

UM TAGUM COLLEGE
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Course Requirements

in

CS 17/L

SOFTWARE ENGINEERING 2

Cutshier: An Integrated Restaurant Management System for Catsy Coffee

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A. Business Requirements

1. A.1 Business Background

Catsy Coffee is a friendly neighborhood café located at Purok A, Suaybague Street, Barangay Magugpo North, Tagum City. It offers a wide range of beverages and trendy food options that appeal to today's tastes. And currently, the café uses a manual process for taking orders, recording sales, managing inventory which leads to inefficiency during peak hours.

2. A.2 Problem Statement

The current manual process on tracking inventory and sales needs improvement particularly on monitoring daily sales report, tracking inventory and stamp cards. Which needs modernization for automation for better accuracy and efficiency. There is also a need for product sales analysis to identify best-selling and low-performing items, helping the business determine which products to prioritize for restocking. And automation is needed for manual checking every message on Facebook messenger for deliveries and reservations.

3. A.3 Business Objectives

- To automate business process
- To provide real-time sales report, tracking of orders and stamp cards
- To minimize human error
- To generate product sales analysis for improved inventory and restocking decisions
- To allow customers to reserve a table and place orders online for convenience and faster service

4. A.4 Value Proposition

Cutshier is an integrated restaurant management system for Catsy Coffee that improves operational efficiency by automating order taking, inventory management, loyalty rewards, and table reservations. It provides real-time data through an admin analytics dashboard, minimizes human error through an offline-first staff mobile POS, and enhances customer convenience through a dedicated web portal for online reservations, loyalty stamps, and reservation history tracking.

5. A.5 Scope

The system will cover the following:

- Automation of sales transactions and order processing
- QR-based digital customer identity cards for loyalty stamp scanning
- Loyalty stamp card system with reward item redemption
- Real-time generation of daily and monthly sales reports with payment method breakdown
 - Multiple payment method support (Cash, GCash, Maya)
- Refund and void transaction processing
- Inventory tracking with raw material management and automatic stock deduction per order
 - Product sales analysis to identify best-selling and slow-moving items
- Online reservation feature with pre-ordering for customer convenience
- *Table and seat management with real-time availability tracking*
- Customer-facing web portal for reservations, loyalty, and profile management

B. User Requirements

Cutshier is an integrated restaurant management system for Catsby Coffee. Each user group has specific needs to ensure that the system provides accurate data, improves daily operations, and offers a convenient customer experience. [08]

Admin - is responsible for managing the café's overall operations. The system must allow the admin to view accurate daily, weekly, and monthly sales reports to track performance. It should also provide tools for monitoring inventory levels and sending alerts when stocks are low. In addition, the system must include a product sales analysis feature to help the owner identify best-selling and low-performing items for better restocking decisions. The owner should also have secure access to update product details, manage pricing, and generate reports. The admin must be able to view, add, remove, and modify products and inventory. The admin must also be able to manage staff accounts and stall assignments, configure store operating hours and settings, and manage loyalty reward items and content.

Cashier - handles daily transactions and customer orders. The system must provide an easy-to-use interface to record orders, process payments, track loyalty stamp cards, manage inventory stocks and issue receipts efficiently, especially during peak hours. It should automatically update inventory quantities after each sale to reduce manual work and human error. Staff must also be able to view order history, manage dine-in and take-out transactions, get notified and process claim rewards and accommodate online reservations of customers.

Customers - the system should allow them to browse the café menu, available tables, reserve a table with pre-order, view reservation history, loyalty stamps and claim rewards. Customers should also receive confirmation of their reservations and be assured that their information is securely handled. The interface must be simple, responsive, and easy to navigate, even for first-time users.

C. System Requirements Specification

C.1. Functional Requirements

TABLE 2. CUSTOMER REQUIREMENTS

ID	Category	Requirement
C-01	Account Access	The customers shall be able to create account and sign in to the web portal
C-02	Public Menu Access	The customer shall be able to view the website and menus without logging in.
C-03	Seat Availability	The customers shall be able to view the live status of the cafe if there are vacant seats.
C-04	Reservation Management	The customer shall be able to reserve a table online by filling in their details as a guest, or by logging in to their account to auto-fill their information.
C-05	Pre-order and Payment Verification	Customers are required to pre-order and upload a screenshot of payment or provide a valid payment reference ID before submitting a reservation. Once the payment is verified and the reservation is approved, the purchase is considered successful. Cancellation of orders is only allowed before staff confirmation. After approval, the order becomes final and non-cancellable, except for valid cases reviewed by the management.
C-06	Loyalty Management	The customers must create a login account to view their loyalty stamp progression and generate a QR Code to earn loyalty points for eligible product purchases.
C-07	Reservation History	The customers with a CATSY account shall be able to view their reservation history and current reservation status through their profile.
C-08	Feedback and Rating	The authenticated customers shall be able to submit a one-time rating and service review through their profile page.
C-09	Location Access	The customers shall be able to view the location of the cafe on an online map.

TABLE 3. STAFF REQUIREMENTS

ID	Category	Requirement
S-01	Staff Authentication	The staff must log in before accessing the offline-first mobile POS application.
S-02	Sales Processing	The staff shall be able to process sales for orders and generate digital or printed receipts.
S-03	Order and Payment Management	The staff shall be able to modify orders and select the appropriate payment method (Cash, GCash, or Maya) before finalizing transactions.
S-04	Loyalty Processing	The staff shall be able to scan or manually input a customer's QR code to record loyalty points and process

		reward redemptions.
S-05	Reservation Management	The staff shall be able to view, approve, and manage table reservations for their assigned stall.
S-06	Seat Availability Management	The staff shall be able to update the current number of seats available at the cafe.
S-07	Inventory Monitoring	The staff shall be able to view current stock availability and receive notifications for inventory shortages.
S-08	Transaction Management	The staff shall be able to view the daily order history and process void or refund transactions.

TABLE 4. ADMIN REQUIREMENTS

ID	Category	Requirement
A-01	Admin Authentication	The admin must log-in before accessing the web based admin panel.
A-02	Stall Management	The admin shall be able to manage the multi-stall architecture, including creating stalls, assigning staff, and configuring store operating hours.
A-03	Data Management	The admin shall be able to perform CRUD actions on global products, stall-specific inventory, and staff accounts.
A-04	Reports and Analytics	The admin shall be able to view sales performance analytics and predictive data for high-performing products on a monthly cycle.
A-05	POS Application Distribution	The admin shall be able to download the latest APK installer for the staff POS application directly from the dashboard.
A-06	Notifications	The admin shall receive dashboard notifications for inventory stock alerts and new reservations.
A-07	Transaction Monitoring	The admin shall be able to view the complete transaction history, including a breakdown of payment methods across all stalls.
A-08	Feedback Management	The admin shall be able to view and manage all customer feedback and ratings submitted through the web portal.

C.2. Non-Functional Requirements

The non-functional requirements are aligned with standard software quality characteristics such as functional suitability, performance efficiency, usability, reliability, security, compatibility, and maintainability.

TABLE 5. NON-FUNCTIONAL REQUIREMENTS

Non-Functional Requirements No.	Category	Requirement Summary
NFR-01	Performance Efficiency	The system should process transactions quickly and respond to user actions within 5 seconds, even during peak business hours.
NFR-02	Security	All user credentials, transactions, and customer data must be protected using appropriate security measures such as password encryption and access control. User authentication and credential handling should follow secure authentication practices, including controlled access and protection of stored secrets.
NFR-03	Usability	The system must have an intuitive and user-friendly interface that can be easily navigated by both staff and customers with minimal training.
NFR-04	Reliability	The system should function consistently with minimal downtime and ensure that all stored data is accurate and up to date.
NFR-05	Scalability	The system should support an increasing number of transactions and users as the café grows.
NFR-06	Compatibility	The system must be accessible through desktop and mobile web browsers to accommodate different users and devices.
NFR-07	Maintainability	The system should be easy to update or modify for future enhancements and fixes.

D. Activity Diagram

The activity diagram illustrates the workflow of the Cutsy Café POS System, showing the interactions between the Customer, Café Staff / Cashier, Manager / Owner, and the System. The process begins when the customer accesses the ordering platform, either for an on-site order or an online reservation. A decision node determines the order type.

For on-site orders, the staff records the order, processes the payment, and the system automatically updates sales and inventory records. For online reservations, the customer submits reservation details, and the system saves the information and sends a confirmation message. The owner or staff can review upcoming reservations through the system.

The process concludes with the owner viewing sales and reservation reports. Overall, the diagram demonstrates how the system automates order and reservation processes, improving accuracy and efficiency in café operations.

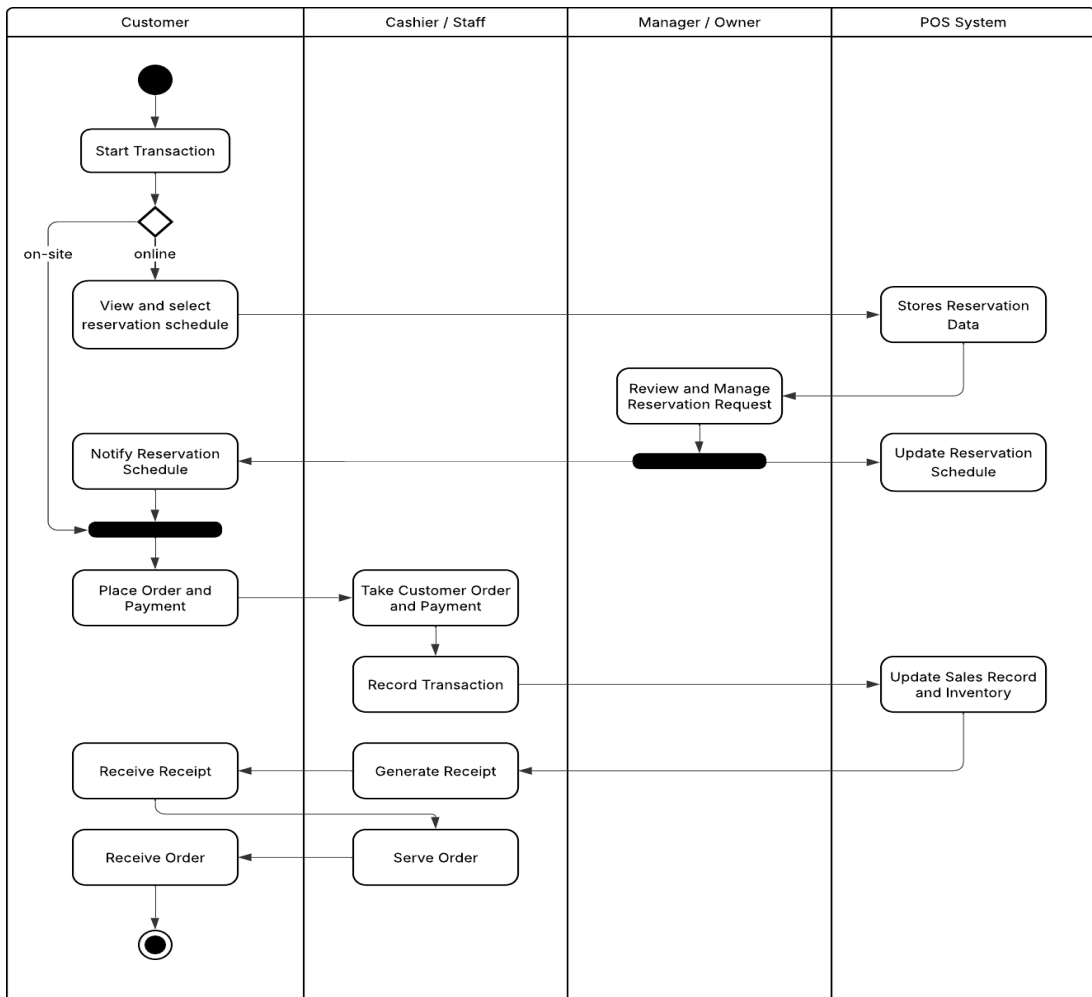


Fig 1. Activity Diagram

E. Use Case Diagram

The use case diagram illustrates the interactions among the system's main users: the customer, café staff/ cashier, manager, and the system itself. Customers can view, select, and confirm reservations, which are processed by the admin for approval. The admin can log in to manage reservations, sales, and inventory, while the cashier handles on-site transactions such as recording orders, processing payments, tracking loyalty stamp cards, and issuing receipts. The system automatically sends confirmation messages after approval, ensuring a streamlined and efficient workflow in café operations.

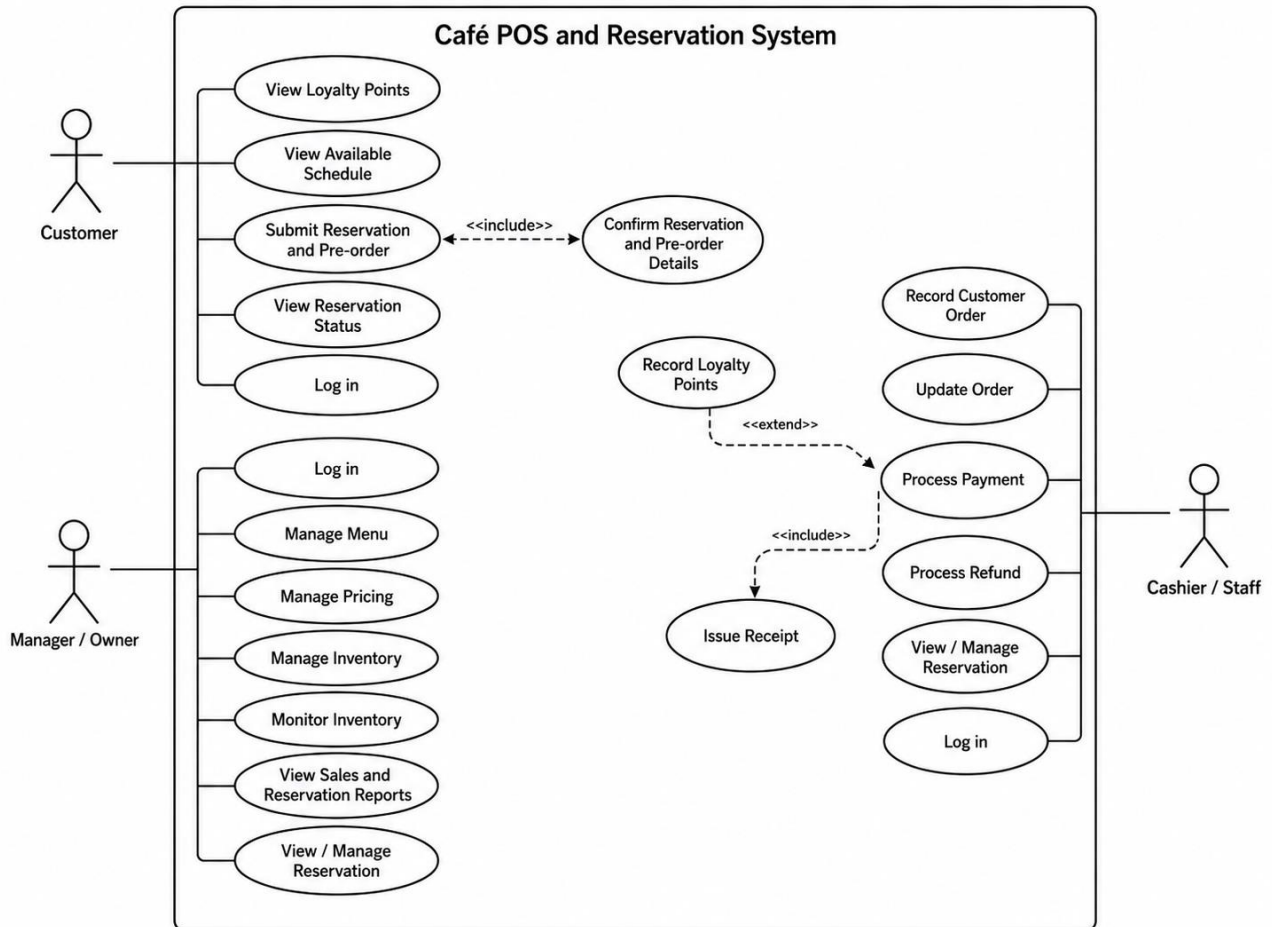


Fig 2: Use Case Diagram

TABLE 6. USE CASE DESCRIPTION

Actor	Use Case	Description
Customer	View Loyalty Points	Allows the customer to view their accumulated loyalty points and stamp rewards.
	View Available Schedule	Allows the customer to check the real-time availability of tables, stalls, or reservation slots.
	Submit Reservation and Pre-order	Allows the customer to select a schedule, input details, and place a pre-order for their reservation.
	<i>Confirm Reservation and Pre-order Details</i>	<i>(Included in Submit Reservation and Pre-order)</i> Automatically triggers a system confirmation check of the details submitted by the customer.
	View Reservation Status	Allows the customer to track whether their pending reservation has been approved, declined, or updated.
	Log in	Allows the customer to securely authenticate and access their personal profile and history.
Cashier / Staff	Record Customer Order	Allows the staff to manually input and take down new orders directly from the counter.
	Update Order	Allows the staff to modify, add, or remove items from an active customer order before finalization.
	Process Payment	Handles the execution of cash, digital, or card transactions for an order.
	<i>Record Loyalty Points</i>	<i>(Extends Process Payment)</i> Provides an optional step during payment processing to scan or input a customer's code to add loyalty points.
	<i>Issue Receipt</i>	<i>(Included in Process Payment)</i> Automatically triggers the generation and printing/sending of the sales invoice after a successful transaction.
	Process Refund	Allows the staff to handle transactional returns or voided sales orders.
	View / Manage Reservation	Allows the staff to review incoming customer reservations and update their fulfillment statuses.
	Log in	Allows cashiers and staff to log into their specific workspace interface.
Manager / Owner	Log in	Gives administrative portal access to the manager or business owner.
	Manage Menu	Allows the owner to add, edit, or remove food items and categories offered by the café.

	Manage Pricing	Allows the owner to update item costs, configure discounts, or adjust seasonal pricing.
	Manage Inventory	Allows the owner to update stock counts, add new supplies, and manage vendor details.
	Monitor Inventory	Provides real-time visibility into current stock levels and triggers alerts for low-stock items.
	View Sales and Reservation Reports	Generates analytical data, visual charts, and historical summaries of revenue and booking counts.
	View / Manage Reservation	Gives full administrative oversight to review, override, or clear out booking schedules.

F. Context Flow Diagram and Data Flow Diagram

F.1 Context Flow Diagram

The Context Diagram illustrates the overall interaction between the Café POS and Reservation System and its external entities — the Customer, Cashier/Staff, and Manager/Owner. It presents how data flows in and out of the system, providing a clear picture of its main functions. Customers can place on-site orders or submit online reservations, which are then received and processed by the system. For on-site transactions, the cashier records the order, processes the payment, and the system generates a receipt while updating sales and inventory data automatically.

Meanwhile, the manager or owner can access reports and analytics generated by the system to monitor performance and sales trends. The diagram also shows how reservation details are confirmed and stored for future reference. Overall, the context diagram defines the system's boundaries, highlighting how it connects customer service, staff operations, and managerial oversight into one automated and efficient café management system.

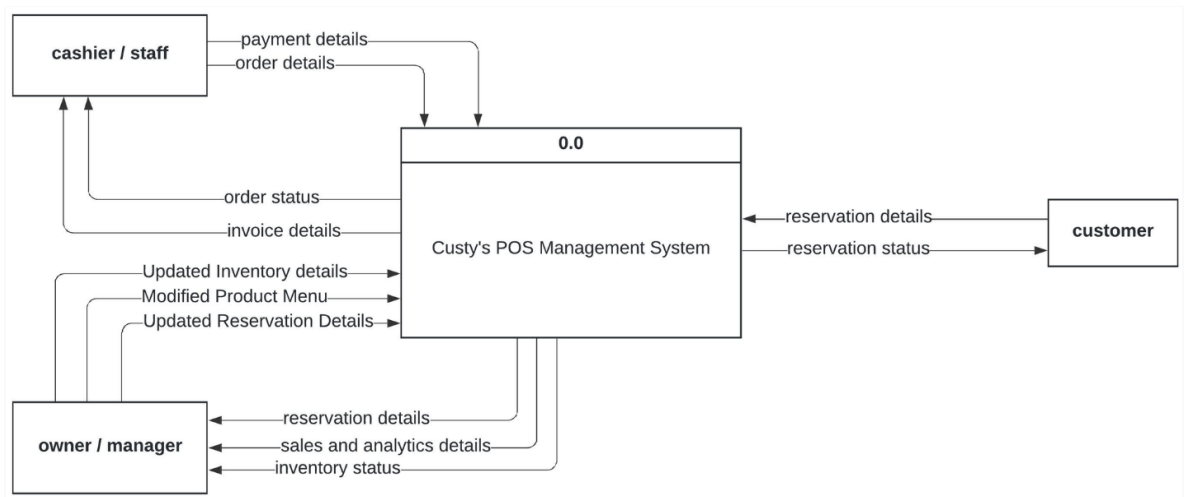


Fig 3: Context Flow Diagram

F.2 Data Flow Diagram

The Data Flow Diagram illustrates the overall flow of data within the POS, providing a comprehensive understanding of how information is exchanged between processes, data stores, and external entities. The system's primary functions include reservation management, order processing, inventory control, and analytical reporting.

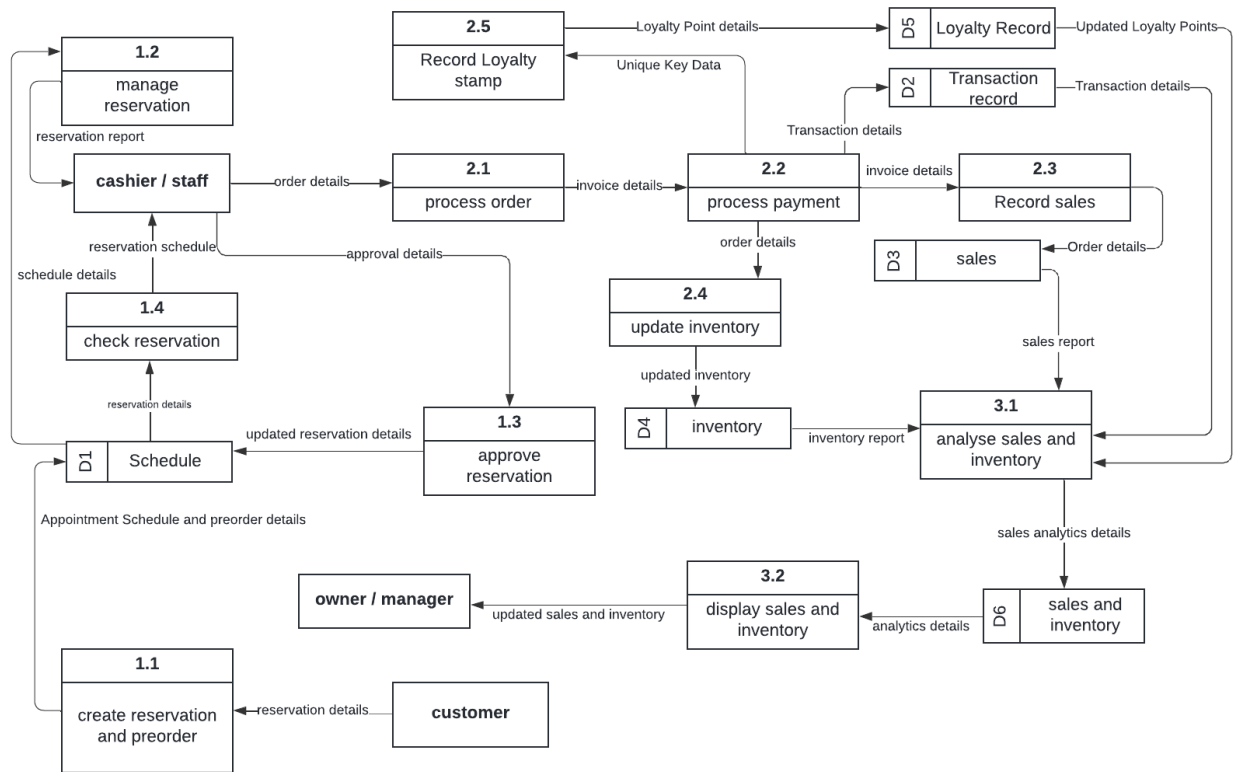


Fig 4: Data Flow Diagram

Create Reservation and Preorder (1.1) When the customer enters their reservation and preorder information into the system through the website, the procedure starts. All reservation and appointment data is stored in the "Schedule" data store (D1), where these particulars are entered. This guarantees that every client reservation is accurately recorded for further handling.

Manage Reservation (1.2) The system maintains an updated record in the "Schedule" data store (D1) and confirms schedule availability when the reservation is created. Conflicts are prevented and bookings are arranged thanks to the procedure. A reservation report for management review may also be produced by the system

Approve Reservation (1.3) After reviewing the reservation information, the manager or owner either authorizes them or makes any required changes. The "Schedule" data store (D1) receives approved reservations as updated reservation information. Order creation and service scheduling are also based on the approved data.

Check Reservation (1.4) The cashier or employee pulls the relevant appointment schedule from the "Schedule" data store (D1) after verifying the reservation status. This enables employees to verify client appointments and process orders based on confirmed reservations.

Process Order (2.1) The customer's order is processed by the cashier or staff on-site.

Process Payment (2.2) customer transactions and confirms successful payments. Once payment is completed, it triggers the Record Sales and Record Loyalty Stamp processes while updating the Inventory Data Store and saving transaction details in the Transaction Record Data Store (D2).

Record Sales (2.3) process stores the details of each completed order into the Record Sales Data Store (D3). It ensures that all transaction information from the order process is properly saved for generating reports and tracking daily sales performance.

Update Inventory (2.4) The inventory is instantly updated to reflect the sale as soon as the order and payment have been completed. The system updates the "Inventory" data store (D4) after subtracting the sold products from the stock. The most recent inventory data guarantees precise stock level monitoring and initiates refilling as required.

Record Loyalty Stamp (2.5) process updates the customer's loyalty record after a completed order. It stores the transaction details in the Loyalty Record Data Store (D5), ensuring accurate tracking of stamp rewards and customer points

Analyze Sales and Inventory (3.1) In order to conduct analytical evaluations, this procedure gathers data from the Transaction Record (D2), Sales (D3) Inventory (D4), as well as the Loyalty Record data store (D5). Sales patterns, product performance, and inventory turnover rates are all determined by the analysis. The "Sales Analytics" data store contains the resulting insights (D6).

Display Sales and Inventory (3.2) Presenting the analytical findings to the manager or owner is the last step. Data- driven decision-making about marketing, inventory control, and sales tactics is made possible by the visual insights into business performance that may be obtained from the "Sales Analytics" data store (D6).

G. Software Process Model

G.1 Methodology

The **Waterfall Model** was used in this project. It follows a step-by-step process where each phase is completed before the next begins. This method ensures organized development and clear progress for the café's POS and reservation system. This is suitable for a course-based project with defined requirements because the work can be organized into documented phases such as requirements, design, development, testing, deployment, and maintenance [3].

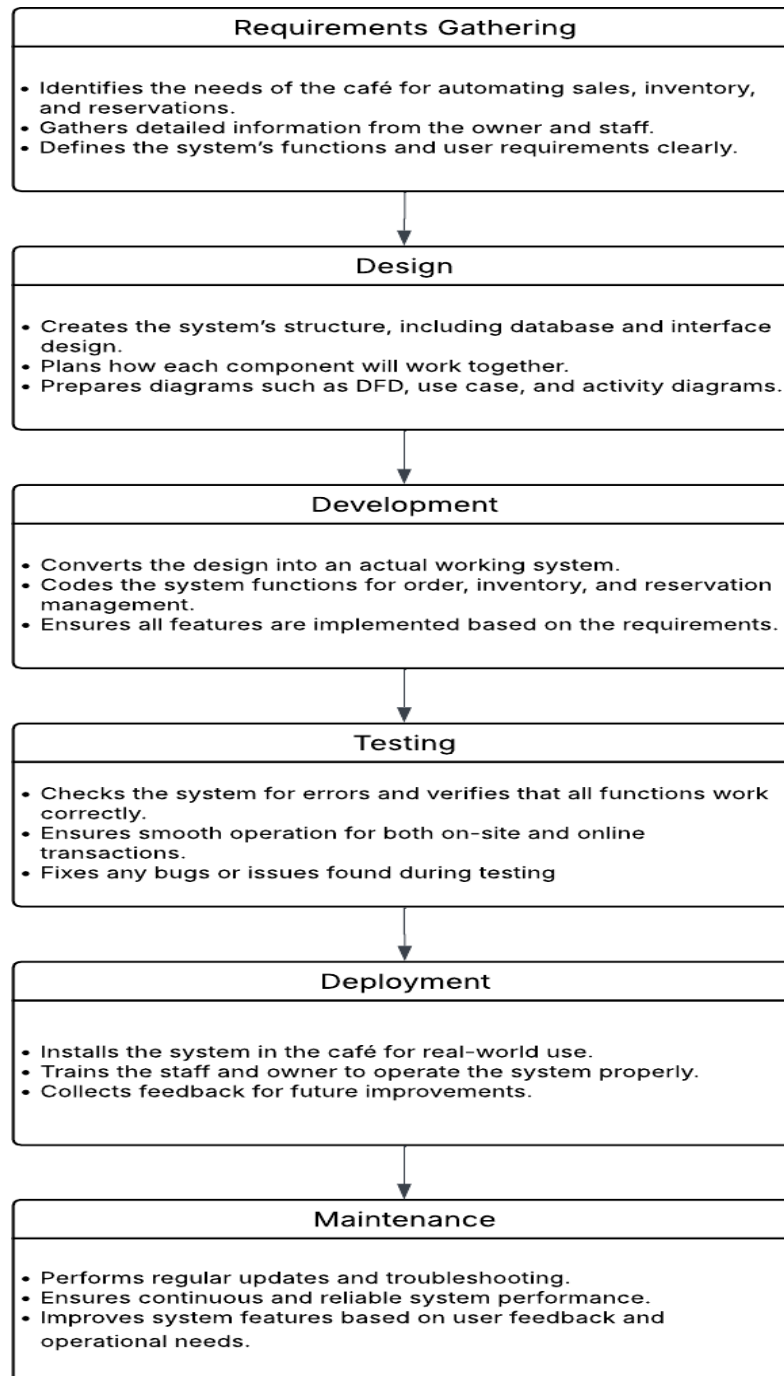


Figure 5: Waterfall Model Methodology

Requirements Gathering phase focused on understanding the café's operational needs and challenges. Information was collected through interviews and observations with the owner and staff to identify issues in sales tracking, inventory management, and reservation handling. The results of this phase guided the identification of system requirements, ensuring the developed system meets the café's goals for accuracy, efficiency, and automation.

The Design Phase involved creating the system's overall structure and layout based on the gathered requirements. This included designing the database, user interface, and system flow to ensure smooth interaction between users and the system. Diagrams such as:

- Activity Diagram
- Use Case Diagram
- Context Flow Diagram and Data Flow Diagram
- Data Flow Diagram
- Low-Fi Prototype
- Architectural Pattern (Layered Architecture)
- System Architecture (Monolithic Architecture)

Development phase focused on building the system based on the design. Key features such as order processing, inventory tracking, sales reporting, and online reservations were coded and integrated to ensure the system works as intended. To develop the system, the team will use the following tools for their development:

- Tech Stack: React, Tailwind CSS, GSAP, Flutter, FastAPI, Supabase PostgreSQL, SQLite/Drift, Firebase FCM, Git/GitHub, Render, Vercel, Hugging Face Spaces.

Testing Phase is involved checking the system for errors and verifying that all features function correctly. This included testing order processing, inventory updates, sales reporting, and online reservations to ensure the system operates smoothly and meets the café's requirements.

Deployment Phase puts the system into operation at the café, accessible via staff and customer mobile devices. Staff and the owner are trained to use the system, which manages orders, inventory, sales, online reservations, and the QR-based stamp card system efficiently.

Maintenance Phase ensures the system continues to operate smoothly after deployment. Updates and troubleshooting are performed as needed, maintaining the functionality of order processing, inventory tracking, sales reporting, online reservations, and the QR-based stamp card system

G.2 Implementation Technologies

The following tools and technologies support the implementation of the CATSY POS, reservation, inventory, loyalty, and analytics system.

TABLE 7. IMPLEMENTATION TECHNOLOGY AND TOOLS

Category	Technology / Tool
Programming Languages	Python, JavaScript, Dart
Frontend	HTML, CSS, React, Tailwind CSS, GSAP, Vite
Mobile Application	Flutter / Dart
Backend / API	FastAPI
Mobile Local Storage	SQLite via Drift
Database	Supabase PostgreSQL
Authentication / Backend Services	Supabase Auth
Development Tools	VS Code, Git, GitHub
Push Notifications	Firebase Cloud Messaging
Development tools	VS Code, Git
Collaboration and Version Control	GitHub repository and Git workflow
Deployment Environment	Render, Vercel, Hugging Face Spaces, Android APK distribution
CI/CD	Manual deployment / platform-based deployment pipeline

H. Architectural Pattern

The selected architecture separates user interface, business logic, and data storage responsibilities to support maintainability, reliability, and scalability as expected quality concerns for software-intensive systems [2].

CATSY uses a layered **3-Tier client-server with Offline-First Mobile Sync architecture**. The mobile POS and web application act as client interfaces, while the FastAPI backend handles business logic, authentication, validation, and communication with Supabase. Supabase serves as the central database, while the mobile app also uses local SQLite storage for offline-first operations.

This architecture is suitable because it separates the user interface, business logic, and data storage into clear layers. It improves maintainability, keeps shared rules centralized in the backend, and supports both real-time web operations and offline mobile POS syncing.

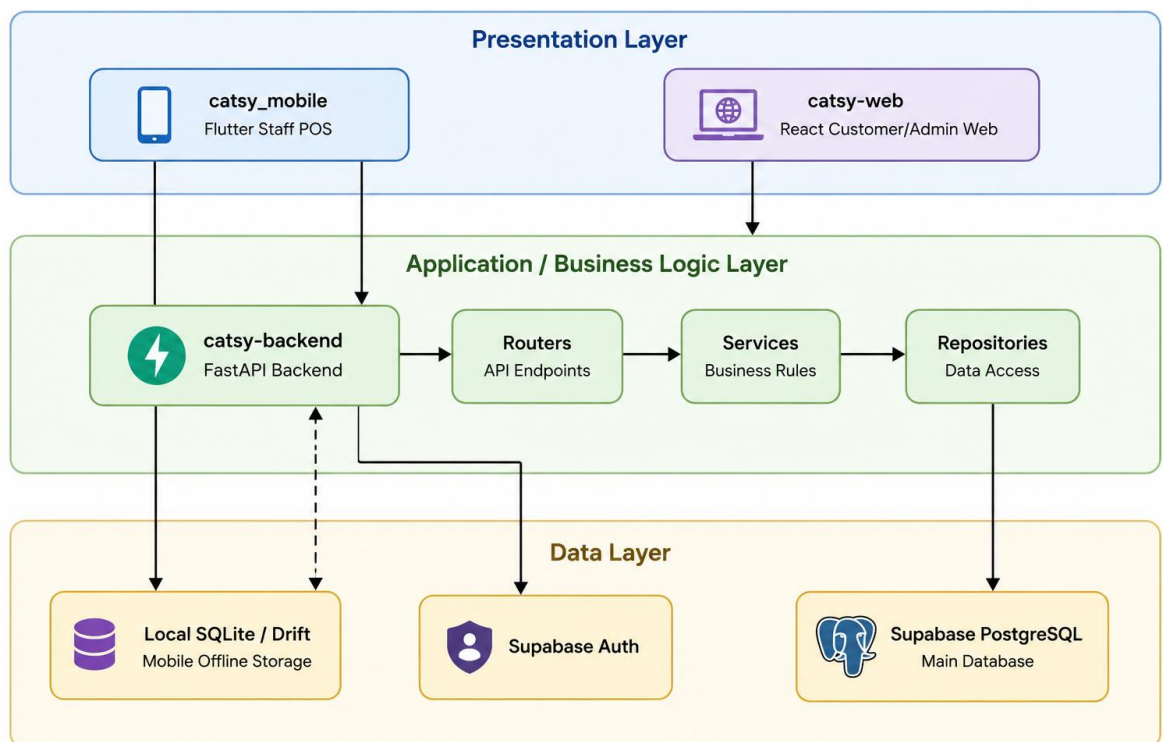


Fig 6: Presentation Layer

Presentation Tier (Clients):

- **Mobile POS:** Built with Flutter following Clean Architecture (Domain, Data, Presentation layers). It uses Riverpod for reactive state management and Drift to interface with SQLite.
- **Web Portal:** Built with React and Vite. It serves customers (reservations, loyalty profiles) and administrators (inventory, recipes, and sales analytics).

Application / Business Logic Tier:

- **FastAPI Backend:** Built with FastAPI using a layered Router-Service-Repository structure. It handles API requests from both the mobile POS and web portal, then routes them to the correct business workflows.

- **Routers:** Act as API endpoints for system features such as orders, reservations, products, loyalty, inventory, reports, authentication, and settings.
- **Services:** Contain the main business rules, including order payment processing, reservation handling, stock updates, loyalty rewards, reporting, and notification logic.
- **Repositories:** Connect the business logic to the database by handling data access operations while keeping database queries separate from service rules.

Data Tier:

- **Local SQLite / Drift:** Used by the Flutter mobile POS as offline storage. It allows staff to continue processing orders, managing tables, and storing transactions even without an internet connection.
- **Supabase Auth:** Handles authentication for customers, staff, and administrators, including login sessions and role-based access.
- **Supabase PostgreSQL:** Serves as the main centralized database for products, orders, reservations, customers, inventory, loyalty records, reports, settings, and audit data.
- **Sync Queue:** Supports offline-first mobile operation by saving local changes first, then synchronizing them with Supabase through the backend when the device is online again.

I. System Architecture: 3-Tier Client-Server Architecture

The CATSY system is composed of client applications, backend services, and data storage. Customers and administrators use the React web application, while staff use the Flutter mobile POS application. Both clients connect to the FastAPI backend through secure API requests. The backend manages authentication, order processing, reservations, inventory, loyalty, reports, and notifications. It connects to Supabase, which stores the central system data. The mobile POS also uses local SQLite storage so staff can continue working during poor network connection and sync data once the connection returns.

The system has no dedicated hardware layer. It runs on user devices and cloud-hosted services. Network communication uses HTTPS between the clients and backend, while real-time updates are supported through server-sent events and notifications.

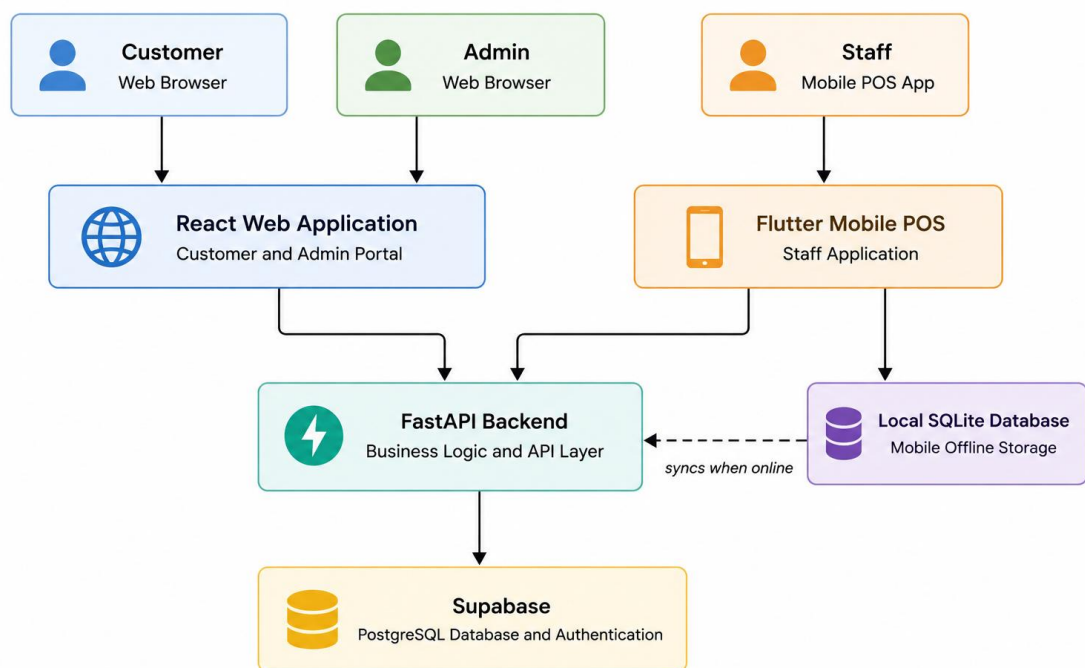


Fig 7: System Architecture

J. Database Design

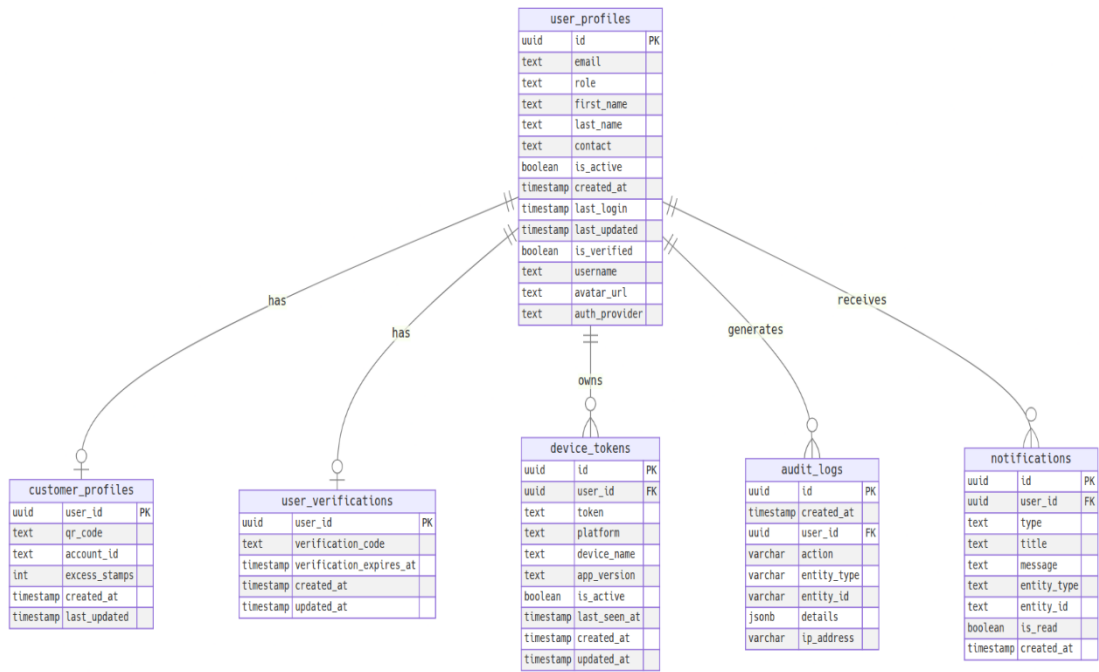


Fig 8. Login & User Workflow

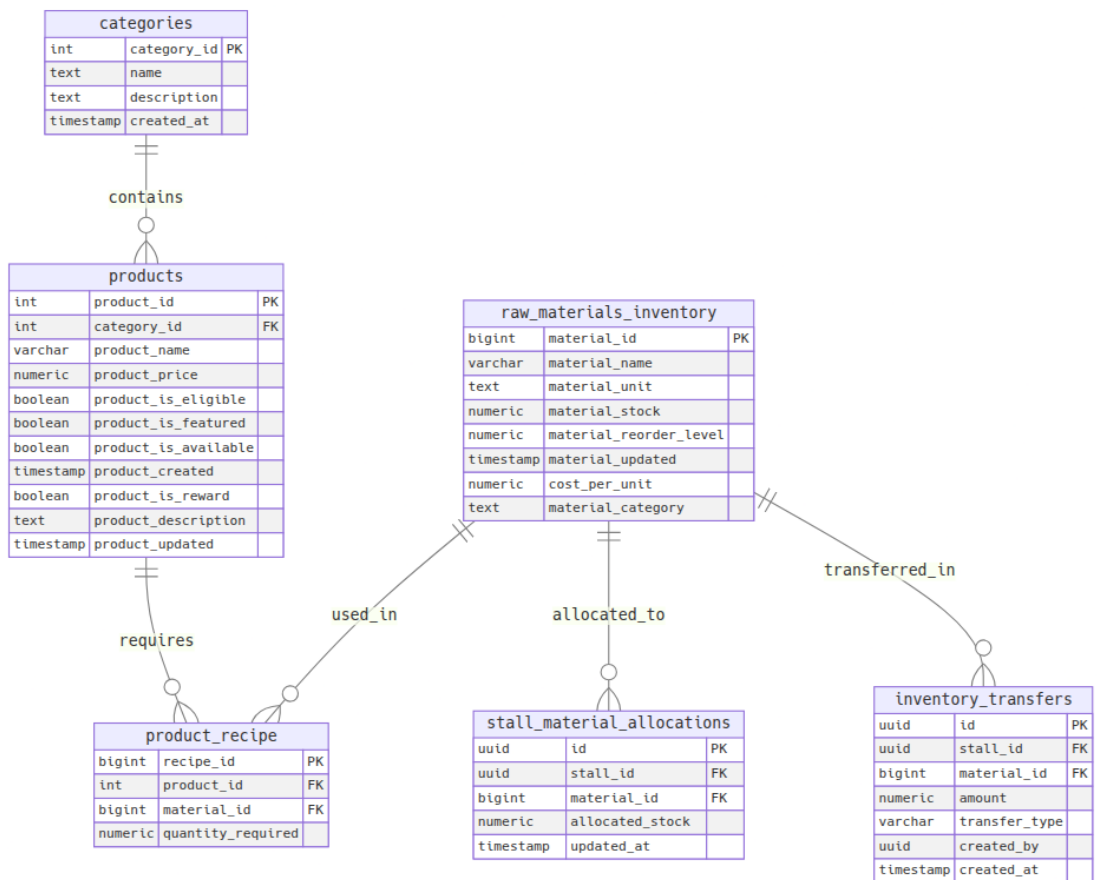


Fig 9. Inventory & Products Workflow

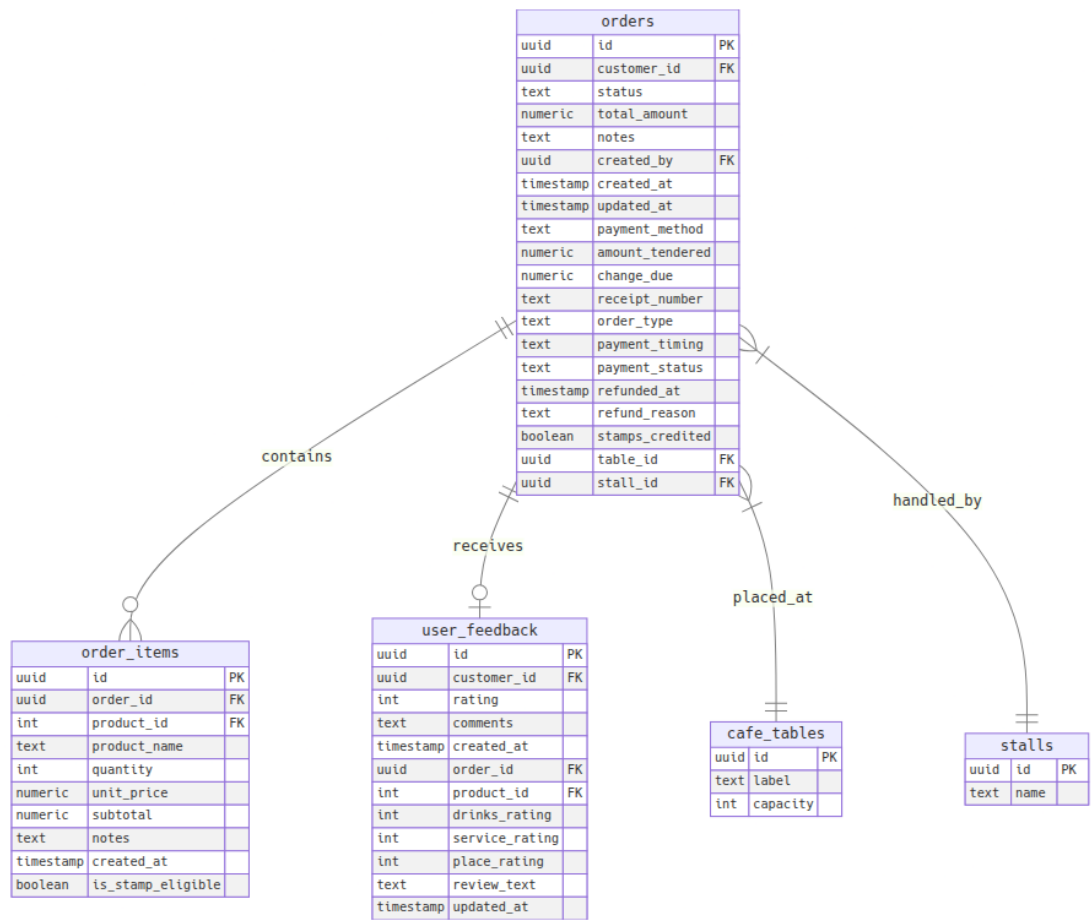


Fig 10. Ordering Workflow

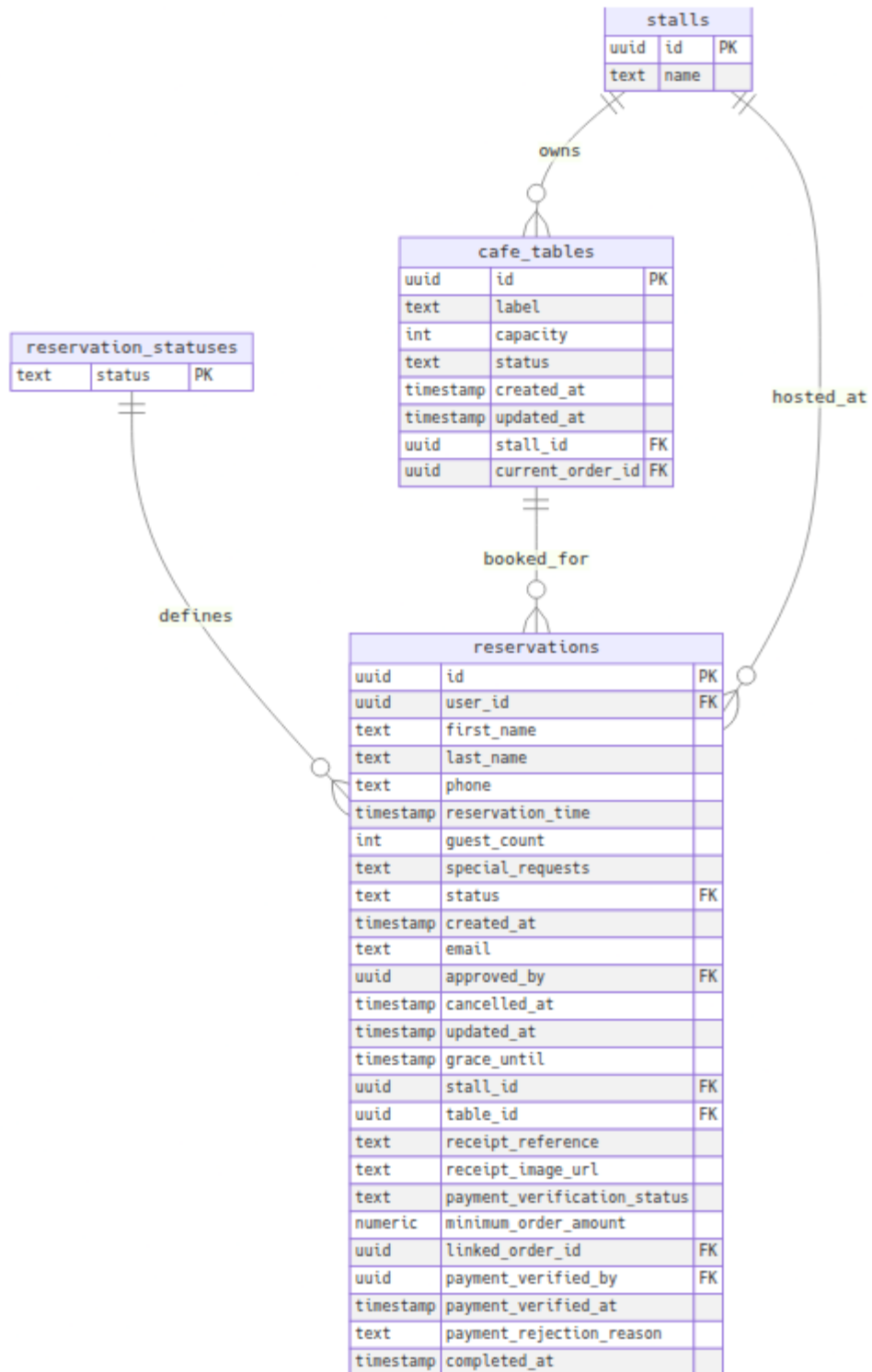


Fig 11. Reservation Workflow

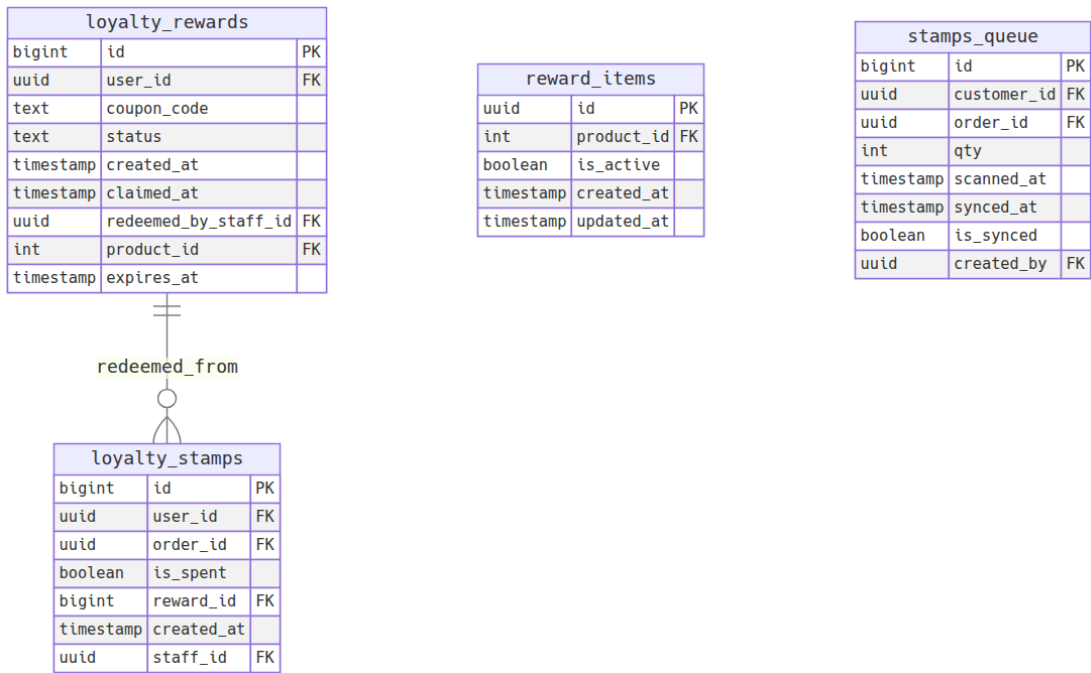


Fig 12. Loyalty & Rewards Workflow

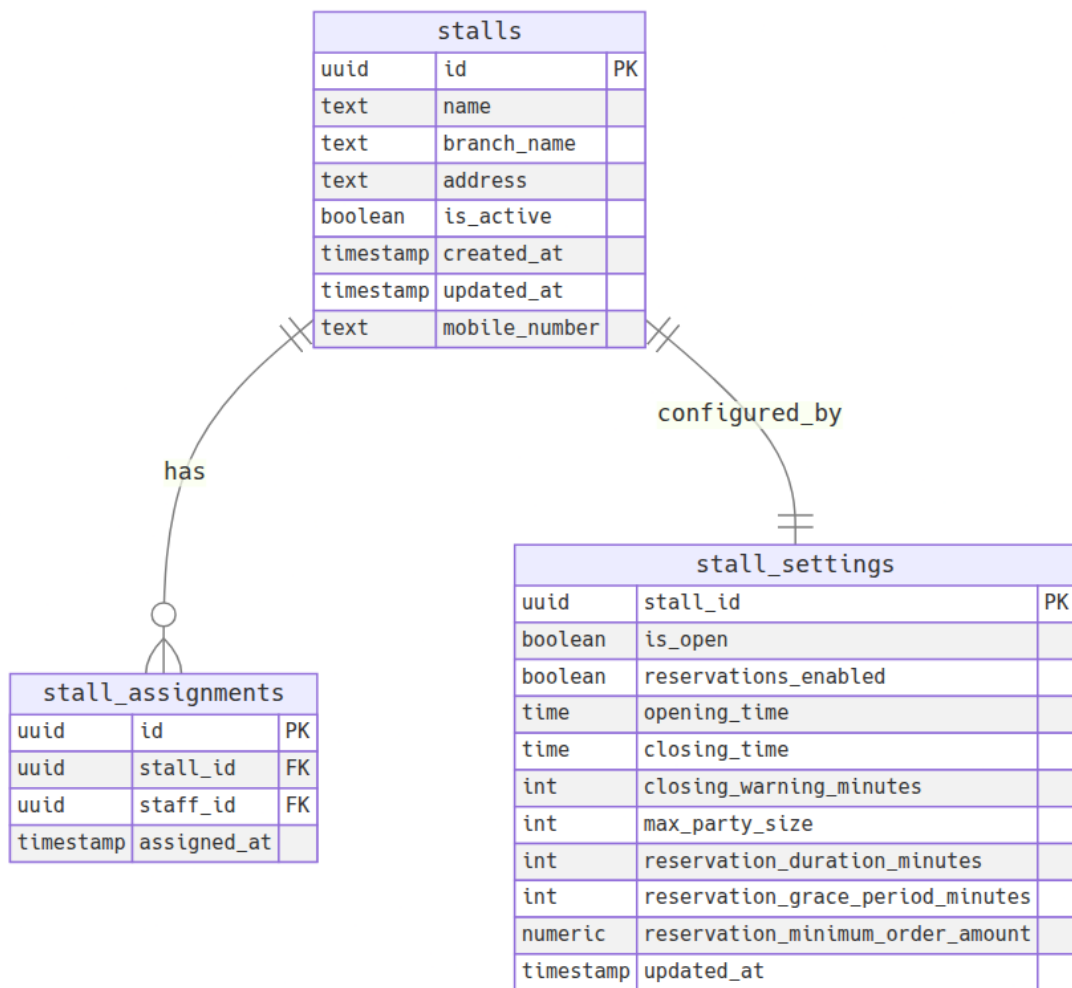


Fig 13. Stall Management Workflow

cms_content		
uuid	id	PK
text	type	
text	title	
text	body	
text	image_url	
boolean	is_active	
timestamp	start_date	
timestamp	end_date	
timestamp	created_at	
timestamp	updated_at	
text	placement	
text	link_url	
text	secondary_link_url	
uuid	created_by	FK
uuid	updated_by	FK

sync_logs		
bigint	id	PK
text	table_name	
text	record_id	
text	operation	
jsonb	payload	
text	device_id	
timestamp	synced_at	
boolean	is_synced	
boolean	conflict	
timestamp	created_at	

global_settings		
int	id	PK
boolean	loyalty_stamps_enabled	
int	loyalty_stamps_required	
timestamp	updated_at	

Fig 14. Content & System Workflow

The database is organized into several major parts: users, orders, reservations, products, inventory, loyalty rewards, stalls, and system records.

The **User Management section** is centered on the user_profiles table. This table stores the main account details of customers, staff, and admins. Other tables such as customer_profiles, user_verifications, device_tokens, notifications, and audit_logs connect to users because they depend on user accounts.

The **Product and Inventory section** manages the items sold by the café. Products are stored in the products table and grouped using the categories table. The product_recipe table connects products to raw materials, while raw_materials_inventory, inventory_transfers, and stall_material_allocations handle ingredient stock, transfers, and stall-level inventory.

The **Order and POS section** shows how sales transactions are handled. The orders table stores the main transaction record, while order_items stores the products included in each order. Orders can be connected to a customer, staff member, table, and stall. This allows the system to track who ordered, who processed the order, where it happened, and what items were purchased.

The **Reservation section** is centered on the reservations table. It stores customer reservation details, payment verification, table assignment, stall assignment, and linked orders. This supports the rule where customers must pre-order and upload proof of payment before the reservation is processed.

The **Loyalty Rewards section** handles customer stamps and rewards. The loyalty_stamps table records stamps earned from eligible purchases, while loyalty_rewards stores generated reward coupons. The reward_items table identifies which products can be redeemed as rewards.

The **Stall and Table Management section** handles physical café operations. The stalls table represents branches or selling areas, while cafe_tables, stall_settings, and stall_assignments manage seating, staff assignment, reservation settings, and stall availability.

The **System Support section** includes tables such as sync_logs, audit_logs, notifications, cms_content and user_feedback. These tables support offline synchronization, activity tracking, customer notifications, website content and feedback collection.

The diagram presents the database design of the Café POS and Reservation System. It shows how the system stores and connects important records such as users, orders,

reservations, products, inventory, loyalty rewards, stalls, and system logs. Each table represents a specific part of the system, while the relationships show how data is linked through primary and foreign keys.

The design separates major business areas such as POS transactions, reservation management, inventory monitoring, loyalty rewards, and user management. This makes the database easier to maintain, expand, and understand. It also supports important system features such as table reservations, payment verification, product ordering, stamp rewards, staff assignments, audit tracking, and offline synchronization.

K. User Interface Design

Customer User Interface

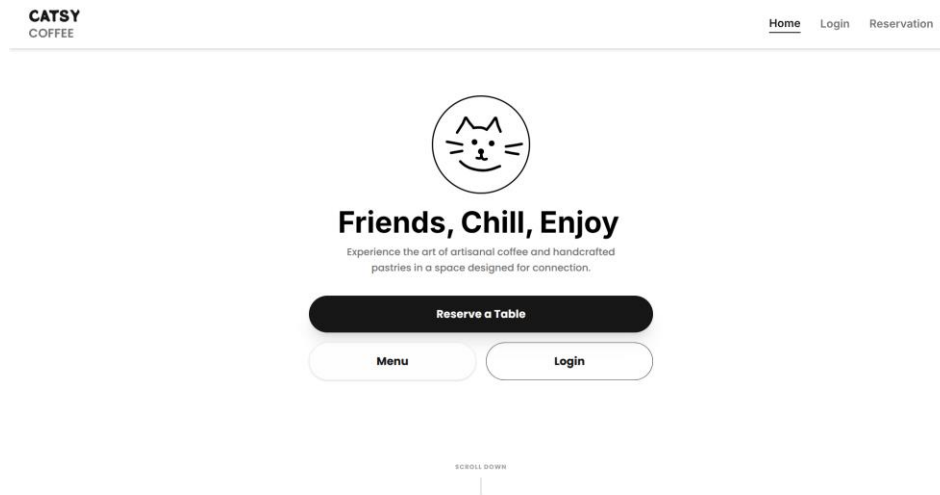


Fig 15. Customer User Interface Home Page

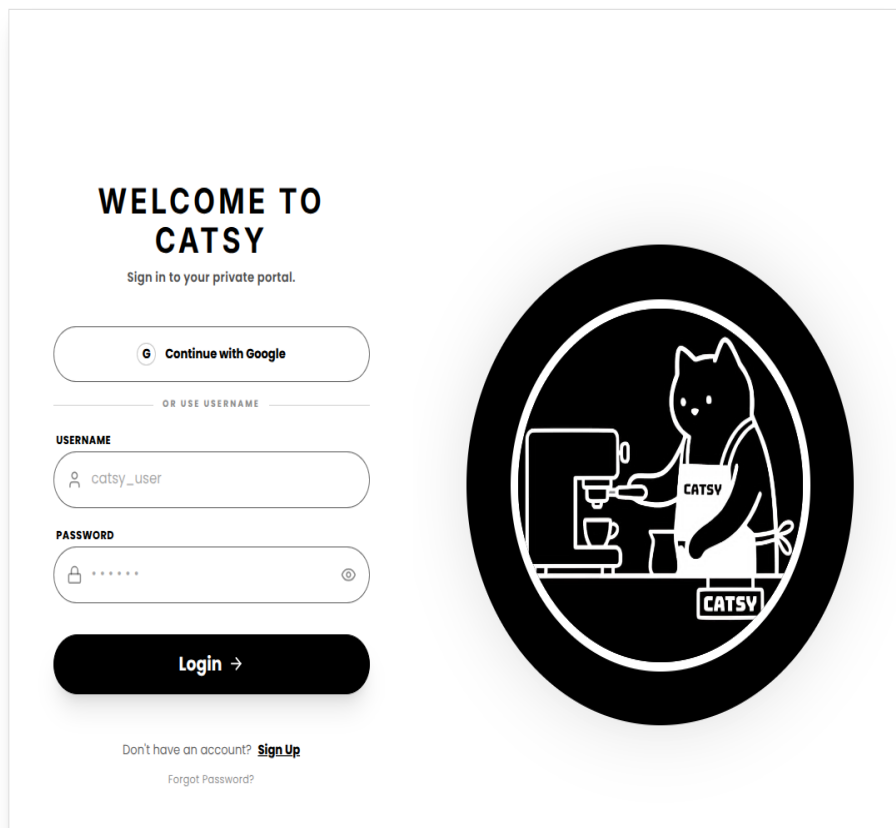


Fig 16. Customer User Interface Login Page

CATSY Reservation Form

Please enter your details to secure a table for the evening.

01. TABLE 02. DETAILS 03. ORDER LOG IN

SELECT BRANCH **barkada - rotary (Tel: 0998765432)** DATE **mm/dd/yyyy** TIME **Select Time**

How long will you stay?

Pick a stay duration so we can hold your table for the right time.

STAY DURATION

1h 1.5h 2h 3h


Selected stay: **Choose duration**

Floor Map

Operating hours: 6:00 AM - 5:00 AM 10/10 TABLES AVAILABLE

T-TABLE 1 Window 2 SEATS	T-TABLE 2 Window 2 SEATS	T-TABLE 3 Window 2 SEATS	T-TABLE 4 Window 2 SEATS	T-TABLE 5 Window 2 SEATS
T-TABLE 6 Window 2 SEATS	T-TABLE 7 Window 2 SEATS	T-TABLE 8 Window 2 SEATS	T-TABLE 9 Window 2 SEATS	T-TABLE 10 Window 2 SEATS

PROCEED TO DETAILS



barkada - rotary
Rotary Parking, Tagum, 8100 Davao del Norte

Open in Maps

STATUS: ● OPEN NOW - 6:00 AM - 5:00 AM

OPERATING HOURS
6:00 AM - 5:00 AM

Fig 17. Customer User Interface Reservation Page

CUSTOMER ACCESS


Customer QR Code


Catsy Customer Pass ● VERIFIED

KYNDEL ROY SUAREZ

TAP QR TO ENLARGE

ACCOUNT ID
Not Assigned





KYNDEL ROY SUAREZ
CUSTOMER
VERIFIED MEMBER
kikosrz@gmail.com

Profile Details

FIRST NAME

LAST NAME

EMAIL ADDRESS

USERNAME

CONTACT

ACCOUNT ID

Security Settings

PASSWORD

Receipt Support

Contact staff for your receipt copy.

Our team can help retrieve receipts when needed.

Fig 18. Customer User Interface Profile Page

Admin User Interface

Coffee Shop
Admin Dashboard

Dashboard All Stalls Refresh

Today's snapshot – Friday, May 29, 2026

INVENTORY ATTENTION NEEDED
3 materials are at or below the reorder level.

- Condense Milk 0 / 0 ml
- Coffee Powder 0 / 0 grams
- Full Cream Milk 0 / 0 ml

TODAY'S SALES
PHP 0.00
0 orders

CASH
PHP 0.00

GCASH / MAYA
PHP 0.00

LOW STOCK ITEMS
3
Requires immediate restocking

Recent Orders

Order ID	Amount	Status
#8E7610 Cash	P257.00	paid
#0F1C09 Cash	P59.00	paid
#B1A22A Pending payment	P59.00	unpaid
#57BA6C Cash	P59.00	paid

Low Stock Alerts

- Condense Milk 0 ml remaining Out of Stock
- Coffee Powder 0 grams remaining Out of Stock
- Full Cream Milk 0 ml remaining Out of Stock

Fig 19. Admin User Interface Dashboard

Coffee Shop
Admin Dashboard

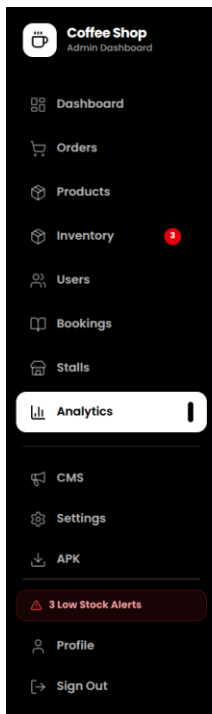
Inventory 3 Low Stock Alerts

Inventory PRODUCTS RAW MATERIALS STOCK ALERTS 3 ACTIVITY LOG

Search activity...

TIMESTAMP	ENTITY	DETAILS	ACTION
5/28/2026, 4:20:21 PM	no_show RESERVATION	status: no_show	UPDATE
5/28/2026, 4:20:21 PM	no_show RESERVATION	status: no_show	UPDATE
5/28/2026, 4:20:21 PM	no_show RESERVATION	status: no_show	UPDATE
5/28/2026, 4:20:21 PM	no_show RESERVATION	status: no_show	UPDATE
5/28/2026, 4:20:21 PM	no_show RESERVATION	status: no_show	UPDATE
5/28/2026, 4:20:21 PM	no_show RESERVATION	status: no_show	UPDATE
5/28/2026, 4:20:21 PM	no_show RESERVATION	status: no_show	UPDATE
5/28/2026, 4:20:21 PM	no_show RESERVATION	status: no_show	UPDATE
5/28/2026, 4:20:21 PM	no_show RESERVATION	status: no_show	UPDATE
5/28/2026, 4:20:21 PM	no_show RESERVATION	status: no_show	UPDATE
5/28/2026, 4:20:21 PM	no_show RESERVATION	status: no_show	UPDATE
5/28/2026, 4:20:21 PM	no_show RESERVATION	status: no_show	UPDATE
5/28/2026, 4:20:21 PM	no_show RESERVATION	status: no_show	UPDATE
5/28/2026, 4:20:21 PM	no_show RESERVATION	status: no_show	UPDATE

Fig 20. Admin User Interface Inventory



Reports & Analytics

Sales, payment method breakdown, and daily trends

Branch: barkada Period: Previous Month Refresh

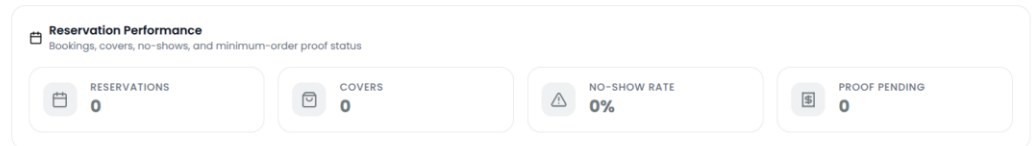
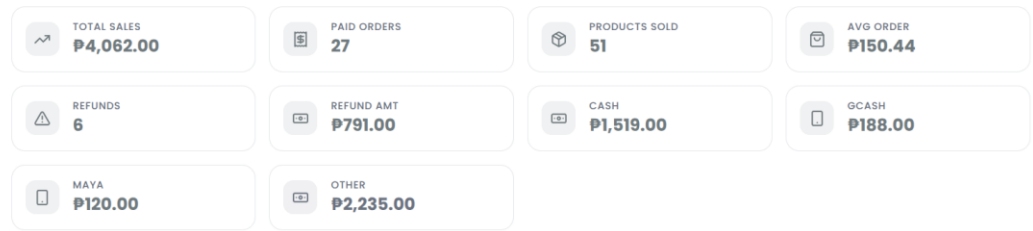
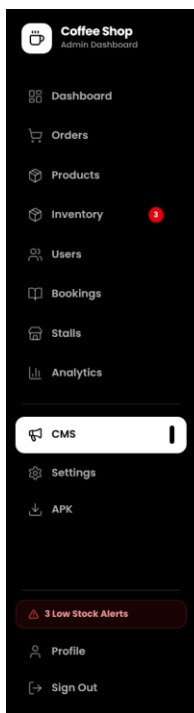


Fig 21. Admin User Interface Analytics



Portal CMS

Manage branding and content from one place.

Site Brand 1 Item

Controls the customer-site footer brand name and supporting tagline.

Catsy Coffee
Fresh brews, cozy corners, and a local coffee experience worth coming back to.

Location Address & Maps 2 Items

Branch address, Google Maps integration, and the photo shown on customer pages.

barkada
Rotary Parking, Tagum, 8100 Davao del Norte

Catsy Coffee
1495 Manuel B. Suaybagula Sr. St, Tagum, Davao del Norte

Footer Social & Contact Links 3 Items

Manage footer links like Facebook, Instagram, phone, maps, and other contact actions.

Facebook Page
www.facebook.com/profile.php?id=6157008932938

0976 293 5051
PHONE

Fig 22. Admin User Interface CMS

Staff User Interface

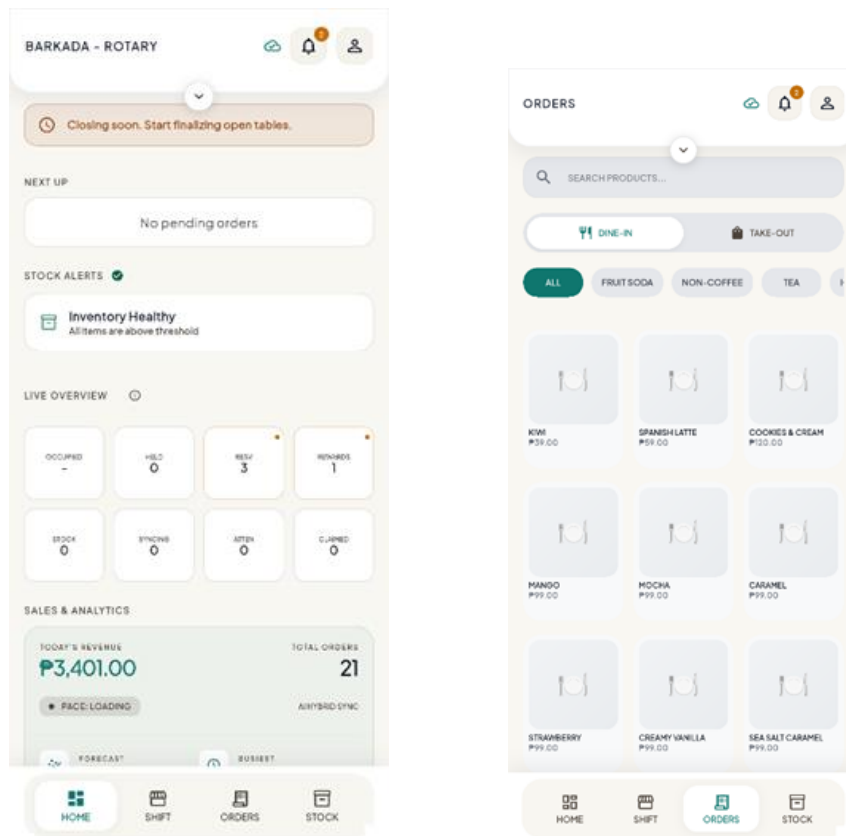


Fig 23. Staff User Interface Dashboard & Order

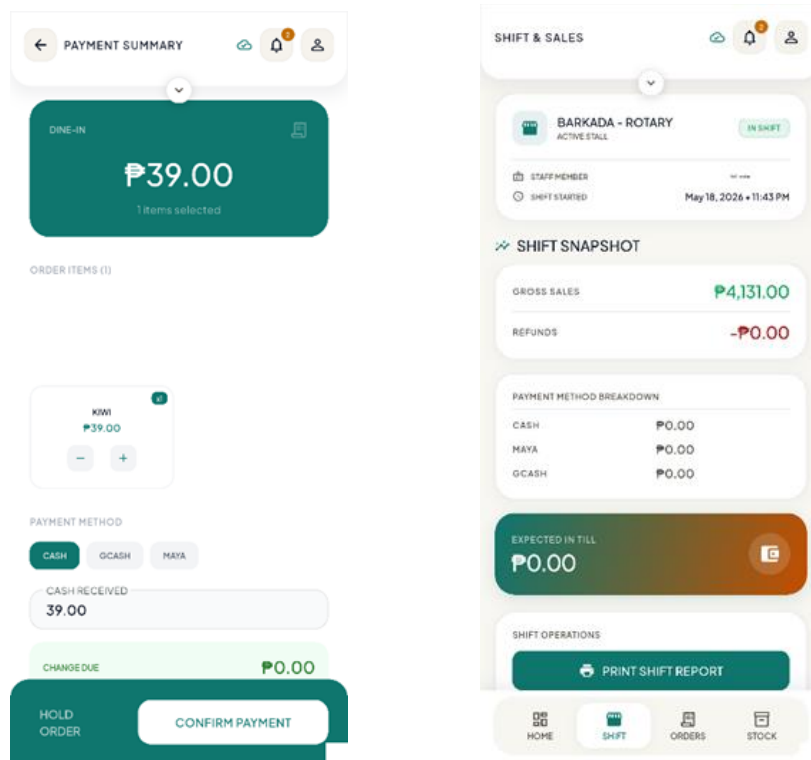


Fig 24. Staff User Interface Summary & Shift

L. User Acceptance Test

L.1 Functional Suitability Testing

TABLE 8. CUSTOMER USER ACCEPTANCE TEST SUMMARY

Role / Scope	Questions	Answer	
		Yes	No
Customer	Customer account creation and sign-in functions are working well.	4	0
Customer	The website and menu viewing function works without requiring login.	4	0
Customer	The live seat availability display shows the current cafe status correctly.	4	0
Customer	The reservation form saves the date, time, number of guests, and customer details correctly.	4	0
Customer	The pre-order and payment proof or reference ID submission functions work correctly.	4	0
Customer	The system applies the cancellation rule correctly before and after staff confirmation.	4	0
Customer	The loyalty stamp progress and customer QR-code functions work correctly.	4	0
Customer	The customer reservation and purchase history viewing functions work correctly.	4	0
Customer	The customer rating, product review, and service feedback function works after successful purchase.	4	0
Customer	The cafe location map viewing function works correctly.	4	0

Functional Suitability Testing Form

Name of Tester: Kyndel Roy Suarez

Role: Developer Tester

Testing Scope: Customer Functions

Instruction: Answer Yes if the function works as expected and No if the function does not work properly.

Questions	Answer	
	Yes	No
The customer account creation and sign-in functions are working well.	✓	
The website and menu viewing function works without requiring login.	✓	
The live seat availability display shows the current cafe status correctly.	✓	
The reservation form saves the date, time, number of guests, and customer details correctly.	✓	
The pre-order and payment proof or reference ID submission functions work correctly.	✓	
The system applies the cancellation rule correctly before and after staff confirmation.	✓	
The loyalty stamp progress and customer QR-code functions work correctly.	✓	
The customer reservation and purchase history viewing functions work correctly.	✓	
The customer rating, product review, and service feedback function works after successful purchase.	✓	
The cafe location map viewing function works correctly.		

Signature of Tester: _____

Date: May 25, 2026

Functional Suitability Testing Form

Name of Tester: Nina Kristina Nillas

Role: Developer Tester

Testing Scope: Customer Functions

Instruction: Answer Yes if the function works as expected and No if the function does not work properly.

Questions	Answer	
	Yes	No
The customer account creation and sign-in functions are working well.	✓	
The website and menu viewing function works without requiring login.	✓	
The live seat availability display shows the current cafe status correctly.	✓	
The reservation form saves the date, time, number of guests, and customer details correctly.	✓	
The pre-order and payment proof or reference ID submission functions work correctly.	✓	
The system applies the cancellation rule correctly before and after staff confirmation.	✓	
The loyalty stamp progress and customer QR-code functions work correctly.	✓	
The customer reservation and purchase history viewing functions work correctly.	✓	
The customer rating, product review, and service feedback function works after successful purchase.	✓	
The cafe location map viewing function works correctly.	✓	

Signature of Tester: _____

Date: May 25, 2026

Functional Suitability Testing Form

Name of Tester: Nicole Nillas

Role: Customer

Testing Scope: Customer Functions

Instruction: Answer Yes if the function works as expected and No if the function does not work properly.

Questions	Answer	
	Yes	No
The customer account creation and sign-in functions are working well.	✓	
The website and menu viewing function works without requiring login.	✓	
The live seat availability display shows the current cafe status correctly.	✓	
The reservation form saves the date, time, number of guests, and customer details correctly.	✓	
The pre-order and payment proof or reference ID submission functions work correctly.	✓	
The system applies the cancellation rule correctly before and after staff confirmation.	✓	
The loyalty stamp progress and customer QR-code functions work correctly.	✓	
The customer reservation and purchase history viewing functions work correctly.	✓	
The customer rating, product review, and service feedback function works after successful purchase.	✓	
The cafe location map viewing function works correctly.	✓	

Signature of Tester: _____

Date: May 25, 2026

Functional Suitability Testing Form

Name of Tester: Ramon Stanley Paraguya

Role: Customer

Testing Scope: Customer Functions

Instruction: Answer Yes if the function works as expected and No if the function does not work properly.

Questions	Answer	
	Yes	No
The customer account creation and sign-in functions are working well.	✓	
The website and menu viewing function works without requiring login.	✓	
The live seat availability display shows the current cafe status correctly.	✓	
The reservation form saves the date, time, number of guests, and customer details correctly.	✓	
The pre-order and payment proof or reference ID submission functions work correctly.	✓	
The system applies the cancellation rule correctly before and after staff confirmation.	✓	
The loyalty stamp progress and customer QR-code functions work correctly.	✓	
The customer reservation and purchase history viewing functions work correctly.	✓	
The customer rating, product review, and service feedback function works after successful purchase.	✓	
The cafe location map viewing function works correctly.	✓	

Signature of Tester: _____

Date: May 25, 2026

TABLE 9. STAFF USER ACCEPTANCE TEST SUMMARY

Role / Scope	Questions	Answer	
		Yes	No
Staff/Cashier	The staff login function works before accessing the POS application.	4	0
Staff/Cashier	The sales processing function records successful customer orders correctly.	4	0
Staff/Cashier	The order modification function works before finalizing customer orders.	4	0
Staff/Cashier	The payment processing and receipt generation functions work correctly.	4	0
Staff/Cashier	The QR-code scan or manual input function records customer loyalty stamps correctly.	4	0
Staff/Cashier	The reservation viewing and management function works correctly for staff.	4	0
Staff/Cashier	The seat availability update function works correctly for staff.	4	0
Staff/Cashier	The stock viewing and low-stock notification functions work correctly.	4	0
Staff/Cashier	The order history and transaction viewing functions work correctly for staff.	4	0

Functional Suitability Testing Form

Name of Tester: Kyndel Roy Suarez

Role: Developer Tester

Testing Scope: Staff/Cashier Functions

Instruction: Answer Yes if the function works as expected and No if the function does not work properly.

Questions	Answer	
	Yes	No
The staff login function works before accessing the POS application.	✓	
The sales processing function records successful customer orders correctly.	✓	
The order modification function works before finalizing customer orders.	✓	
The payment processing and receipt generation functions work correctly.	✓	
The QR-code scan or manual input function records customer loyalty stamps correctly.	✓	
The reservation viewing and management function works correctly for staff.	✓	
The seat availability update function works correctly for staff.	✓	
The stock viewing and low-stock notification functions work correctly.	✓	
The order history and transaction viewing functions work correctly for staff.	✓	

Signature of Tester: _____

Date: May 25, 2026

Functional Suitability Testing Form

Name of Tester: Nina Kristina Nillas

Role: Developer Tester

Testing Scope: Staff/Cashier Functions

Instruction: Answer Yes if the function works as expected and No if the function does not work properly.

Questions	Answer	
	Yes	No
The staff login function works before accessing the POS application.	✓	
The sales processing function records successful customer orders correctly.	✓	
The order modification function works before finalizing customer orders.	✓	
The payment processing and receipt generation functions work correctly.	✓	
The QR-code scan or manual input function records customer loyalty stamps correctly.	✓	
The reservation viewing and management function works correctly for staff.	✓	
The seat availability update function works correctly for staff.	✓	
The stock viewing and low-stock notification functions work correctly.	✓	
The order history and transaction viewing functions work correctly for staff.	✓	

Signature of Tester: _____

Date: May 25, 2026

Functional Suitability Testing Form

Name of Tester: Domince Aseberos

Role: Developer Tester

Testing Scope: Staff/Cashier Functions

Instruction: Answer Yes if the function works as expected and No if the function does not work properly.

Questions	Answer	
	Yes	No
The staff login function works before accessing the POS application.	✓	
The sales processing function records successful customer orders correctly.	✓	
The order modification function works before finalizing customer orders.	✓	
The payment processing and receipt generation functions work correctly.	✓	
The QR-code scan or manual input function records customer loyalty stamps correctly.	✓	
The reservation viewing and management function works correctly for staff.	✓	
The seat availability update function works correctly for staff.	✓	
The stock viewing and low-stock notification functions work correctly.	✓	
The order history and transaction viewing functions work correctly for staff.	✓	

Signature of Tester: _____

Date: May 25, 2026

Functional Suitability Testing Form

Name of Tester: Ronnel Panaguiton

Role: Developer Tester

Testing Scope: Staff/Cashier Functions

Instruction: Answer Yes if the function works as expected and No if the function does not work properly.

Questions	Answer	
	Yes	No
The staff login function works before accessing the POS application.	✓	
The sales processing function records successful customer orders correctly.	✓	
The order modification function works before finalizing customer orders.	✓	
The payment processing and receipt generation functions work correctly.	✓	
The QR-code scan or manual input function records customer loyalty stamps correctly.	✓	
The reservation viewing and management function works correctly for staff.	✓	
The seat availability update function works correctly for staff.	✓	
The stock viewing and low-stock notification functions work correctly.	✓	
The order history and transaction viewing functions work correctly for staff.	✓	

Signature of Tester: _____

Date: May 25, 2026

TABLE 10. ADMIN USER ACCEPTANCE TEST SUMMARY

Role / Scope	Questions	Answer	
		Yes	No
Admin/Owner	The admin login function works before accessing the admin panel.	3	0
Admin/Owner	The stall management and staff assignment functions work correctly for the admin.	3	0
Admin/Owner	The admin CRUD function for inventory, products, and staff records works correctly.	3	0
Admin/Owner	The monthly product performance and prediction function works correctly.	3	0
Admin/Owner	The POS application installer download function works correctly for the admin.	3	0
Admin/Owner	The notification function for stock alerts, feedback, and reservations works correctly.	3	0
Admin/Owner	The admin transaction history viewing function works correctly.	3	0
Admin/Owner	The admin feedback and rating management function works correctly.	3	0

Functional Suitability Testing Form

Name of Tester: Kyndel Roy Suarez

Role: Developer Tester

Testing Scope: Admin/Owner Functions

Instruction: Answer Yes if the function works as expected and No if the function does not work properly.

Questions	Answer	
	Yes	No
The admin login function works before accessing the admin panel.	✓	
The stall management and staff assignment functions work correctly for the admin.	✓	
The admin CRUD function for inventory, products, and staff records works correctly.	✓	
The monthly product performance and prediction function works correctly.	✓	
The POS application installer download function works correctly for the admin.	✓	
The notification function for stock alerts, feedback, and reservations works correctly.	✓	
The admin transaction history viewing function works correctly.	✓	
The admin feedback and rating management function works correctly.	✓	

Signature of Tester: _____

Date: May 25, 2026

Functional Suitability Testing Form

Name of Tester: Nina Kristina Nillas

Role: Developer Tester

Testing Scope: Admin/Owner Functions

Instruction: Answer Yes if the function works as expected and No if the function does not work properly.

Questions	Answer	
	Yes	No
The admin login function works before accessing the admin panel.	✓	
The stall management and staff assignment functions work correctly for the admin.	✓	
The admin CRUD function for inventory, products, and staff records works correctly.	✓	
The monthly product performance and prediction function works correctly.	✓	
The POS application installer download function works correctly for the admin.	✓	
The notification function for stock alerts, feedback, and reservations works correctly.	✓	
The admin transaction history viewing function works correctly.	✓	
The admin feedback and rating management function works correctly.	✓	

Signature of Tester: _____

Date: May 25, 2026

Functional Suitability Testing Form

Name of Tester: Ramon Stanley Paraguya

Role: Admin/Owner

Testing Scope: Admin/Owner Functions

Instruction: Answer Yes if the function works as expected and No if the function does not work properly.

Questions	Answer	
	Yes	No
The admin login function works before accessing the admin panel.	✓	
The stall management and staff assignment functions work correctly for the admin.	✓	
The admin CRUD function for inventory, products, and staff records works correctly.	✓	
The monthly product performance and prediction function works correctly.	✓	
The POS application installer download function works correctly for the admin.	✓	
The notification function for stock alerts, feedback, and reservations works correctly.	✓	
The admin transaction history viewing function works correctly.	✓	
The admin feedback and rating management function works correctly.	✓	

Signature of Tester: _____

Date: May 25, 2026

L.2 User Acceptance Testing

TABLE 11. CUSTOMER USER ACCEPTANCE TEST TABLE

Functional Requirements	Test Cases
1. Customer Account Access	a. Create customer account b. Sign in to the web portal c. View website and menu without login
2. Reservation and Pre-order Management	a. View live seat availability b. Submit reservation with date, time, and number of guests c. Submit pre-order with payment screenshot or reference ID d. Receive reservation/order confirmation e. Apply cancellation rule before and after staff confirmation
3. Loyalty and Feedback	a. Generate customer QR-code b. View stamp progress and claimable rewards c. View purchase history d. Leave product/service rating and review
4. Online Location	a. View cafe location on online map

TABLE 12. STAFF USER ACCEPTANCE TEST TABLE

Functional Requirements	Test Cases
1. Staff Account Access	a. Log in to the POS application
2. POS Order and Payment	a. Record customer order b. Modify order before finalization c. Process payment and generate receipt d. View order history and transactions
3. Loyalty Stamp Recording	a. Scan or manually input customer QR-code for loyalty stamps
4. Reservation and Seat Management	a. Manage reservations b. Update seat availability
5. Inventory and Stock Monitoring	a. View stock availability b. Receive low-stock notifications

TABLE 13. ADMIN USER ACCEPTANCE TEST TABLE

Functional Requirements	Test Cases
1. Admin Account Access	a. Log in to the admin panel
2. Stall and Account Management	a. Manage stalls b. Assign staff c. Configure store operating hours
3. Product, Inventory, and Staff Management	a. Add, edit, and delete products b. Add, edit, and delete inventory records c. Add, edit, and delete staff accounts
4. Reports and Analytics	a. View sales performance analytics b. View predictive product performance data
5. Admin Notifications	a. Receive inventory stock alerts b. Receive new reservation alerts
6. System Records and Support	a. Download POS application installer b. View transaction history c. Manage customer feedback and ratings

Part I. Preliminary User Acceptance Testing

Preliminary User Acceptance Testing

Name of Tester: Renneyx Remedios Role: Customer

Test Case #	Expected Outcome	Actual Outcome	Remarks
1a	Be able to create a customer account	Functionality is successful and meets user requirements.	Successful
1b	Be able to sign in to the customer portal	Functionality is successful and meets user requirements.	Successful
1c	Be able to view the website and menu without login	Functionality is successful and meets user requirements.	Successful
2a	Be able to view live seat availability	Functionality is successful and meets user requirements.	Successful
2b	Be able to submit reservation time and guest count	Functionality is successful and meets user requirements.	Successful
2c	Be able to submit pre-order and payment proof	Functionality is successful and meets user requirements.	Successful
2d	Be able to receive reservation/order confirmation	Functionality is successful and meets user requirements.	Successful
2e	Be able to apply the cancellation rule correctly	Functionality is successful and meets user requirements.	Successful
3a	Be able to generate a customer QR-code	Functionality is successful and meets user requirements.	Successful
3b	Be able to view stamp progress and rewards	Functionality is successful and meets user requirements.	Successful
3c	Be able to view purchase history	Functionality is successful and meets user requirements.	Successful
3d	Be able to leave product/service feedback	Functionality is successful and meets user requirements.	Successful

4a	Be able to view the cafe location on the online map	The location/map display loads inconsistently and does not show the live location correctly.	Fix the map/location display and verify branch coordinates.
----	---	--	---

Name and Signature of Tester: _____

Date: May 24, 2026

Preliminary User Acceptance Testing

Name of Tester: Joward Perez Role: Customer

Test Case #	Expected Outcome	Actual Outcome	Remarks
1a	Be able to create a customer account	Functionality is successful and meets user requirements.	Successful
1b	Be able to sign in to the customer portal	Functionality is successful and meets user requirements.	Successful
1c	Be able to view the website and menu without login	Functionality is successful and meets user requirements.	Successful
2a	Be able to view live seat availability	Functionality is successful and meets user requirements.	Successful
2b	Be able to submit reservation time and guest count	Functionality is successful and meets user requirements.	Successful
2c	Be able to submit pre-order and payment proof	Functionality is successful and meets user requirements.	Successful
2d	Be able to receive reservation/order confirmation	Functionality is successful and meets user requirements.	Successful
2e	Be able to apply the cancellation rule correctly	Functionality is successful and meets user requirements.	Successful
3a	Be able to generate a customer QR-code	Functionality is successful and meets user requirements.	Successful
3b	Be able to view stamp progress and rewards	Functionality is successful and meets user requirements.	Successful
3c	Be able to view purchase history	Functionality is successful and meets user requirements.	Successful
3d	Be able to leave product/service feedback	Functionality is successful and meets user requirements.	Successful
4a	Be able to view the cafe location on the online map	The online map opens, but the selected cafe branch location is not displayed accurately.	Correct the map marker and location link for the branch.

Name and Signature of Tester: _____

Date: May 24, 2026

Preliminary User Acceptance Testing

Name of Tester: Ronnel Panaguiton Role: Staff/Cashier

Test Case #	Expected Outcome	Actual Outcome	Remarks
1a	Be able to log in as staff	Functionality is successful and meets user requirements.	Successful
2a	Be able to record customer order	Functionality is successful and meets user requirements.	Successful
2b	Be able to modify order before finalization	Functionality is successful and meets user requirements.	Successful
2c	Be able to process payment and receipt	Functionality is successful and meets user requirements.	Successful
2d	Be able to view order and transaction history	Functionality is successful and meets user requirements.	Successful
3a	Be able to scan/input QR-code for loyalty stamps	Scanning loyalty stamps has a bug; the QR scan does not always record the stamp.	Needs fix for the recording of points of not recording
4a	Be able to manage reservations	Functionality is successful and meets user requirements.	Successful
4b	Be able to update seat availability	Functionality is successful and meets user requirements.	Successful
5a	Be able to view stock and inventory records	Functionality is successful and meets user requirements.	Successful
5b	Be able to receive low-stock notifications	Functionality is successful and meets user requirements.	Successful

Name and Signature of Tester: _____

Date: May 24, 2026

Preliminary User Acceptance Testing

Name of Tester: Ramon Stanley Paraguya

Role: Staff/Cashier

Test Case #	Expected Outcome	Actual Outcome	Remarks
1a	Be able to log in as staff	Functionality is successful and meets user requirements.	Successful
2a	Be able to record customer order	Functionality is successful and meets user requirements.	Successful
2b	Be able to modify order before finalization	Functionality is successful and meets user requirements.	Successful
2c	Be able to process payment and receipt	Functionality is successful and meets user requirements.	Successful
2d	Be able to view order and transaction history	Functionality is successful and meets user requirements.	Successful
3a	Be able to scan/input QR-code for loyalty stamps	Scanning loyalty stamps has a bug; the QR scan does not always record the stamp.	Needs fix for the recording of points of not recording
4a	Be able to manage reservations	Functionality is successful and meets user requirements.	Successful
4b	Be able to update seat availability	Functionality is successful and meets user requirements.	Successful
5a	Be able to view stock and inventory records	Functionality is successful and meets user requirements.	Successful
5b	Be able to receive low-stock notifications	Functionality is successful and meets user requirements.	Successful

Name and Signature of Tester: _____

Date: May 24, 2026

Preliminary User Acceptance Testing

Name of Tester: Ramon Stanley Paraguya

Role: Admin/Owner

Test Case#	Expected Outcome	Actual Outcome	Remarks
1a	Be able to log in as admin	Functionality is successful and meets user requirements.	Successful
2a	Be able to manage stalls	Functionality is successful and meets user requirements.	Successful
2b	Be able to assign staff	Functionality is successful and meets user requirements.	Successful
2c	Be able to configure store operating hours	Functionality is successful and meets user requirements.	Successful
3a	Be able to manage products, inventory, and staff	Functionality is successful and meets user requirements.	Successful
4a	Be able to view sales performance analytics	Analytics has a bug on some branches; branch results do not display correctly.	Fix branch filtering and analytics calculations.
4b	Be able to view predictive product performance data	Functionality is successful and meets user requirements.	Successful
5a	Be able to receive inventory stock alerts	Admin alert notifications are not triggering properly.	Fix the admin notification trigger for alerts.
5b	Be able to receive new reservation alerts	Admin alert notifications are not triggering properly.	Fix the admin notification trigger for alerts.
6a	Be able to download POS application installer	Functionality is successful and meets user requirements.	Successful
6b	Be able to view all transaction history	Functionality is successful and meets user requirements.	Successful
6c	Be able to manage customer feedback and ratings	Functionality is successful and meets user requirements.	Successful

Signature of Tester: _____

Date: May 24, 2026

Part II. User Acceptance Testing Final Stage

User Acceptance Testing Final Stage

Name of Tester: Renneyx Remedios

Role: Customer

Test Case#	Expected Outcome	Successful?	
		Yes	No
1a	Be able to create a customer account	✓	
1b	Be able to sign in to the customer portal	✓	
1c	Be able to view the website and menu without login	✓	
2a	Be able to view live seat availability	✓	
2b	Be able to submit reservation time and guest count	✓	
2c	Be able to submit pre-order and payment proof	✓	
2d	Be able to receive reservation/order confirmation	✓	
2e	Be able to apply the cancellation rule correctly	✓	
3a	Be able to generate a customer QR-code	✓	
3b	Be able to view stamp progress and rewards	✓	
3c	Be able to view purchase history	✓	
3d	Be able to leave product/service feedback	✓	
4a	Be able to view the cafe location on the online map	✓	

Signature of Tester: _____

Date: May 28, 2026

User Acceptance Testing Final Stage

Name of Tester: Nicole Nillas

Role: Customer

Test Case#	Expected Outcome	Successful?	
		Yes	No
1a	Be able to create a customer account	✓	
1b	Be able to sign in to the customer portal	✓	
1c	Be able to view the website and menu without login	✓	
2a	Be able to view live seat availability	✓	
2b	Be able to submit reservation time and guest count	✓	
2c	Be able to submit pre-order and payment proof	✓	
2d	Be able to receive reservation/order confirmation	✓	
2e	Be able to apply the cancellation rule correctly	✓	
3a	Be able to generate a customer QR-code	✓	
3b	Be able to view stamp progress and rewards	✓	
3c	Be able to view purchase history	✓	
3d	Be able to leave product/service feedback	✓	
4a	Be able to view the cafe location on the online map	✓	

Signature of Tester: _____

Date: May 28, 2026

User Acceptance Testing Final Stage

Name of Tester: Joward Perez

Role: Customer

Test Case#	Expected Outcome	Successful?	
		Yes	No
1a	Be able to create a customer account	✓	
1b	Be able to sign in to the customer portal	✓	
1c	Be able to view the website and menu without login	✓	
2a	Be able to view live seat availability	✓	
2b	Be able to submit reservation time and guest count	✓	
2c	Be able to submit pre-order and payment proof	✓	
2d	Be able to receive reservation/order confirmation	✓	
2e	Be able to apply the cancellation rule correctly	✓	
3a	Be able to generate a customer QR-code	✓	
3b	Be able to view stamp progress and rewards	✓	
3c	Be able to view purchase history	✓	
3d	Be able to leave product/service feedback	✓	
4a	Be able to view the cafe location on the online map	✓	

Signature of Tester: _____

Date: May 28, 2026

User Acceptance Testing Final Stage

Name of Tester: Edmar Gumbason

Role: Customer

Test Case#	Expected Outcome	Successful?	
		Yes	No
1a	Be able to create a customer account	✓	
1b	Be able to sign in to the customer portal	✓	
1c	Be able to view the website and menu without login	✓	
2a	Be able to view live seat availability	✓	
2b	Be able to submit reservation time and guest count	✓	
2c	Be able to submit pre-order and payment proof	✓	
2d	Be able to receive reservation/order confirmation	✓	
2e	Be able to apply the cancellation rule correctly	✓	
3a	Be able to generate a customer QR-code	✓	
3b	Be able to view stamp progress and rewards	✓	
3c	Be able to view purchase history	✓	
3d	Be able to leave product/service feedback	✓	
4a	Be able to view the cafe location on the online map	✓	

Signature of Tester: _____

Date: May 28, 2026

User Acceptance Testing Final Stage

Name of Tester: Ben Aniasco

Role: Customer

Test Case#	Expected Outcome	Successful?	
		Yes	No
1a	Be able to create a customer account	✓	
1b	Be able to sign in to the customer portal	✓	
1c	Be able to view the website and menu without login	✓	
2a	Be able to view live seat availability	✓	
2b	Be able to submit reservation time and guest count	✓	
2c	Be able to submit pre-order and payment proof	✓	
2d	Be able to receive reservation/order confirmation	✓	
2e	Be able to apply the cancellation rule correctly	✓	
3a	Be able to generate a customer QR-code	✓	
3b	Be able to view stamp progress and rewards	✓	
3c	Be able to view purchase history	✓	
3d	Be able to leave product/service feedback	✓	
4a	Be able to view the cafe location on the online map	✓	

Signature of Tester: _____

Date: May 28, 2026

User Acceptance Testing Final Stage

Name of Tester: Ronnel Panaguiton

Role: Staff/Cashier

Test Case#	Expected Outcome	Successful?	
		Yes	No
1a	Be able to log in as staff	✓	
2a	Be able to record customer order	✓	
2b	Be able to modify order before finalization	✓	
2c	Be able to process payment and receipt	✓	
2d	Be able to view order and transaction history	✓	
3a	Be able to scan/input QR-code for loyalty stamps	✓	
4a	Be able to manage reservations	✓	
4b	Be able to update seat availability	✓	
5a	Be able to view stock and inventory records	✓	
5b	Be able to receive low-stock notifications	✓	

Name and Signature of Tester: _____

Date: May 28, 2026

User Acceptance Testing Final Stage

Name of Tester: Ramon Stanley Paraguya

Role: Staff/Cashier

Test Case #	Expected Outcome	Successful?	
		Yes	No
1a	Be able to log in as staff	✓	
2a	Be able to record customer order	✓	
2b	Be able to modify order before finalization	✓	
2c	Be able to process payment and receipt	✓	
2d	Be able to view order and transaction history	✓	
3a	Be able to scan/input QR-code for loyalty stamps	✓	
4a	Be able to manage reservations	✓	
4b	Be able to update seat availability	✓	
5a	Be able to view stock and inventory records	✓	
5b	Be able to receive low-stock notifications	✓	

Name and Signature of Tester: _____

Date: May 28, 2026

User Acceptance Testing Final Stage

Name of Tester: Ramon Stanley Paraguya

Role: Admin/Owner

Test Case #	Expected Outcome	Successful?	
		Yes	No
1a	Be able to log in as admin	✓	
2a	Be able to manage stalls	✓	
2b	Be able to assign staff	✓	
2c	Be able to configure store operating hours	✓	
3a	Be able to manage products, inventory, and staff	✓	
4a	Be able to view sales performance analytics	✓	
4b	Be able to view predictive product performance data	✓	
5a	Be able to receive inventory stock alerts	✓	
5b	Be able to receive new reservation alerts	✓	
6a	Be able to download POS application installer	✓	
6b	Be able to view all transaction history	✓	
6c	Be able to manage customer feedback and ratings	✓	

Signature of Tester: _____

Date: May 28, 2026

M. Certification



DEPARTMENT OF COMPUTING EDUCATION
Computer Science Program
UM Visayan Campus, Visayan Village, Tagum City
Davao del Norte
Tel #: (084)655-6074

CERTIFICATE OF SYSTEM DEPLOYMENT, IMPLEMENTATION, AND ACCEPTANCE

This is to certify that the software project entitled "**Cutshier: An Integrated Restaurant Management System for Catsy Coffee**"

developed by:

- ASEBEROS, DOMINANCE A.
- JABONITE, DICK ANGELO P.
- NILLAS, NINA KRISTINA
- SUAREZ, KYNDEL ROY

has been successfully tested, deployed, installed, and implemented in the beneficiary establishment. The system has undergone verification and validation procedures and has been found operational and functional in accordance with the agreed system requirements and specifications.

Furthermore, the undersigned representative of the beneficiary establishment confirms that the software system has been formally accepted for implementation and use.

Issued this 2nd day of June, 2026 at Manuel B. Suaybaguio Sr. St, Tagum, Davao del Norte.

Ramon Paraguya

NAME AND SIGNATURE OF REPRESENTATIVE

Position: Owner

Beneficiary Establishment: Catsy Coffee

Irish Mae Mendoza, MIT

NAME AND SIGNATURE OF PROJECT ADVISER / FACULTY

Position: CS Program Head, Faculty

N. References

- [1] IEEE Standards Association, "ISO/IEC/IEEE 29148-2018 - Systems and software engineering -- Life cycle processes -- Requirements engineering," IEEE Standards Association, 2018.
- [2] International Organization for Standardization, "ISO/IEC 25010:2011 - Systems and software engineering — Systems and software Quality Requirements and Evaluation (SQuaRE) — System and software quality models," ISO, 2011.
- [3] W. W. Royce, "Managing the Development of Large Software Systems: Concepts and Techniques," Proc. IEEE WESCON, pp. 1-9, 1970.
- [4] International Organization for Standardization, "ISO 9241-210:2019 - Ergonomics of human-system interaction — Part 210: Human-centred design for interactive systems," ISO, 2019.
- [5] IEEE Standards Association, "ISO/IEC/IEEE 29119 - Software and systems engineering — Software testing," IEEE Standards Association.
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Appendix C. Software Testing Results

Functional Suitability Testing Results

Table C.1 Functional Suitability Testing Results

Role / Scope	Testing Feature / Question	Yes	No	Total Testers
Customer	Customer account creation and sign-in functions are working well.	4	0	4
	The website and menu viewing function works without requiring login.	4	0	4
	The live seat availability display shows the current cafe status correctly.	4	0	4
	The reservation form saves the date, time, number of guests, and customer details correctly.	4	0	4
	The pre-order and payment proof or reference ID submission functions work correctly.	4	0	4
	The system applies the cancellation rule correctly before and after staff confirmation.	4	0	4
	The loyalty stamp progress and customer QR-code functions work correctly.	4	0	4
	The customer reservation and purchase history viewing functions work correctly.	4	0	4
	The customer rating, product review, and service feedback function works after successful purchase.	4	0	4
	The cafe location map viewing function works correctly.	4	0	4
Staff / Cashier	The staff login function works before accessing the POS application.	4	0	4
	The sales processing function records successful customer orders correctly.	4	0	4
	The order modification function works before finalizing customer orders.	4	0	4
	The payment processing and receipt generation functions work correctly.	4	0	4
	The QR-code scan or manual input function records customer loyalty stamps correctly.	4	0	4
	The reservation viewing and management function works correctly for staff.	4	0	4
	The seat availability update function works correctly for staff.	4	0	4
	The stock viewing and low-stock notification functions work correctly.	4	0	4
	The order history and transaction viewing functions work correctly for staff.	4	0	4
Admin / Owner	The admin login function works before accessing the admin panel.	3	0	3
	The stall management and staff assignment functions work correctly for the admin.	3	0	3
	The admin CRUD function for inventory, products, and staff records works correctly.	3	0	3

	The monthly product performance and prediction function works correctly.	3	0	3
	The POS application installer download function works correctly for the admin.	3	0	3
	The notification function for stock alerts, feedback, and reservations works correctly.	3	0	3
	The admin transaction history viewing function works correctly.	3	0	3
	The admin feedback and rating management function works correctly.	3	0	3

User Acceptance Testing Results

The following tables summarize the User Acceptance Testing (UAT) results for the Customer Web Portal, Staff Mobile POS, and Web-Based Admin Panel.

Table C.2: Customer Application Testing Results

Application Testing Checklist	YES	NO	PERCENTAGE
1. Do customer command buttons and navigation links work properly?	5	0	100.00
2. Are customer account registration and sign-in functions working correctly?	5	0	100.00
3. Can customers view the website and menu without logging in?	5	0	100.00
4. Does the system display live seat availability correctly?	5	0	100.00
5. Does the reservation form save date, time, guest count, and customer details correctly?	5	0	100.00
6. Does the system accept pre-order details and payment proof or reference ID correctly?	5	0	100.00
7. Does the customer portal show loyalty progress, rewards, purchase history, and feedback options correctly?	5	0	100.00
8. Does the cafe location map display correctly after correction?	5	0	100.00
9. Is the customer interface simple, responsive, and aligned with user requirements?	5	0	100.00
Overall Percentage			100.00

Table C.3: Staff Application Testing Results

Application Testing Checklist	YES	NO	PERCENTAGE
1. Does the staff login function work properly?	3	0	100.00
2. Does the POS record orders, process payments, and generate receipts correctly?	3	0	100.00
3. Does the system allow order modification before finalizing the order?	3	0	100.00
4. Does the loyalty QR-code scan/manual input and stamp recording process work correctly after correction?	3	0	100.00
5. Can staff manage reservations and update seat availability correctly?	3	0	100.00
6. Does the system update and display inventory/stock information correctly?	3	0	100.00
7. Is the staff POS interface simple, responsive, and aligned with user requirements?	3	0	100.00
Overall Percentage			100.00

Table C.4: Admin Application Testing Results

Application Testing Checklist	YES	NO	PERCENTAGE
Is it able to log in as admin?	1	0	100.00
Does it able to manage stalls?	1	0	100.00
Does it able to assign staff?	1	0	100.00
Does system able to configure store operating hours	1	0	100.00
Does the system able to manage products, inventory, and staff?	1	0	100.00
Is it able to view sales performance analytics?	1	0	100.00
Is it able to do prediction product performance data?	1	0	100.00
Does system receive notifications on low stocks?	1	0	100.00
Is it able to receive reservation notification?	1	0	100.00
Does the system able to download POS application installer?	1	0	100.00
Is it able to view all transaction history?	1	0	100.00
Be able to manage customer feedback and ratings	1	0	100.00
Overall Percentage		0	100.00

Appendix D. User's Manual

This appendix provides the end-user operating manual for the Customer Web Portal, Staff Mobile POS, and Admin Web Panel. It has been reformatted to match the main software engineering documentation and uses Calibri font for consistency.

Table D.1: User's Manual Information

Field	Details
Document Type	End-user operating manual
Audience	Customers, staff, managers, and administrators
System	Catsy Coffee ordering, reservation, loyalty, and POS system
Version	1.0
Prepared	May 19, 2026

Purpose: This manual explains how customers, staff, and administrators use Catsy Coffee during daily operations. It does not include passwords, deployment instructions, backend internals, server access, or developer setup steps.

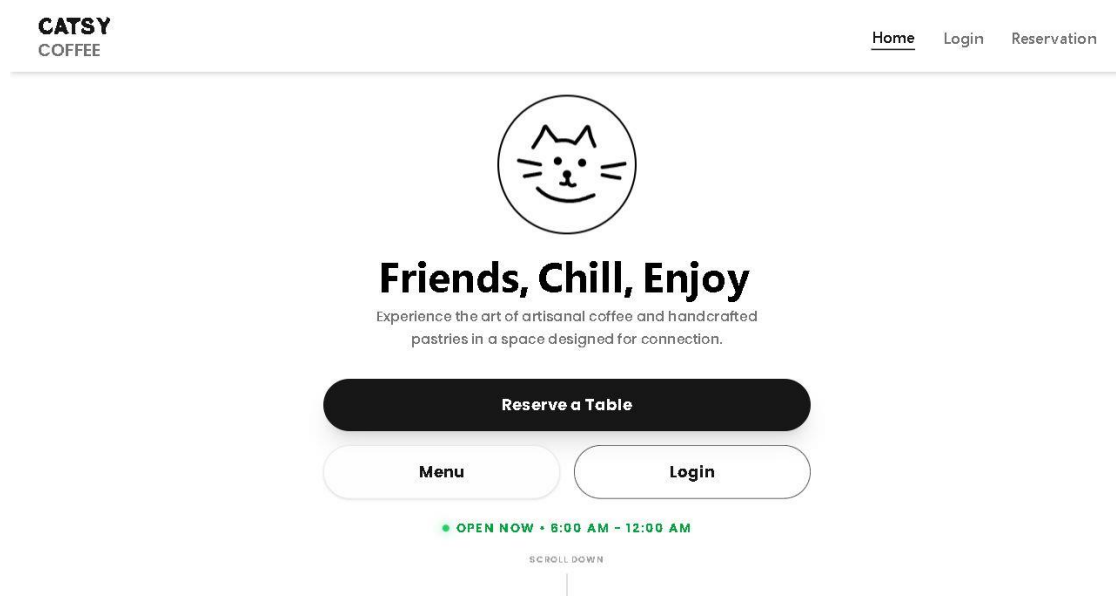


Figure D.1. Customer portal home page.

Catsy Coffee is composed of three user-facing applications: the Customer Web Portal, the Staff Mobile POS, and the Admin Web Panel. Together, these applications support reservations, ordering, loyalty rewards, payments, receipts, inventory monitoring, reporting, and store administration.

1.1 Intended Users and System Areas

Table D.2: Intended Users & System Areas

Application	Primary Users	Main Responsibilities
Customer Web Portal	Customers and guests	Browse store information, create or access an account, submit reservations, view profile details, and use loyalty rewards.
Staff Mobile POS	Cashiers and stall staff	Start a shift, take orders, manage tables, handle reservations, process payments, issue receipts, monitor stock, and manage sync status.
Admin Web Panel	Owners, managers, and administrators	Manage products, rewards, inventory, users, bookings, stalls, analytics, public content, system settings, and mobile app access.

1.2 Standard Operating Flow

Table D.3: Standard Operating Flow

Step	Action
1	An administrator maintains product records, reward items, inventory, stalls, staff accounts, store hours, and global settings.
2	Customers use the web portal to browse store information, log in when required, and submit reservations or loyalty-related actions.
3	Staff sign in to the mobile POS, select the assigned stall, and start the working shift.
4	During service, staff manage tables, reservations, orders, payments, receipts, reward validation, stock checks, and sync warnings.
5	Administrators review bookings, orders, reports, inventory alerts, user activity, and system settings from the web panel.

Important: Use only accounts issued by an administrator. If you cannot sign in or need a password reset, request help from an administrator. Do not share credentials with another user.

1.3 Manual Conventions

- Select is used for web actions, such as clicking a button or choosing a menu item.
- Tap is used for mobile POS actions.
- Staff refers to cashiers or assigned stall operators.
- Admin refers to users with management access to the Admin Web Panel.
- Screens may vary slightly depending on device size, account role, active settings, and system updates.

The Customer Web Portal is the public-facing website for store browsing, account access, reservation requests, profile viewing, and loyalty reward use. Guests may access public pages, while profile and loyalty features require a logged-in customer account.

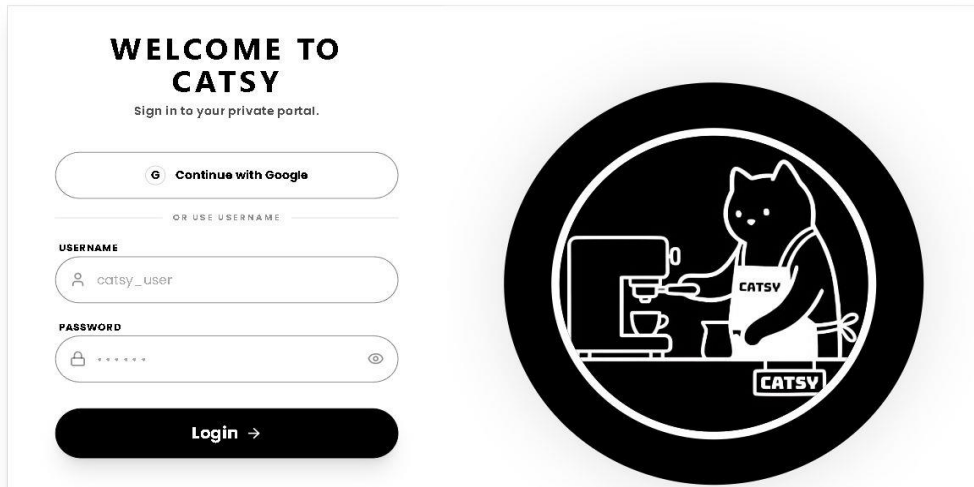


Figure D.2. Customer login and sign-up page.

2.1 Browse Store Information

Steps:

1. Open the Catsby Coffee web URL provided by the store.
2. Use the Home page to view store information, branch status, featured content, and available public actions.
3. Open the Menu or product sections, when available, to review items offered by the store.
4. Open Reservation when you want to request a table.
5. Open Login when you need account, profile, loyalty, or reward features.

2.2 Sign Up or Log In

Steps:

1. Select Login from the top navigation.
2. For an existing account, enter the registered email/username and password, then select Login.
3. For a new account, choose the sign-up option and complete the required identity and contact fields.
4. After logging in, open Profile to confirm that the account details are correct.
5. Sign out before leaving a shared or public device.

2.3 Create a Reservation

CATSY Reservation Form

Please enter your details to secure a table for the evening.

01. TABLE 02. DETAILS 03. ORDER LOG IN

SELECT BRANCH DATE TIME

barkada • rotary (Tel: 09987654321)~ mm/dd/yyyy Select Time v

Floor Map

Operating hours: 6:00 AM - 12:00 AM 10/10 TABLES AVAILABLE

T-TABLE 1 Window 2 SEATS	T-TABLE 2 Window 2 SEATS	T-TABLE 3 Window 2 SEATS	T-TABLE 4 Window 2 SEATS	T-TABLE 5 Window 2 SEATS
T-TABLE 6	T-TABLE 7	T-TABLE 8	T-TABLE 9	T-TABLE 10



barkada - rotary

Figure D.3. Customer reservation form

Steps:

1. Open Reservation from the top navigation or from the Home page action.
2. Select the stall or branch, reservation date, reservation time, and party size.
3. Enter the required customer contact information.
4. Attach payment proof or enter the payment reference information when the form requires a minimum order or reservation payment.
5. Submit the reservation request.
6. Review the reservation status displayed by the portal. If the request is pending, wait for staff or admin verification before assuming that the table is confirmed.

2.4 View Profile, Loyalty, and Rewards

Steps:

1. Log in before opening Profile or Loyalty.
2. Use Profile to review customer information and account identifiers.
3. Use Loyalty to check stamp progress when the loyalty feature is enabled.
4. When enough stamps are available, claim an available reward item.
5. Present the generated reward code or QR code to staff for validation and redemption.
6. Ask staff or an administrator for assistance if the reward appears invalid, already redeemed, expired, or unavailable.

The Staff Mobile POS is used for daily store operations. Staff use it to start shifts, process orders, manage tables and reservations, accept payments, issue receipts, validate rewards, review stock, and manage sync status.

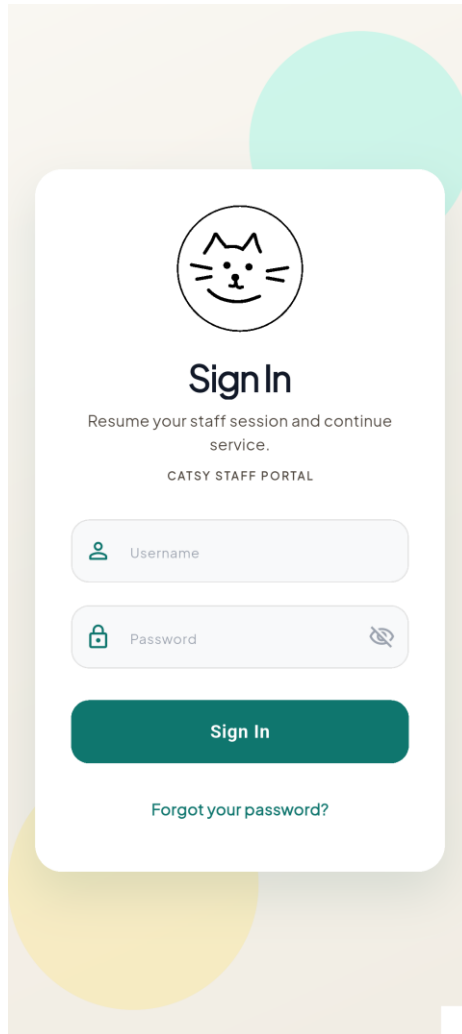


Figure D.4. Staff mobile login screen.

3.1 Staff POS

Table D.4: Staff POS

Area	Purpose
Login	Sign in using the staff account issued by an administrator.
Stall Selection	Choose the assigned stall or branch before starting the shift.
HOME	Review live stall status, next orders, held orders, reservations, rewards, stock alerts, and sync status.
SHIFT	Review shift details, sales information, and closing requirements.
ORDERS	Build orders, link customers, process payments, hold pay-later orders, and issue receipts.
STOCK	Review materials, low-stock warnings, depleted stock, and permitted stock adjustments.
Profile Menu	Open profile, settings, sync status, session information, and logout options.

3.2 Log In and Select a Stall

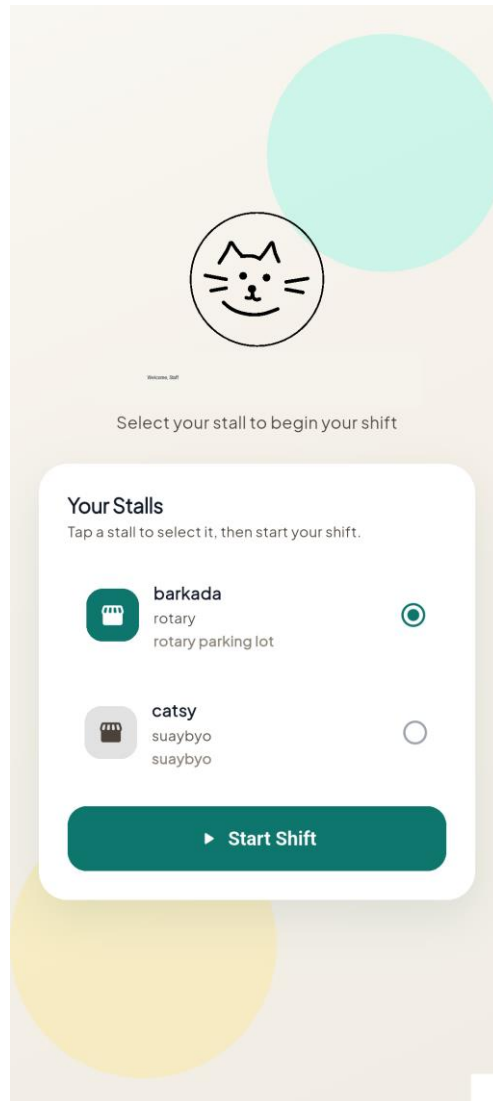


Figure D.5 Staff stall selection before starting a shift.

Step:

1. Open the Catsy POS app.
2. Enter the assigned staff username and password.
3. Tap Sign In.
4. On the stall selection screen, select the stall you are assigned to operate.
5. Tap Start Shift.
6. If no stall appears, ask an administrator to verify your stall assignment and account status.

Expected result: The staff member is signed in, assigned to the correct stall, and ready to begin POS operations for the shift.

3.3 Use the HOME Dashboard

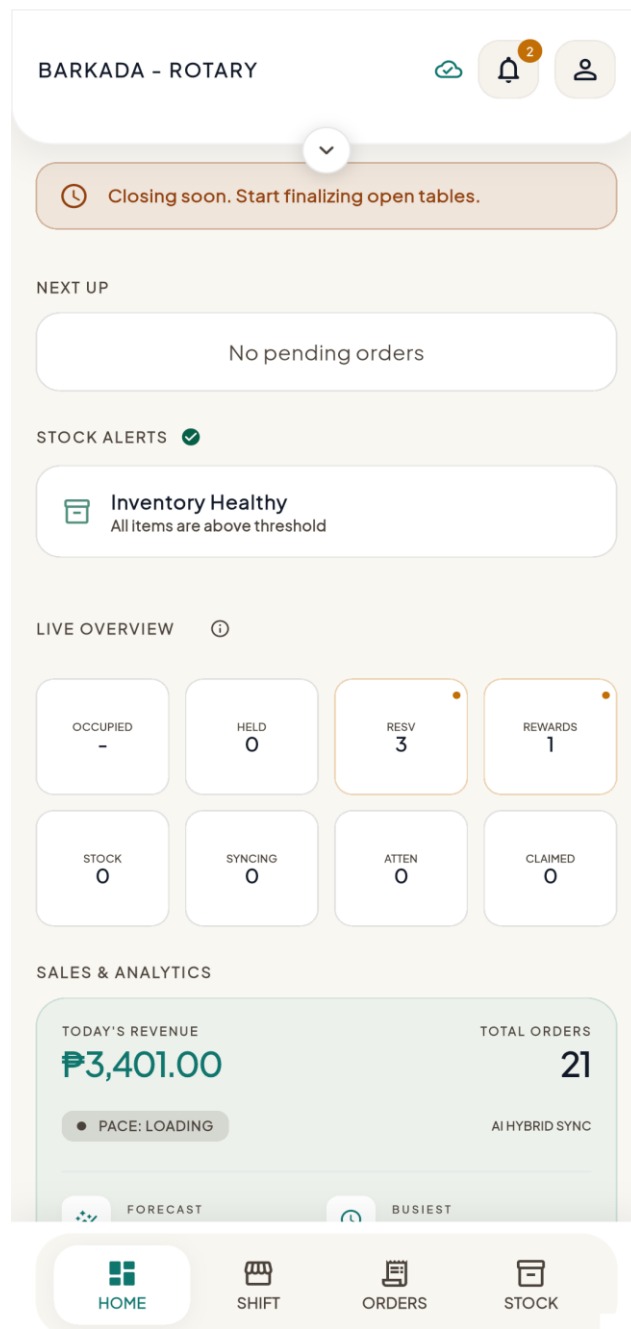


Figure D.6. Staff HOME dashboard for active stall status and live overview.

Steps:

1. Open HOME after starting the shift.
2. Check the current stall status before taking orders.
3. Review Next Up for active work that needs attention.
4. Review Stock Alerts before service becomes busy.
5. Use Live Overview to open occupied tables, held orders, reservation requests, rewards, or sync status.
6. Open notifications from the top bar when a reservation request or system alert appears.

3.4 Manage Tables and Reservations

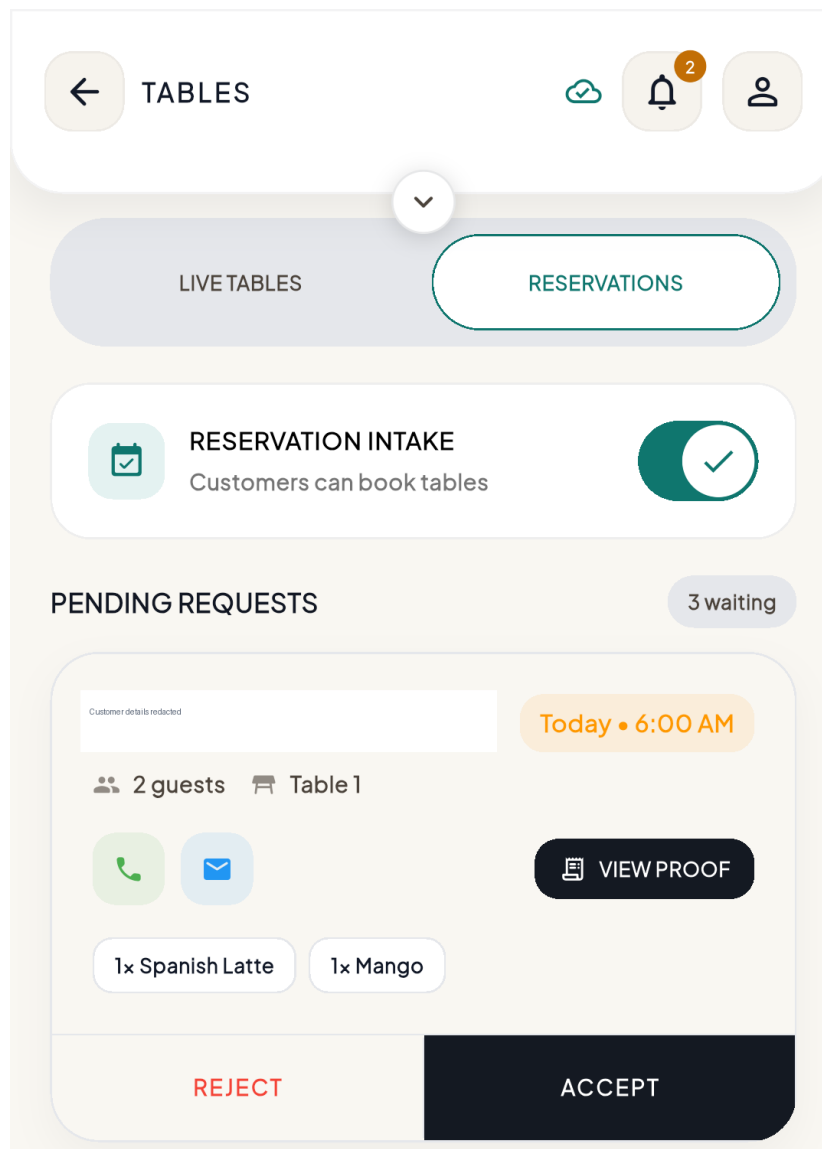


Figure D.7. Staff reservations queue with approval controls.

Steps:

1. Tap a table or open the reservation view from HOME.
2. For walk-in customers, choose the appropriate option to take an order or seat the guest without an order when available.
3. For reservations, review the customer name, party size, schedule, contact details, and payment proof status.
4. Approve a reservation only when the details are valid and the proof requirements are satisfied.
5. Use Seat Guest when the customer arrives.
6. Use Mark No-Show, Reject, Cancel, Extend, or Complete only when the action accurately matches the situation.
7. Clear or release tables after paid customers leave so availability remains accurate.

3.5 Create Orders, Process Payments, and Issue Receipts

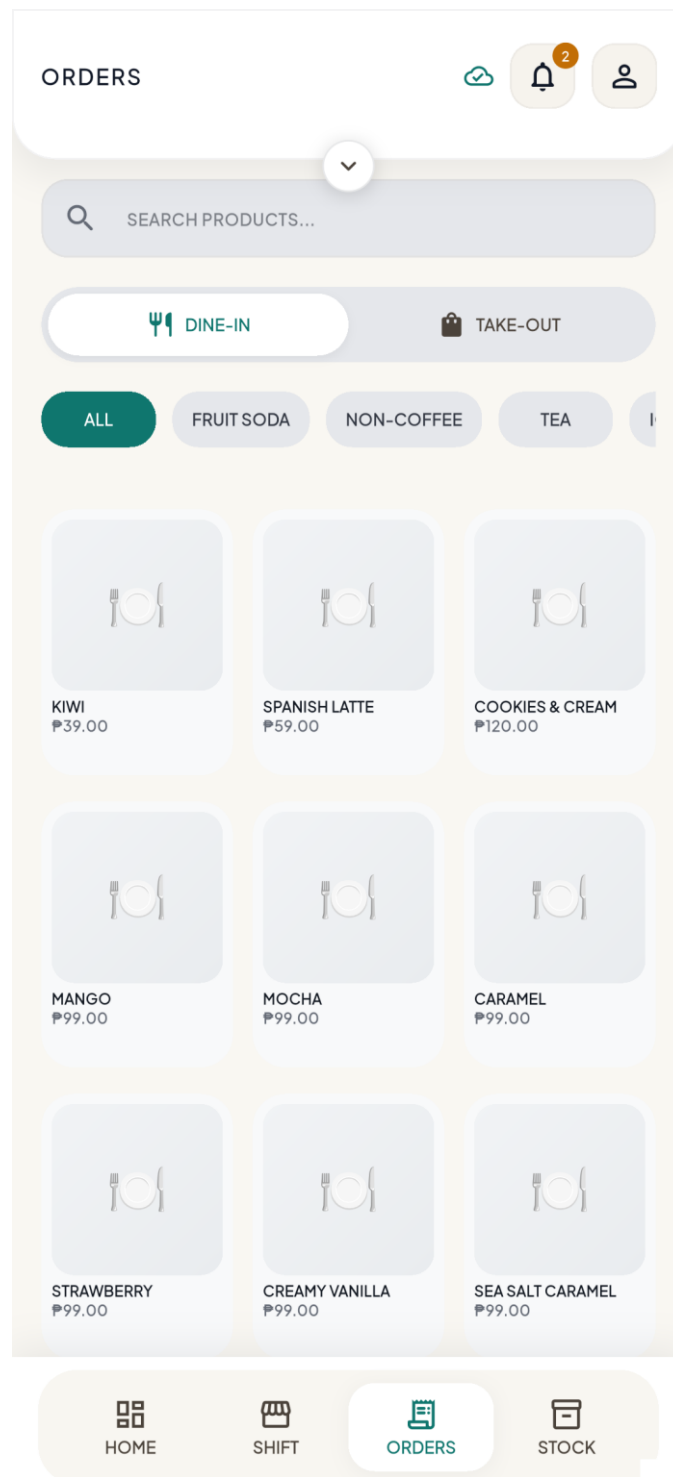


Figure D.8. Staff product catalog and order builder.

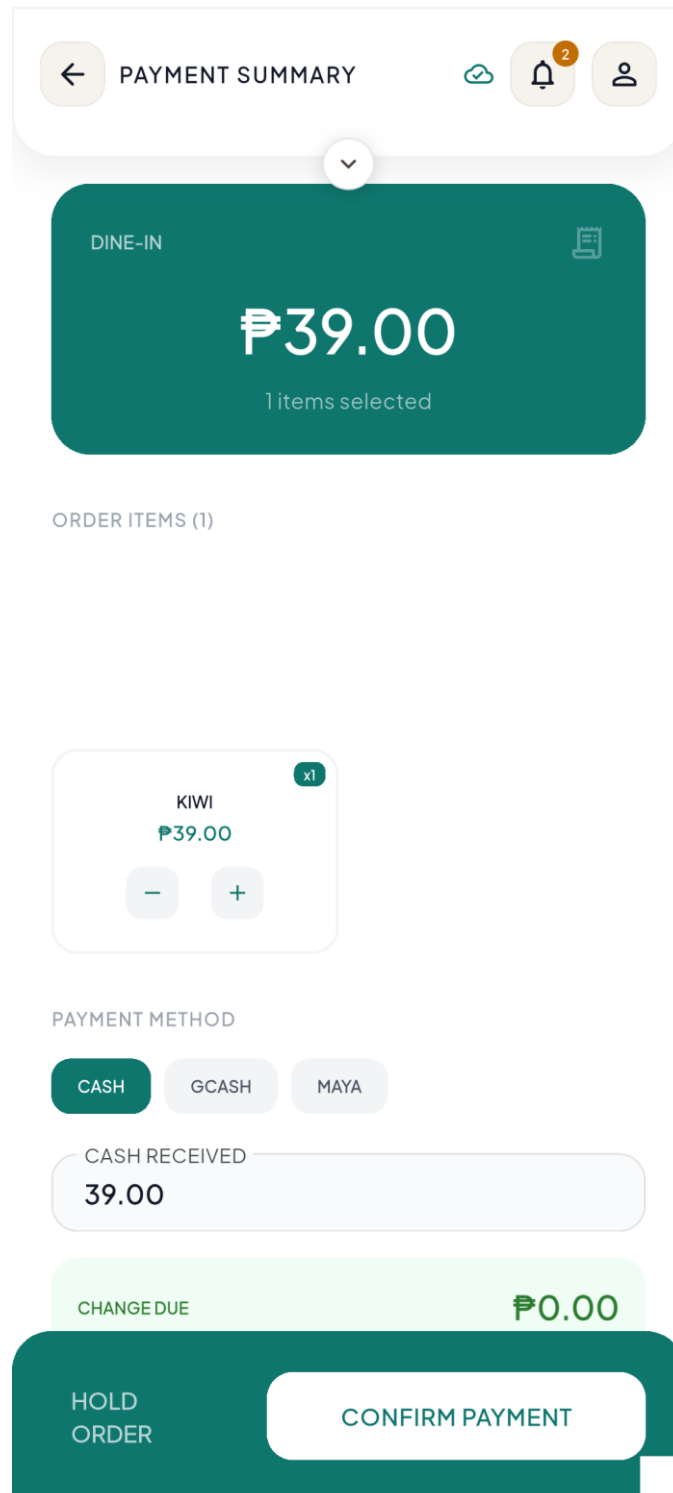


Figure D.9. Staff payment summary and payment method controls.

Steps:

1. Start from a table, the open-orders queue, or the ORDERS tab.
2. Choose dine-in or take-out as appropriate.
3. Add products and add-ons from the catalog.
4. Link a customer account when the customer wants stamps or account purchase history.
5. Review the order summary before payment.

6. Choose the payment method and enter the tendered amount when cash is used.
7. Complete the order, then view, print, or share the receipt when required.
8. For pay-later orders, return to the held order or table when the customer is ready to pay.

Important: Always review the order summary and payment method before confirming payment. Incorrect payment records may affect sales reports, receipts, and stock deductions.

3.6 Handle Loyalty and Reward Redemption

Steps:

1. Link the customer account before completing an eligible order if the customer should earn stamps.
2. Open the reward claim or validation screen when a customer presents a reward code or QR code.
3. Scan or enter the reward code.
4. Validate the reward before giving the reward item.
5. Do not redeem a code that appears invalid, expired, already claimed, or blocked by connection errors.

3.7 Review Inventory, Sync Status, and Settings

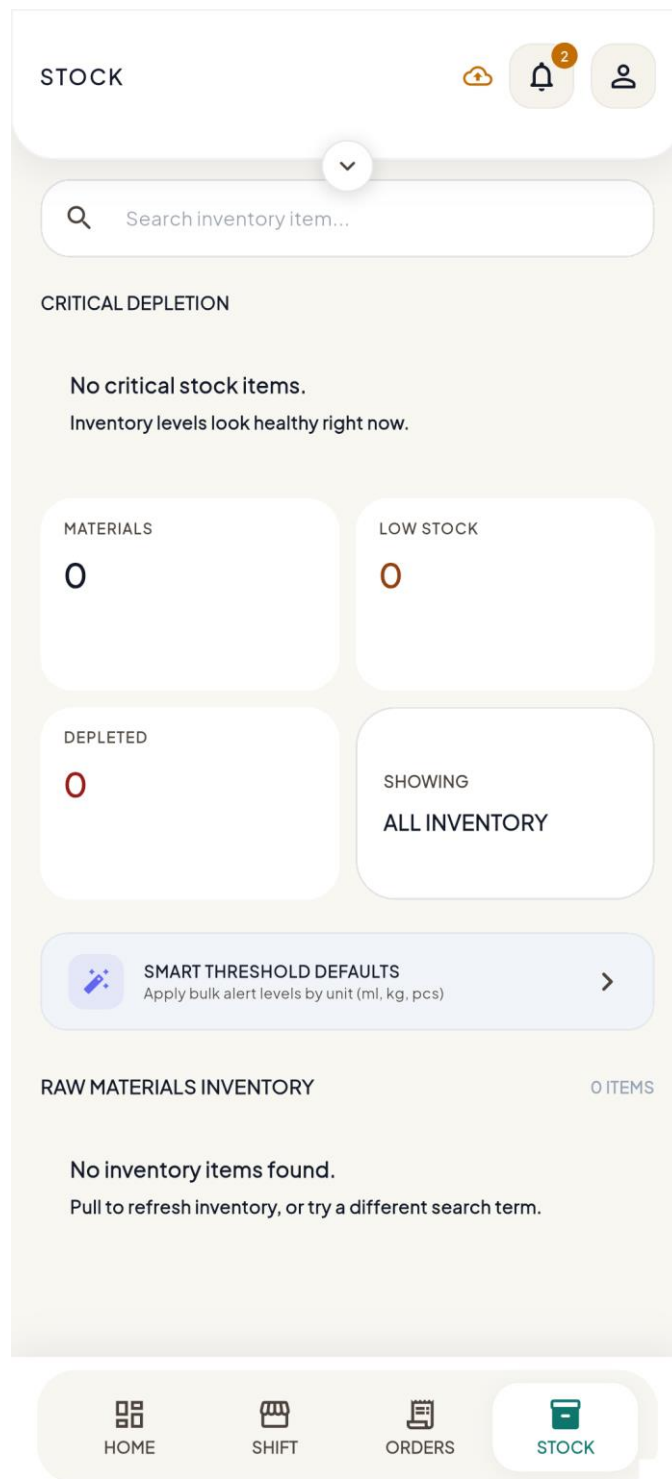


Figure D.10. Staff stock overview and inventory health screen.

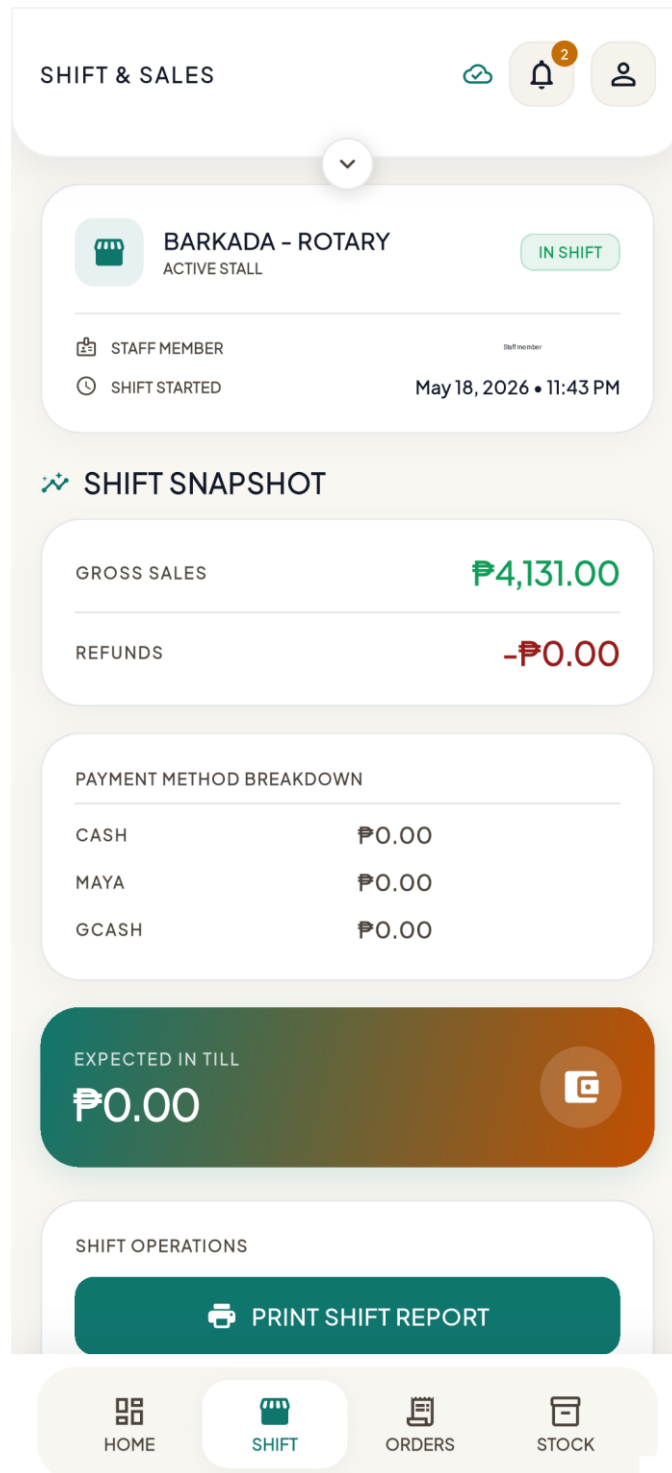


Figure D.11. Staff shift and sales summary.

Steps:

1. Open STOCK to review materials, low-stock items, and depleted stock.
2. Use only the stock adjustment controls allowed for the active stall.
3. Open Sync Status when the app shows pending or failed sync items.
4. Use Retry Failed when the connection is restored.
5. Open Settings for store-operation status, notifications, sync/data status, device

- endpoint, profile, and session information.
6. Do not close the shift while held orders, occupied tables, or reachable unsynced items still require attention.
 7. Log out from the profile menu before handing the device to another staff member.

The Admin Web Panel is the management interface for store operations. Administrators use it to maintain catalog data, reward rules, inventory records, user accounts, reservations, stalls, reporting, public content, settings, and mobile app access.

The image shows a mobile application login screen for 'Backstage Admin'. At the top center is a dark icon of a coffee cup with steam. Below the icon, the text 'Backstage Admin' is displayed in a bold, sans-serif font, with 'AUTHORIZED PERSONNEL ONLY' in a smaller font underneath. The main content area is a white rounded rectangle containing two input fields. The first field is labeled 'ADMIN USERNAME' and contains the text 'admin_username'. The second field is labeled 'ACCESS KEY' and contains a masked password represented by seven dots. To the right of the second field is an eye icon for toggling password visibility. Below the input fields is a large, black, rounded rectangular button with a white shield icon and the text 'Unlock Dashboard'. At the bottom center of the screen, there is a small link that says 'Back to Main Store'.

Figure D.12. Admin login screen.

4.1 Log In and Navigate

Steps:

1. Open the admin URL provided by the administrator or technical owner.
2. Enter the administrator username/email and access key.
3. Select Unlock Dashboard.
4. Use the left navigation or mobile menu to open Dashboard, Orders, Products, Rewards, Inventory, Users, Bookings, Stalls, Analytics, CMS, Settings, APK, or Profile.
5. Sign out when administration work is complete.

Important: Admin access should be limited to authorized users. Do not publish access keys, screenshots with private account details, or backend configuration values.

4.2 Review the Dashboard

Steps

1. Open Dashboard to view the current operational summary.
2. Review sales, orders, payment breakdowns, and inventory attention warnings.
3. Use the stall filter, when available, to focus on a specific stall or branch.
4. Refresh the dashboard when recent transactions or stock changes need to be confirmed.

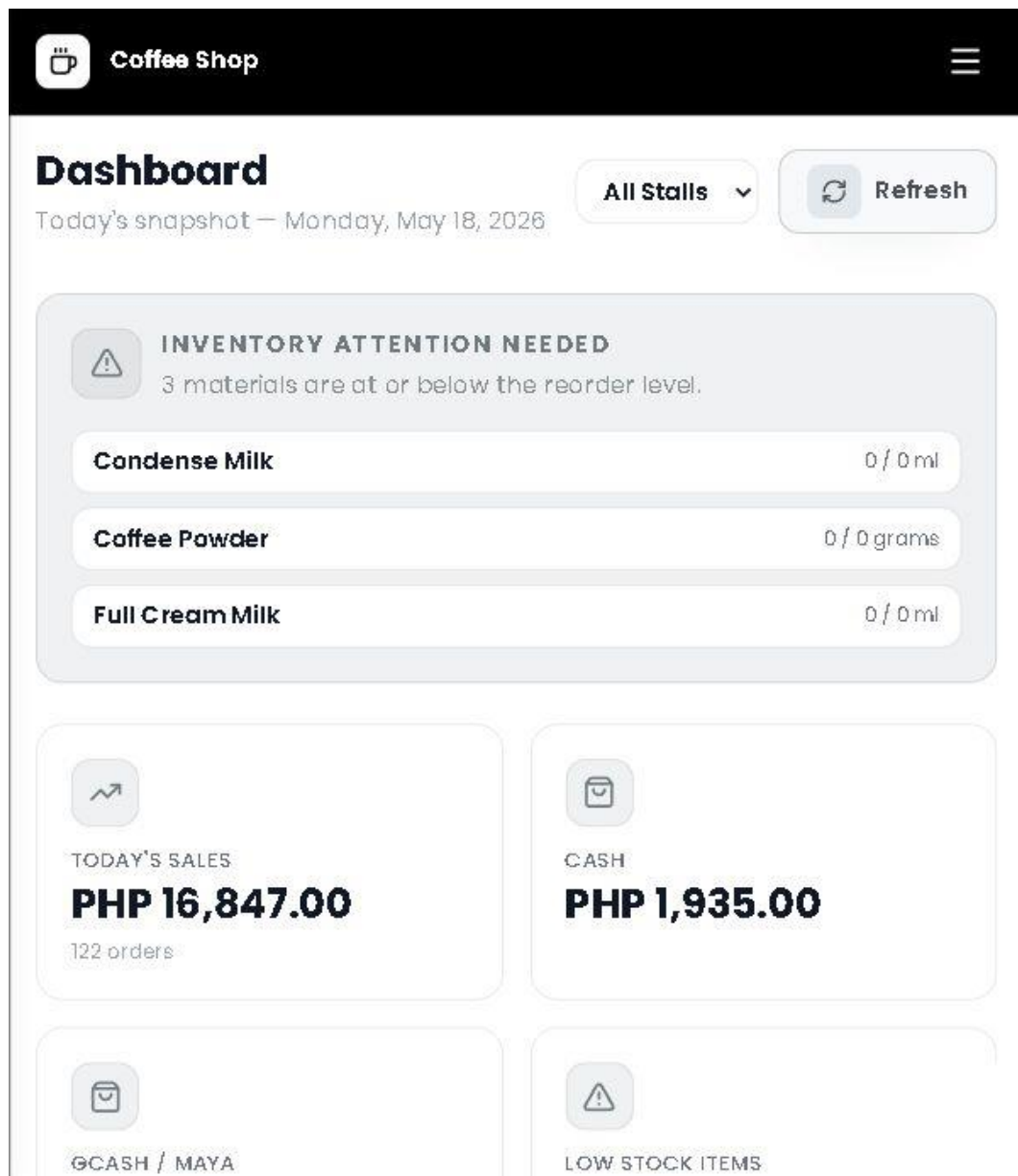


Figure D.13. Admin dashboard overview.

4.3 Manage Products and Rewards

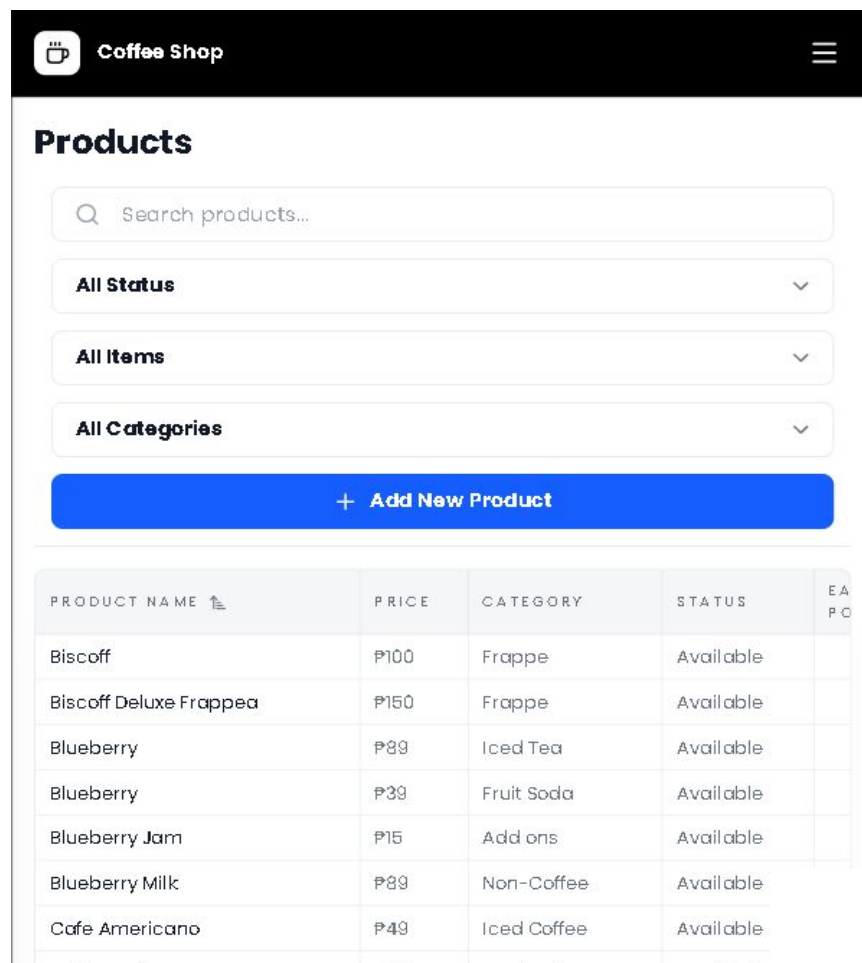


Figure D.14. Admin products management tab.

Steps

1. Open Products to search, filter, create, edit, or remove product records.
2. Use product availability carefully because unavailable products should not be sold by staff or advertised to customers.
3. Configure product categories and product details so the menu remains organized and readable.
4. Open Rewards to select which products can be claimed as loyalty rewards.
5. Confirm reward eligibility before announcing a reward promotion to customers.

4.4 Manage Inventory and Materials

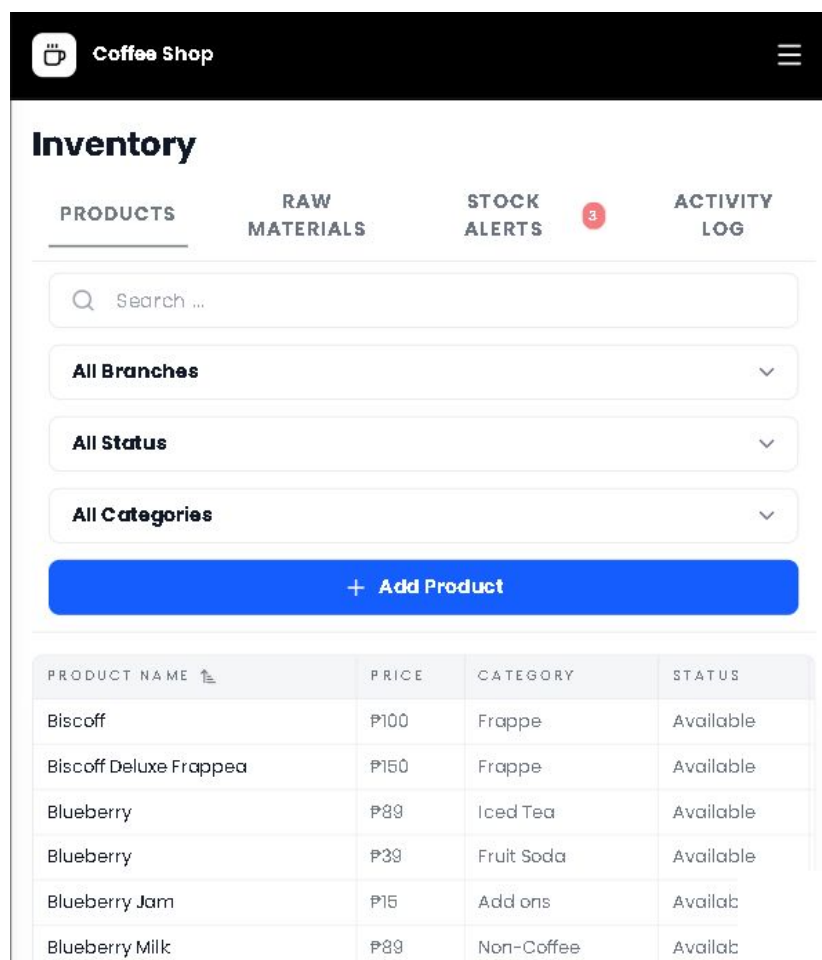


Figure D.15. Admin inventory and material management.

Steps:

1. Open Inventory to review products, raw materials, recipes, stock alerts, and activity logs.
2. Create or edit raw materials using clear names, units, stock quantities, reorder levels, and costs when available.
3. Attach recipe materials to products so stock deductions can follow completed sales.
4. Use stall allocation controls when stock must be assigned to a specific stall.
5. Investigate low-stock badges before service

4.5 Manage Users and Staff Accounts

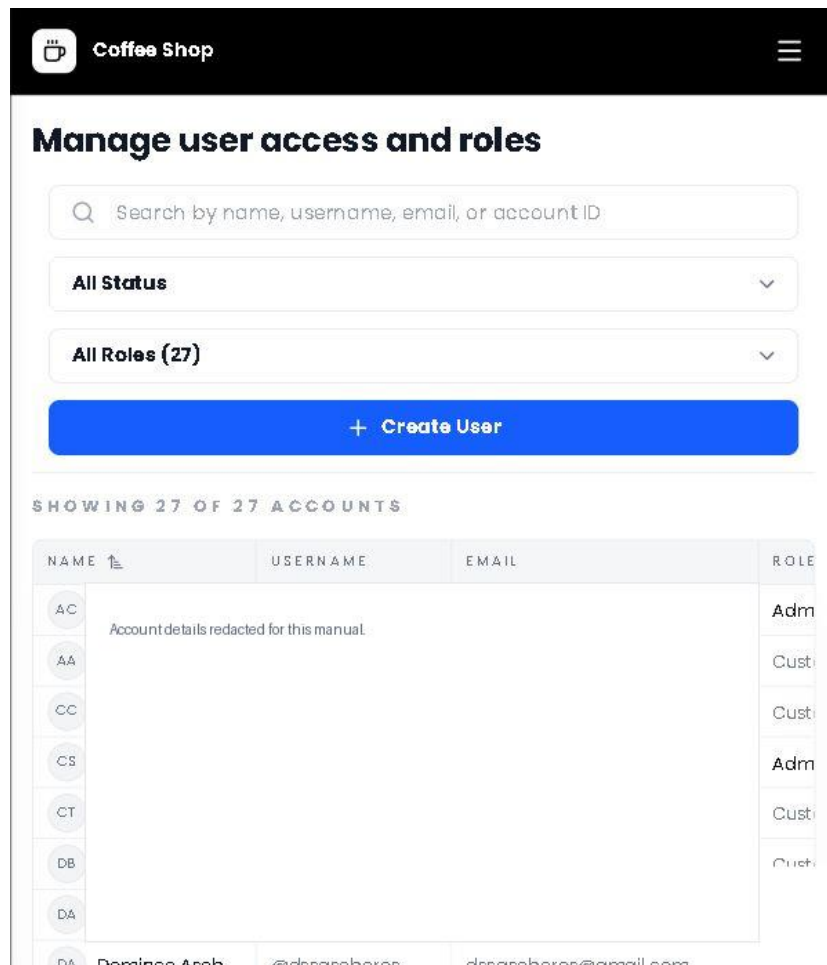


Figure D.16. User account management.

Steps:

1. Open Users to search and review customer, staff, and admin accounts.
2. Create staff accounts before assigning staff to a stall.
3. Select the correct role for each account.
4. Reset or update passwords only through the approved admin action.
5. Deactivate or delete accounts only when operations no longer require them.

4.6 Control Bookings and Reservations

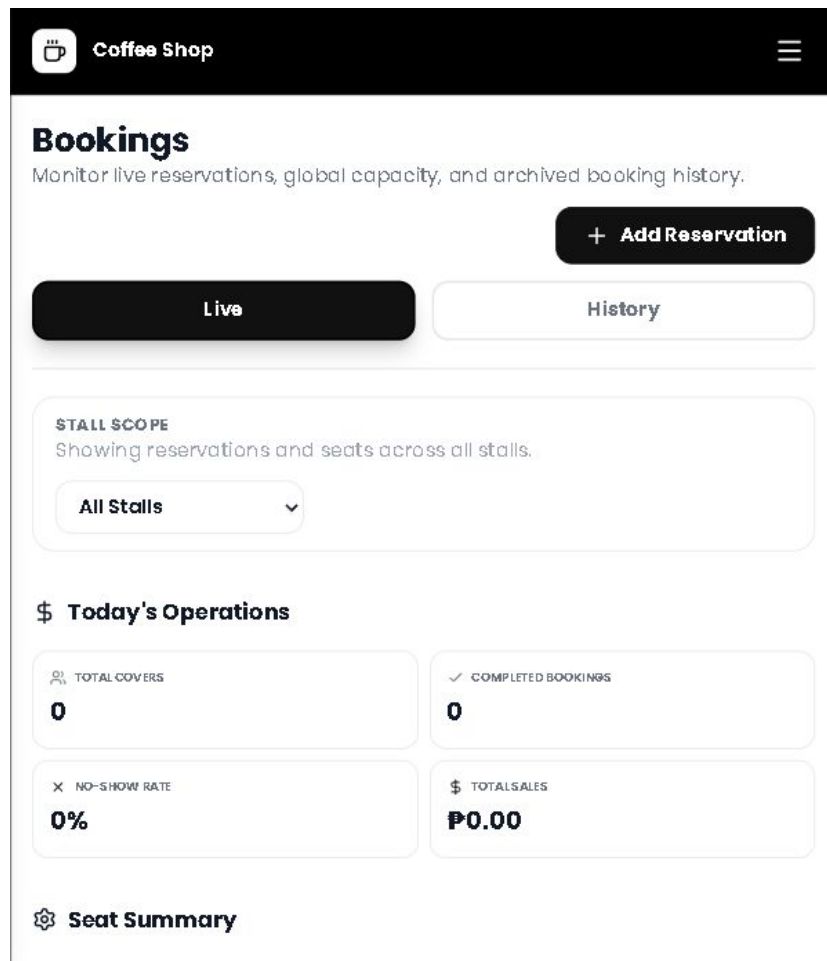


Figure D.17. Bookings and reservation operations.

Step:

1. Open Bookings to review pending, confirmed, active, and historical reservations.
2. Filter by stall when needed.
3. Verify or reject payment proof when a reservation requires review.
4. Pause or resume reservations only when the store needs system-wide booking control.
5. Use history to audit completed, cancelled, rejected, or no-show reservations.

4.7 Manage Stalls, Tables, Analytics, CMS, and Settings

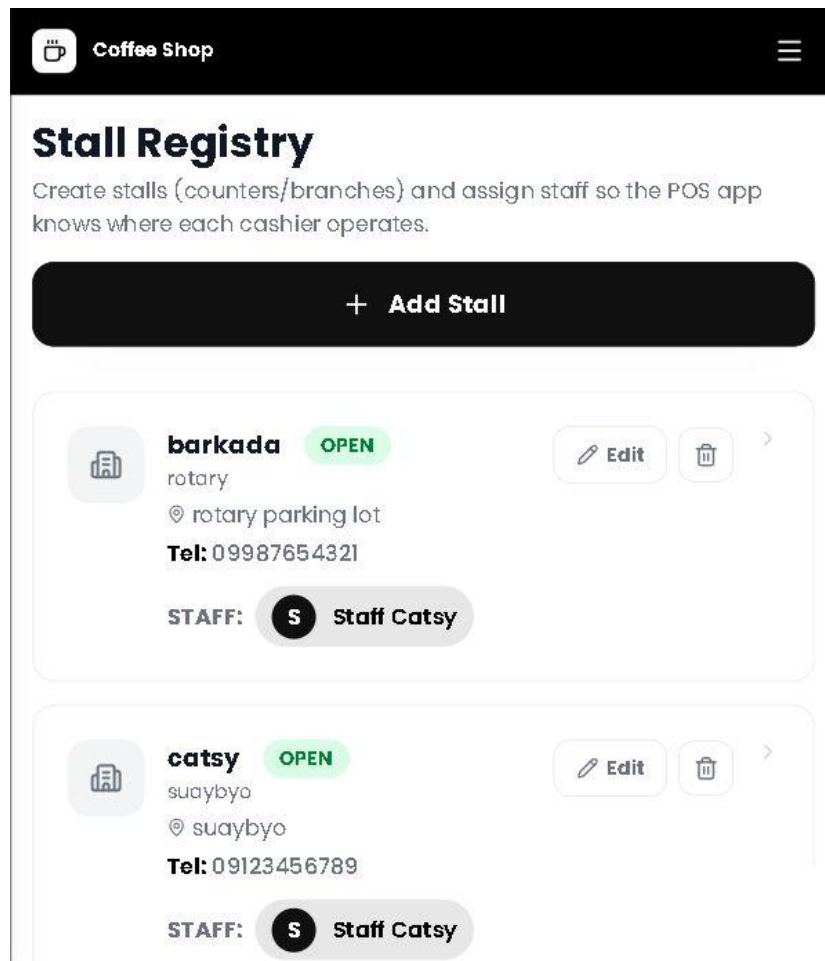


Figure D.18. Stall registry and staff/table assignment area.

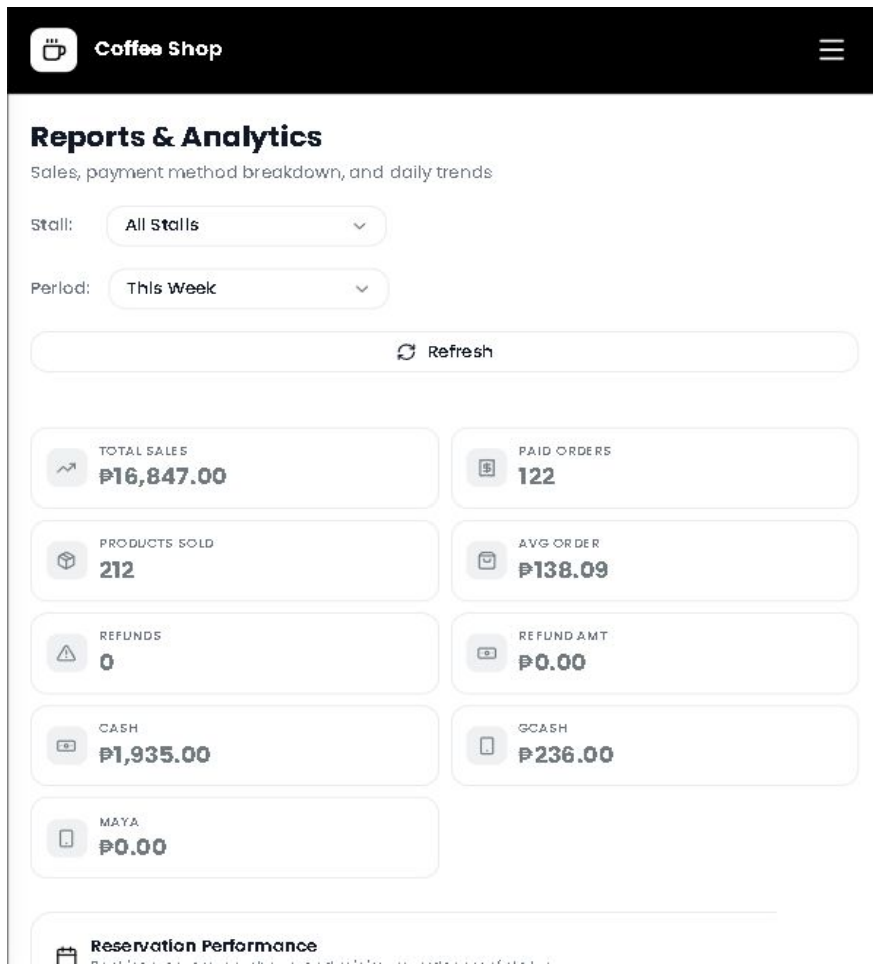


Figure D.19. Analytics and report filters.

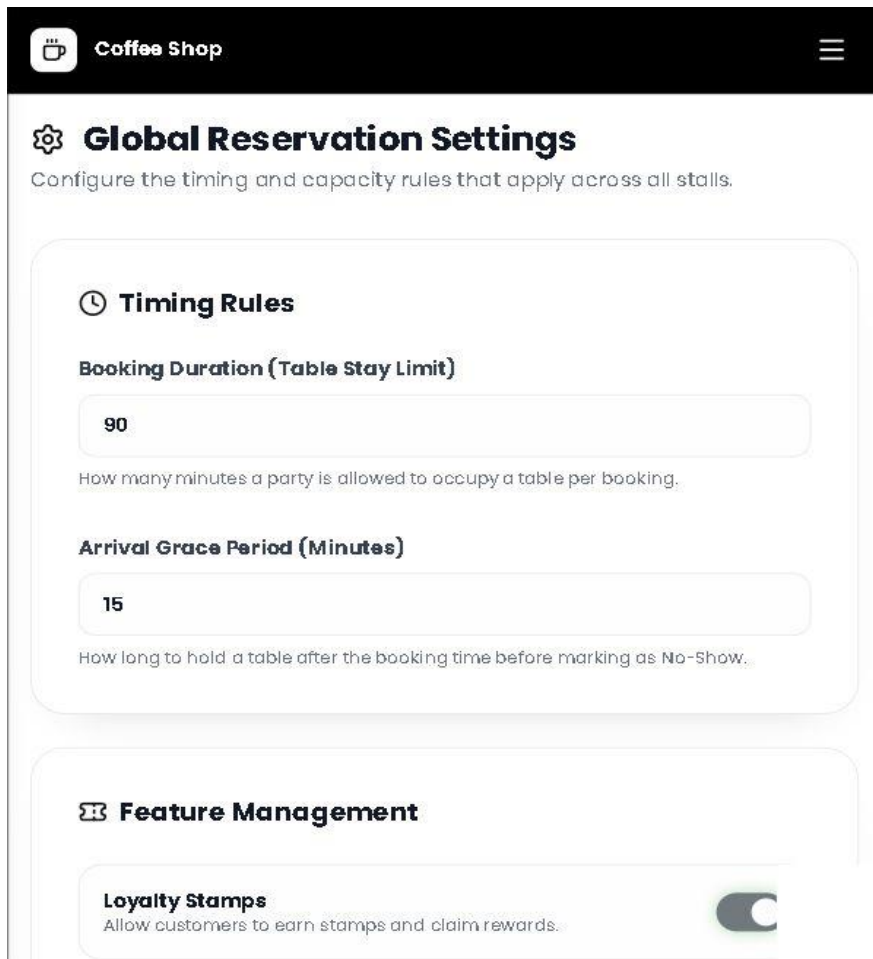


Figure D.20. Global reservation, loyalty, and system settings.

Step:

1. Open Stalls to create or update stall records, assign staff, and manage table assignments.
2. Open Orders to review order activity and transaction history.
3. Open Analytics to review sales, refunds, reservations, payment breakdowns, and staff/product performance.
4. Open CMS to manage public home, featured, and location content.
5. Open Settings to manage store hours, reservation behavior, loyalty threshold, notifications, and global controls.
6. Open APK when staff need the current mobile app installer.

Use the table below to resolve common day-to-day issues. If the issue involves deployment, server restart, database access, environment files, or developer tools, contact the technical administrator.

Table D.5: Troubleshooting Guide

Issue	Recommended Action
Cannot log in	Check the username/email and password. If the issue continues, ask an administrator to confirm that the account is active and to reset the password if needed.
Customer cannot submit a reservation	Confirm that reservations are enabled, the selected stall accepts reservations, the date/time is available, the party size is allowed, and payment proof is complete.
Reservation remains pending	Payment proof or staff/admin approval may still be required. Do not promise a confirmed table until the status changes to confirmed or active.
Staff sees no assigned stall	An administrator should open Stalls and verify that the staff account is assigned to the correct active stall.
Order cannot be completed	Check held orders, occupied tables, payment method, tendered amount, and any sync warnings before closing the transaction.
Stock information looks incorrect	Confirm the active stall, recent stock allocations, product recipes, and any offline adjustments made by staff.
Sync warning appears	Continue operating if offline mode is expected. Reconnect the device when possible, open Sync Status, and retry failed items.
Admin page appears empty	Refresh the page, confirm login status, and verify that the backend is reachable. If data still does not load, contact technical support.

Support boundary: This manual is intended for end-user operation only. It does not replace technical support procedures for deployment, backend troubleshooting, database administration, or environment configuration.

Appendix E. Proof of Software Acceptance and Deployment



Figure E.1. Software Acceptance and Deployment



Figure E.2. Software Acceptance and Deployment



Figure E.3. Software Acceptance and Deployment



Figure E.4. Software Acceptance and Deployment

Appendix F. About the Developers



Niña Kristina Nillas

UI/UX Designer / Frontend Developer

Prk-8 Poblacion, Nabunturan, Davao de Oro

09534622700 | ninakristinanillas@gmail.com

GitHub:<https://github.com/print-betty>

ABOUT ME

3rd Year Computer Science student specializing in UI/UX design and frontend development. Passionate about creating clean, intuitive, and visually engaging digital experiences that enhance usability and user interaction. Dedicated to combining creativity and technology to develop modern, accessible, and functional web solutions while continuously improving design and development skills.

EDUCATION

Bachelor of Science in Computer Science

University of Mindanao – Tagum College (UMTC)

2023 - 2027

Senior High School – Accountancy, Business, and Management (ABM)

2022

Assumption College of Nabunturan - Poblacion, Nabunturan, Davao de Oro

ROLE IN THE PROJECT

UI/UX Designer / Frontend Developer – Designs screens and codes customer-facing interactions for the Catsby Caffee system.

Frontend Development:

HTML, Tailwind CSS, React, Javascript

Backend and Tools

Python, Java, PHP, FastAPI, [Node.js](https://nodejs.org/), MySQL, Supabase, Figma

Projects:

Developed and contributed to NLP machine learning system models using Python, full functioning web applications such as Pizza Management System and CATSY coffee



Domince A Aseberos

Full-Stack Developer

La Filipina, Tagum City, Davao del Norte

09926796729 | daseberos@gmail.com

Dominceaseberos.tech | github.com/DominceAseberos

ABOUT ME

Motivated Computer Science student with hands-on experience in full-stack web and mobile development. Skilled in building modern applications using React, Flutter, FastAPI, Supabase, PostgreSQL, and Firebase. Experienced in developing real-time systems, offline-first architectures, REST APIs, and machine learning-based projects through academic, personal, and freelance initiatives

EDUCATION

Bachelor of Science in Computer Science

University of Mindanao – Tagum College (UMTC)

2023 - 2027

Senior High School

La filipina Senior Highschool – Tagum City Davao Del Norte

2022

ROLE IN THE PROJECT

Full-Stack Developer – Engineered a multi-platform cafe operations system with a FastAPI backend, React storefront, and Flutter POS application. Built an offline-first transaction system using local SQLite persistence and queue-based synchronization.

Frontend Development:

Vanilla HTML, Tailwind CSS, Javascript, [Next.js](#), React

Backend and Tools

Python, Java, PHP, Rest APIs, Fast API, [Node.js](#), SQL, Supabase, Figma, Framer, Canva, Firebase

Projects:

Developed responsive and story-driven landing pages using React, TypeScript, Tailwind CSS, and GSAP with a focus on modern UI/UX and frontend animations.

Practicing API integration, real-time systems, offline-first architecture, authentication, and cloud deployment workflows.



Kyndel Roy Suarez

Web Backend / Database Administrator

Prk North Eagle 3 Visayan Village, Tagum City

09358506605 | k.bangoy.suarez@gmail.com

GitHub: <https://github.com/KyndelRoy>

ABOUT ME

3rd Year Computer Science student focused on backend development and Flutter application development. Skilled in building system logic, managing data flow, and creating functional mobile application features. Passionate about developing reliable, efficient, and user-centered software solutions.

EDUCATION

Bachelor of Science in Computer Science

University of Mindanao – Tagum College (UMTC)

2023 - 2027

Senior High School - Accountancy, Business, and Management (ABM)

Justino Sevilla Senior Highschool – Arayat, Pampanga

2022

ROLE IN THE PROJECT

Web Backend / Database Administrator – Contributed to the frontend, backend, and database development of the web system.

Frontend Development:

Vanilla HTML, Tailwind CSS, React, Javascript, [Next.js](#)

Backend and Tools

Python, Java, C, PHP, RESTapi, [Node.js](#), MySQL, Supabase, Figma, Framer, Canva

Projects:

Developed and contributed to NLP machine learning system models using Python, full functioning web applications such as Internet Cafe Simulator and CATSY coffee



Dick Angelo P. Jabonite

System Analyst / Flutter Developer

Prk 4-E, Apokon, Tagum City, Davao del Norte

09278201025 | angelojabonite@gmail.com

GitHub: <https://github.com/Thanatos18>

ABOUT ME

3rd Year Computer Science student specializing in system analysis and Mobile Flutter development. Ensures the system satisfies functional and technological requirements by converting project requirements into functional backend use-case logic.

EDUCATION

Bachelor of Science in Computer Science

University of Mindanao – Tagum College (UMTC)

2023 - 2026 (Currently 3rd Year)

Senior High School – TVL: Computer Programming

Tagum National Trade School

2021 - 2023

ROLE IN THE PROJECT

Backend Developer / Mobile App Developer – Developed the Flutter mobile app and designed and contributed to the backend web application

Frontend Development:

Vanilla HTML, Tailwind CSS, React, Javascript, [Next.js](#)

Backend and Tools

Python, Java, PHP, FastAPI, [Node.js](#), MySQL, Supabase, Figma, Framer, Canva

Projects:

Developed and contributed to NLP machine learning system models using Python, full functioning web applications such as BrgyLink and CATSY coffee