Yes	50.00	
total_amount	decimal(10,2)	No		
status	varchar(50)	Yes	pending	
payment_method	varchar(50)	Yes	Cash on Delivery	
notes	text	Yes	NULL	
created_at	timestamp	No	current_timestamp()	
updated_at	timestamp	No	current_timestamp()	

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	72	A	No	
order_number	BTREE	Yes	No	order_number	72	A	No	
customer_id	BTREE	No	No	customer_id	24	A	Yes	

Figure 8. Transactions

User Interface

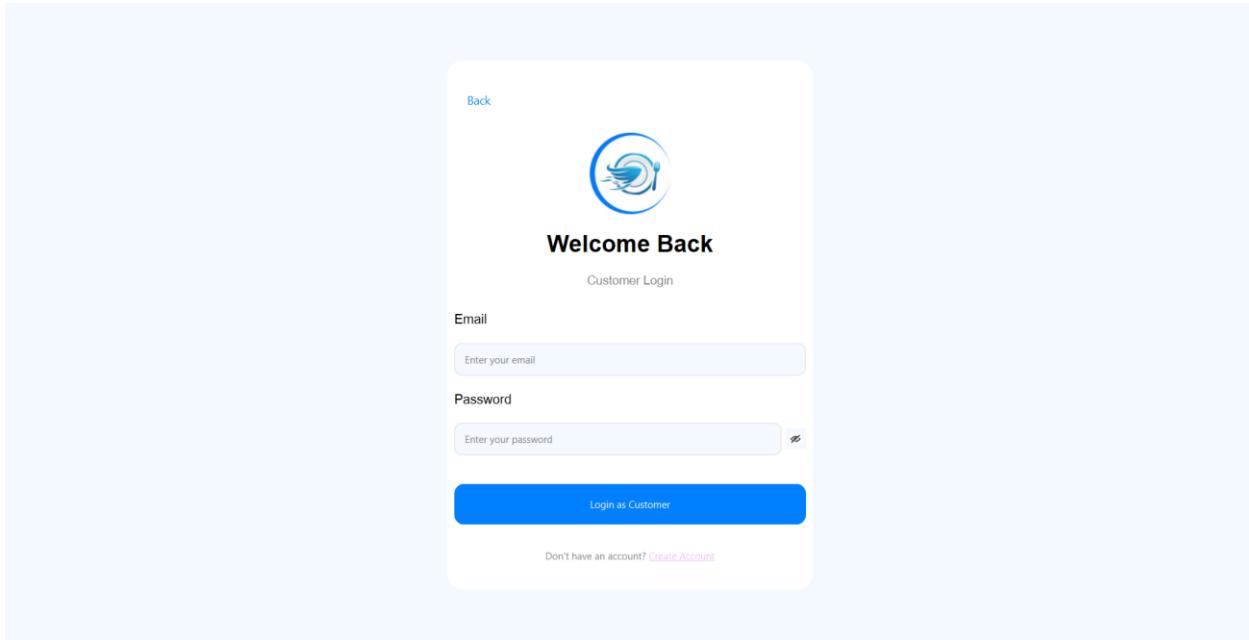


Figure 9. Customer Login

The Customer Login page of the Food Dash system provides users with a clean and easy-to-use entry point where they can securely access their personal dashboard. It features a simple layout with fields for email or username and password, along with clear guidance for forgotten credentials or creating a new account. Designed with the system's signature blue and white theme, the interface offers a modern and welcoming experience that leads customers directly to browsing the menu, placing orders, editing their selections, and viewing their order history with ease.

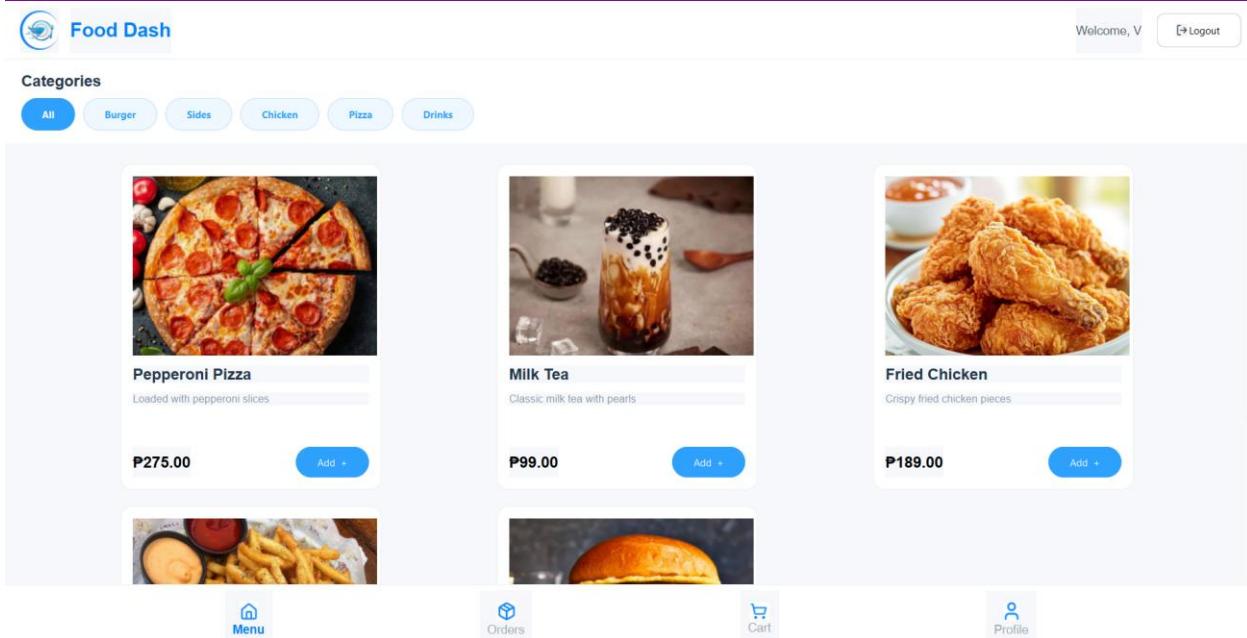


Figure 10. Customer Menu

The Customer Menu of Food Dash serves as the main gateway for users to explore the system's features with ease and convenience. It presents a clean and minimalist layout showcasing fast-food menu items, each displayed with images, prices in Philippine peso, and an option to add items to their order. Designed for quick navigation, the dashboard allows customers to browse available dishes, view promotions, and seamlessly access other sections such as their cart, order history, and account settings. The overall interface emphasizes simplicity and speed, ensuring a smooth and enjoyable ordering experience.

The screenshot shows the 'Your Orders' section of the Food Dash application. At the top right, there are 'Welcome, V' and 'Logout' buttons. Below that, the heading 'Your Orders' is displayed. Two completed orders are listed:

- Order #ORD-20251215155517-9** (Completed)
12/15/2025 • 03:55 PM
Pepperoni Pizza (Qty: 1) - ₱275.00
Subtotal: ₱275.00
Delivery Fee: ₱50.00
Total: ₱325.00
- Order #ORD-20251215154528-7** (Completed)
12/15/2025 • 03:45 PM
Pepperoni Pizza (Qty: 1) - ₱275.00
Subtotal: ₱275.00
Delivery Fee: ₱50.00
Total: ₱325.00

At the bottom of the page, there are four navigation icons: 'Menu' (home icon), 'Orders' (dice icon), 'Cart' (shopping cart icon), and 'Profile' (person icon).

Figure 11. Customer Order

The Orders section of the Customer Dashboard in Food Dash provides users with a clear and organized view of all their current and past orders. It displays each order with essential details such as the items purchased, quantities, total cost in Philippine peso, and the order status, allowing customers to easily track the progress of their meals from preparation to completion. The layout is simple and intuitive, ensuring that users can quickly review their order history or check ongoing transactions without confusion. Designed with the system's blue-and-white minimal theme, this section enhances transparency and convenience, giving customers full control over their ordering experience.

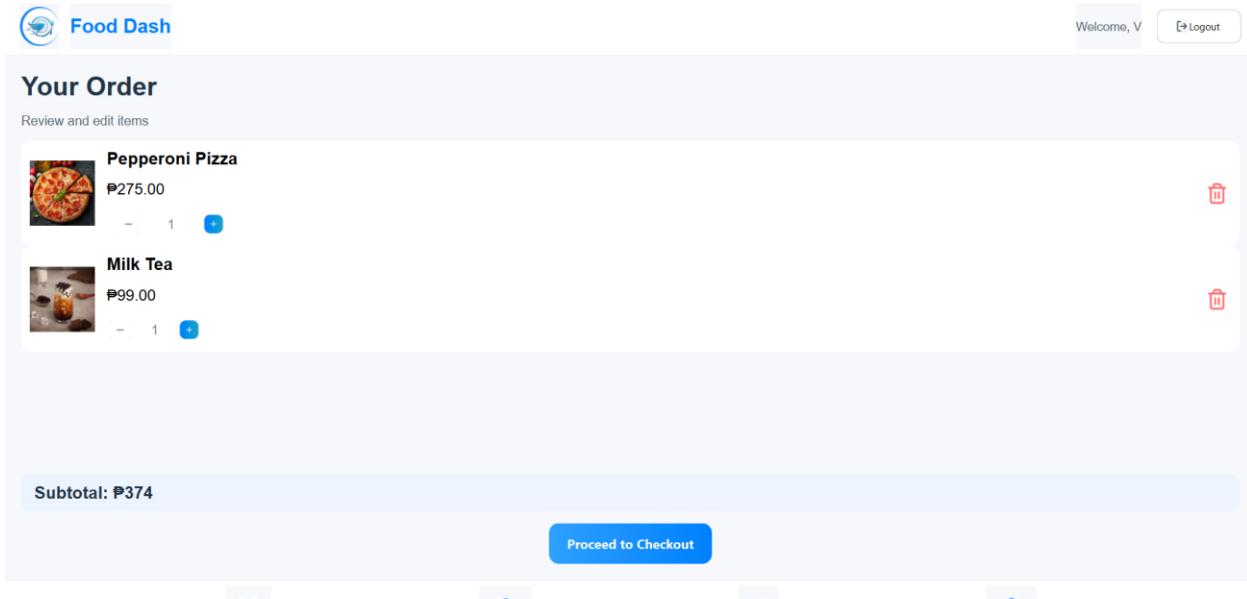


Figure 12. Customer Cart

The Cart section of the Customer Dashboard in Food Dash provides users with a clear and convenient space to review and manage the items they plan to order. It displays each selected dish along with its image, quantity, and price in Philippine peso, allowing customers to easily update quantities, remove items, or proceed to checkout. The layout is simple and organized, ensuring a smooth ordering experience while maintaining the system's clean blue-and-white theme. This section helps customers finalize their orders efficiently and ensures they have full control over their selections before placing their purchase.

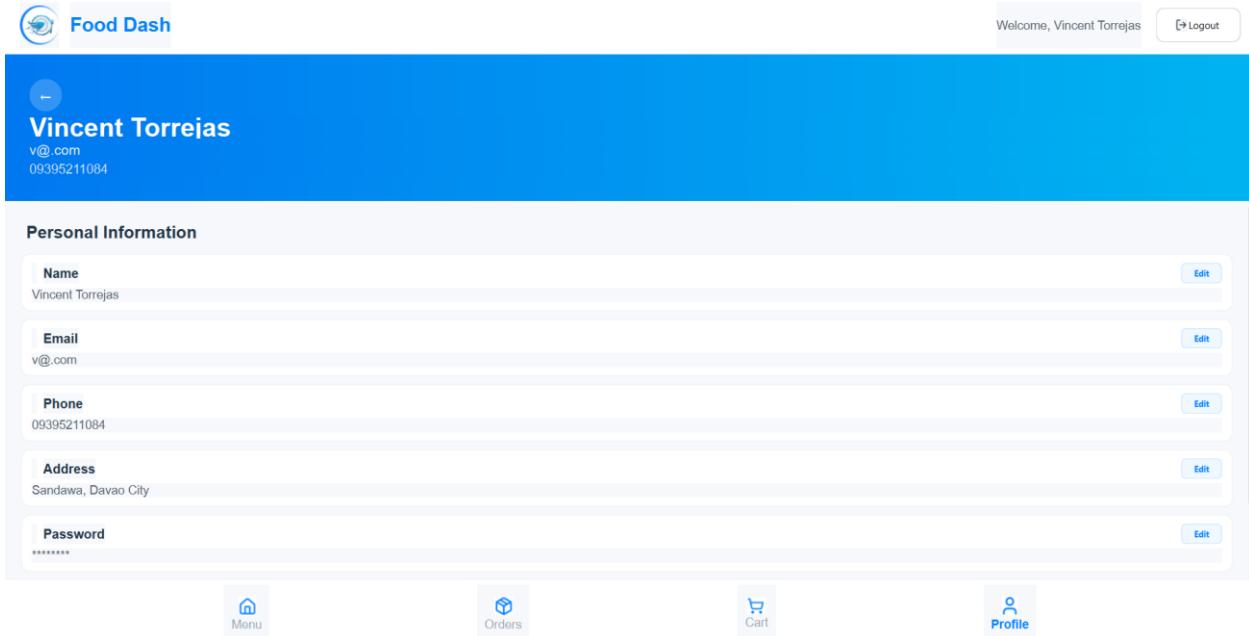


Figure 13. Customer Profile

Profile section of the Customer Dashboard in the Food Dash application. It presents the user's account details such as name, email, phone number, delivery address, and password, organized under a Personal Information panel. The layout follows a clean blue-and-white theme, matching the app's overall design. Each information row includes an Edit button, allowing users to update their details individually. At the top, the user is greeted by name and given access to a Logout button for securely exiting the account, while the bottom navigation bar highlights the Profile tab for easy access.

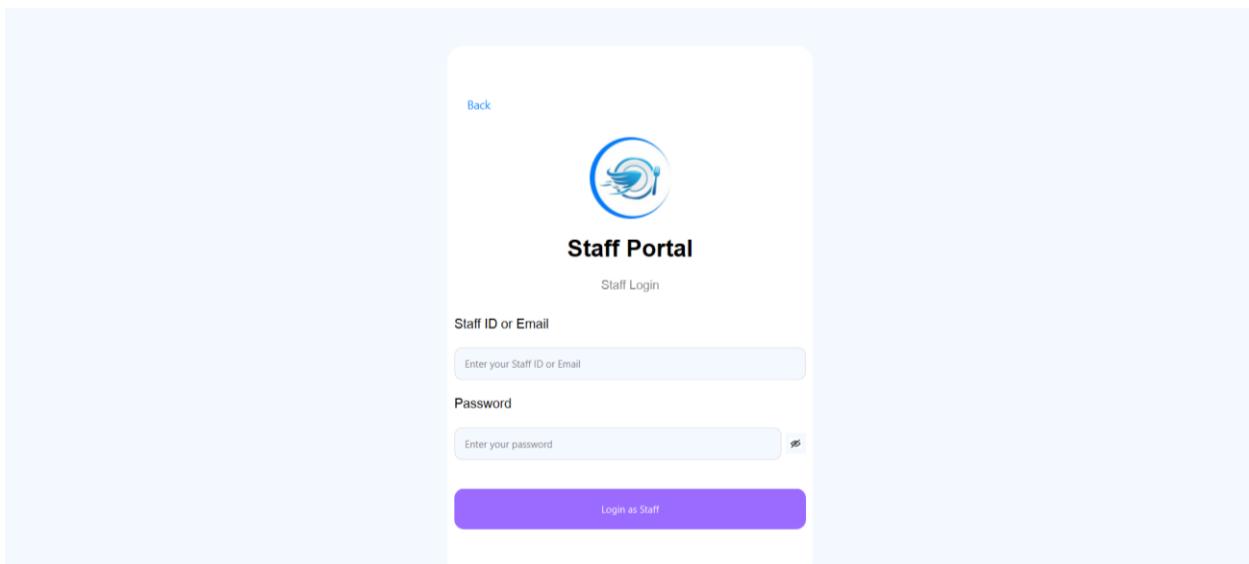
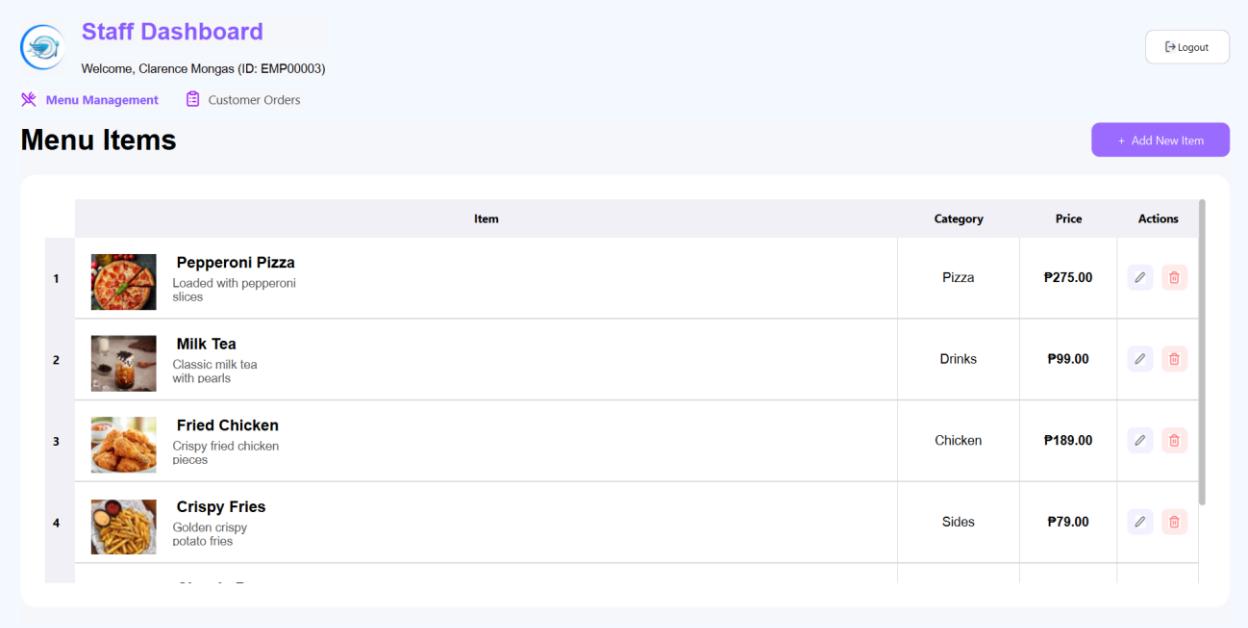


Figure 14. Staff Login

The Staff Login page of Food Dash provides a secure and straightforward access point for authorized personnel responsible for managing menu items and monitoring customer orders. It features a clean and professional layout with fields for Staff ID or email and password, all styled in the system's signature blue-and-white theme. Designed for efficiency, this login page ensures that staff members can quickly sign in and proceed to their dashboard, where they can edit menu details, update item availability, and view real-time customer orders to support smooth and organized operations.



The screenshot shows the 'Staff Dashboard' interface. At the top, there is a user profile icon, the title 'Staff Dashboard', a welcome message 'Welcome, Clarence Mongas (ID: EMP00003)', and a 'Logout' button. Below this is a navigation bar with 'Menu Management' and 'Customer Orders' links. A purple button labeled '+ Add New Item' is located in the top right corner. The main area is titled 'Menu Items' and displays a table of four menu items:

	Item	Category	Price	Actions
1	Pepperoni Pizza Loaded with pepperoni slices	Pizza	₱275.00	
2	Milk Tea Classic milk tea with pearls	Drinks	₱99.00	
3	Fried Chicken Crispy fried chicken pieces	Chicken	₱189.00	
4	Crispy Fries Golden crispy potato fries	Sides	₱79.00	

Figure 15. Staff Menu Management

The Menu Management section of the Food Dash staff dashboard provides an intuitive interface for staff to efficiently manage the restaurant's offerings. Here, staff can add new menu items, update prices or descriptions, categorize dishes, and remove outdated options. The system allows real-time updates, ensuring that any changes are immediately reflected for customers. This section streamlines menu oversight, making it easier for staff to keep the offerings accurate, organized, and appealing.

The screenshot shows the Staff Dashboard interface. At the top, there's a header with a profile icon, the title "Staff Dashboard", a welcome message "Welcome, Clarence Mongas (ID: EMP00003)", and a "Logout" button. Below the header, there are two navigation links: "Menu Management" and "Customer Orders". The main section is titled "Customer Orders". It features a search bar with placeholder text "Search by order number, customer name, or email...", a "Search" button, a dropdown menu set to "Completed", and a "Refresh" button. A detailed order view is displayed below this. The order information includes:

Order #ORD-20251216005327-7		Lian • l@gmail.com	
Order Date: 2025-12-16 00:53:27			
📍 Delivery Address: Purok 5 FD, RD. 2 Sto. Tomas Davao del Norte			
📞 Contact Number: 09878654543			
1x Pepperoni Pizza		₱275.00	
Total Amount:		₱325.00	

Below the order details, there are four status buttons: "Pending", "Preparing" (which is highlighted in yellow), "Delivering", and "Completed".

Figure 16. Staff View Orders

The Customer Orders section of the Food Dash staff dashboard allows staff to efficiently view and manage all incoming orders from customers. Staff can track the status of each order, update preparation progress, and ensure timely fulfillment. The interface provides clear details on ordered items and quantities, enabling accurate and smooth processing. This section helps staff stay organized, prioritize orders effectively, and deliver a seamless experience for customers.

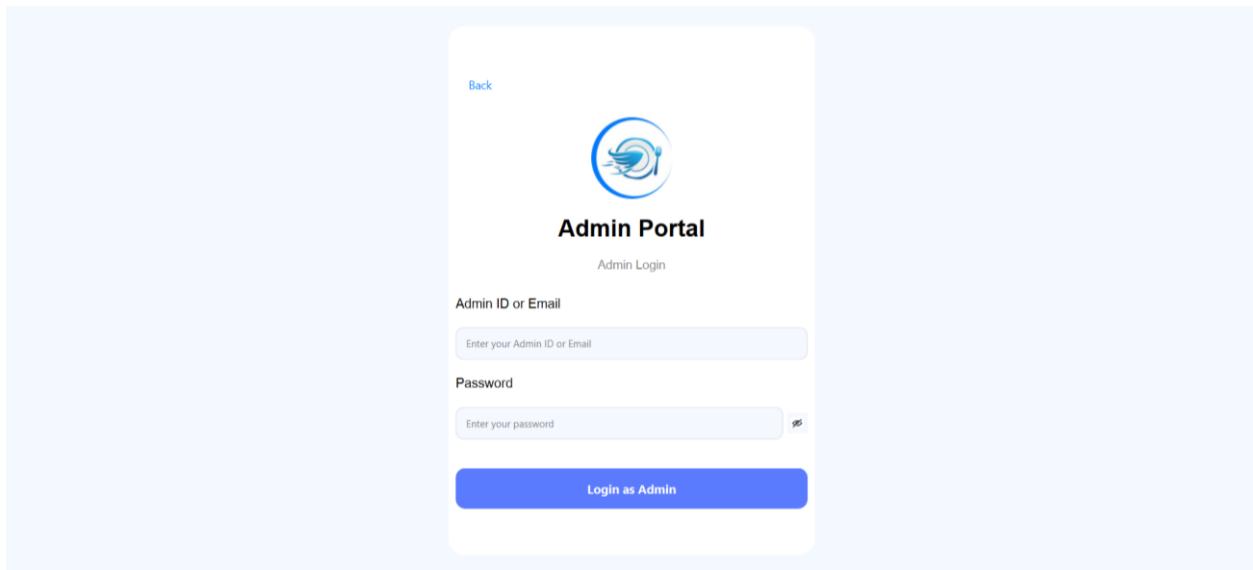


Figure 17. Admin Login

The Admin Login for Food Dash provides a secure gateway for administrators to access the system's management features. Through this login, admins can authenticate their credentials and gain full control over the platform, including user management, menu oversight, and order monitoring. The interface is designed to be straightforward and secure, ensuring that only authorized personnel can access sensitive administrative functions. This login ensures the integrity and smooth operation of the entire Food Dash system.

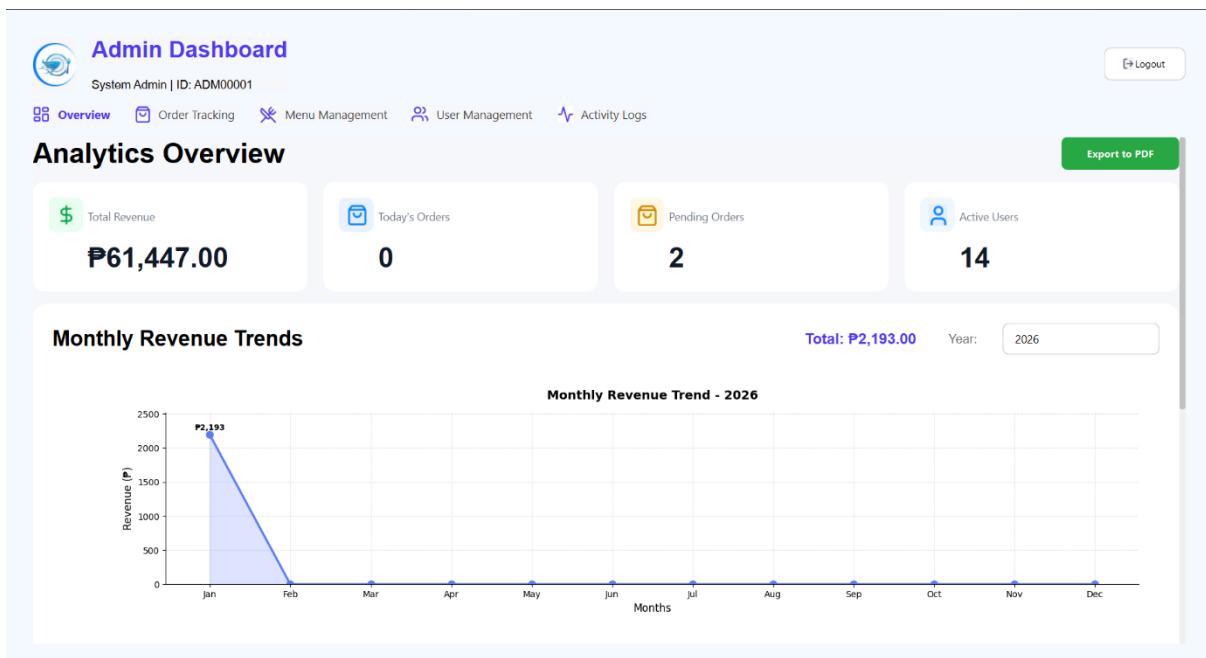


Figure 19. Admin Dashboard



Figure 18. Admin Dashboard

The Food Dash Admin Dashboard provides administrators with a clear overview of the system's performance and operations. It displays key metrics such as total revenue, today's orders, pending orders, and active users, allowing quick assessment of system activity. The dashboard also includes a monthly revenue trend chart that shows income performance across the year, helping identify patterns over time. Additionally, a pie chart below highlights the most popular menu items, offering insights into customer preferences. With its organized layout and navigation options, the dashboard supports efficient monitoring and management of the food ordering system.

The screenshot shows the Admin Dashboard with the 'Order Tracking' section selected. At the top, there's a search bar, status filters ('All Status', 'Today's Orders', 'All Months'), and a 'Refresh' button. Below the search bar, the first order is displayed:

Order #ORD-2025-12-20251225 Orion Kim • orion.kim2025@email.com

Order Date: 2025-12-25 11:47:00
Delivery Address: 205 Constellation Lane, San Juan 2025
Contact Number: 09160122025

Item	Quantity	Price
3x Milk Tea	3	₱99
2x Classic Burger	2	₱159
1x Crispy Fries	1	₱79
2x Pepperoni Pizza	2	₱275

Total Amount: ₱1,294.00

The second order is partially visible below it:

Order #ORD-2025-12-20251220 Zara Chen • zara.chen2025@email.com

Pending Preparing Delivering Completed

Figure 20. Admin View Orders

The Order Tracking section of the Food Dash Admin Dashboard allows administrators to efficiently monitor and manage customer orders in real time. It provides detailed order information, including the order number, customer name and email, order date and time, delivery address, and contact number. Each order displays a list of purchased items with corresponding quantities and prices in Philippine peso, along with the total amount. Status buttons such as Pending, Preparing, Delivering, and Completed enable quick updates to an order's progress. Additionally, search and filter options help administrators locate specific orders by date, status, or customer details, ensuring accurate tracking and smooth order fulfillment.

	Item	Category	Price	Actions
1	Pepperoni Pizza Loaded with pepperoni slices	Pizza	₱275.00	
2	Milk Tea Classic milk tea with pearls	Drinks	₱99.00	
3	Fried Chicken Crispy fried chicken pieces	Chicken	₱189.00	
4	Crispy Fries Golden crispy potato fries	Sides	₱79.00	

Figure 21. Admin Menu Management

The Menu Management section of the Food Dash admin dashboard functions similarly to the staff's menu management but gives administrators full control to modify the menu. Admins can add, update, or remove items, adjust pricing, and organize dishes into categories, ensuring the menu stays accurate, organized, and aligned with the restaurant's needs.

Name	Email	Role	Actions	
John Doe	customer@email.com	Customer	Edit	Delete
Staff User	staff@fooddash.com	Staff	Edit	Delete
Juan Dela Cruz	juan.cruz@email.com	Customer	Edit	Delete
Clarence Mongas	ed@gmail.com	Staff	Edit	Delete
Maria Santos	maria.santos@email.com	Customer	Edit	Delete
Haris Usman	ha@gmail.com	Staff	Edit	Delete

Figure 22. Admin User Management

The User Management section of the Food Dash admin dashboard lets administrators efficiently oversee all users, including staff and customers. Admins can add new users, update information, assign roles, or remove accounts, ensuring proper access and smooth system operation. This section helps maintain organization, security, and control over the platform, allowing admins to manage user activities effectively.

Admin Dashboard

System Admin | ID: ADM00001

Logout

Overview Order Tracking Menu Management User Management Activity Logs

Activity Logs

Search by staff name, action, or details... Today's Logs All Time

Timestamp	Staff Name	Staff ID	Action	Details
2026-01-14 11:22 PM	System Admin	ADM00001	Admin logged in	
2026-01-13 12:02 AM	System Admin	ADM00001	Admin logged in	
2026-01-13 12:02 AM	c	EMP00002	Staff logged out	
2026-01-13 12:02 AM	c	EMP00002	Updated order status	Order #ORD-20260113000151-3: Completed
2026-01-13 12:02 AM	c	EMP00002	Staff logged in	
2026-01-13 12:01 AM	System Admin	ADM00001	Admin logged out	
2026-01-13 12:00 AM	System Admin	ADM00001	Updated customer	John Doe → John Doeaw

Total activities: 53

Figure 23. Activity Logs

The Activity Logs section of the Admin Dashboard provides administrators with a detailed record of actions performed within the Food Dash system. It displays a structured table showing timestamps, staff names and IDs, actions taken, and corresponding details, allowing administrators to track system usage and staff activities efficiently. Search and filter options enable quick retrieval of specific logs by name, action, or time period, while controls such as refreshing logs and clearing records support effective log management. This section enhances transparency, accountability, and security by ensuring all important system activities are properly monitored through a clear and user-friendly interface.

References

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