

CafeFlow

Brewed Right. Served Honest.

Project Objective / Problem Statement

Traditional coffee shop ordering often involves long queues, manual token management, and a disconnect between the counter and the kitchen. Customers want a seamless ordering experience without forcing them to create accounts, and kitchen staff need a real-time display system to manage orders efficiently.

Project Overview

Cafeflow is a real-time digital ordering and kitchen management system for coffee shops. Customers can browse the menu, place guest orders, and receive token numbers without creating accounts. Kitchen staff manage orders through a live dashboard with status tracking, while administrators access sales analytics and performance insights powered by Next.js and Supabase.

Features

1. Digital Menu & Catalog

A visually immersive menu categorized into Cold Coffees, Thick Shakes, and Mocktails. Customers can browse products with rich visuals and add items to their cart effortlessly.

2. Smart Cart with Expiry Timer

To manage inventory demand and prevent "cart hoarding," the cart includes a **10-minute countdown timer**. If a user does not checkout within 10 minutes, the cart is automatically cleared to free up resources.

3. Guest Checkout (No-Login)

Eliminates friction by removing the need for email/password signups. Users simply provide their **Name** and **Phone Number** (10-digit validation) to place an order, receiving a unique **Token Number** (starting from #100).

4. Real-Time Kitchen Dashboard

A Kanban-style dashboard for kitchen staff that updates instantly when a new order is placed—no page refresh required.

- **Pending:** New orders arrive here (Yellow).
- **Preparing:** Staff marks order as "In Progress" (Blue).
- **Completed:** Order is ready for pickup (Green).

5. Order Tracking (My Orders)

Customers can track their current status or view order history by simply entering their phone number. The system uses the phone number as a digital key to retrieve past records.

6. Admin Analytics

A dedicated "Sales Report" section that visualizes growth:

- **Weekly Revenue & Order Counts.**
- **Daily Breakdown** (Monday vs. Tuesday, etc.).
- **Today's Performance** highlighting.

Technology Stack

Component	Technology
Framework	Next.js 15 (App Router)
Styling	Tailwind CSS + Lucide React Icons
State Management	Zustand (with LocalStorage Persistence)
Database	Supabase (PostgreSQL)
Real-time	Supabase Realtime Channels
Authentication	Custom PIN Middleware (Admin Only)

Core Infrastructure & Implementation

Frontend Architecture

- **✓ Layout Splitting:** Separate layouts for (main) public pages and (admin) dashboard.
- **✓ Hydration Safety:** Implemented `suppressHydrationWarning` to prevent browser extension conflicts.
- **✓ Floating Cart:** A glassmorphism-styled floating status bar for quick cart access.

Database Schema (Supabase)

- **✓ Table:** `orders` with columns for `customer_name`, `customer_phone`, `items` (JSONB), and `total_amount`.

- **Enums:** Strict status types (pending, preparing, completed, cancelled).
- **Auto-Increment:** Order numbers configured to start from **100**.

Security & Access Control

- **Middleware Protection:** Routes under `/admin` are protected via `middleware.ts`.
- **PIN Authentication:** Secure, cookie-based session management using Server Actions.
- **Input Validation:** Strict Regex patterns for phone numbers and mandatory fields during checkout.

Kitchen Management System

- **Optimistic UI:** Instant status updates on the dashboard before database confirmation.
- **Live Listening:** Uses `supabase.channel` to listen for `INSERT` events on the orders table.
- **History & Filtering:** dedicated view for completed vs. cancelled orders.

Sales Analytics

- **Data Aggregation:** Server-side calculation of weekly totals and daily revenue.
- **Dynamic Reporting:** Automatically groups data by day of the week (Mon-Sun).

Usage Limits & Rules

To ensure smooth operation and data integrity:

Feature	Limit / Rule
Cart Reservation	Items expire after 10 Minutes
Phone Number	Must be exactly 10 Digits
Admin Session	Auto-logout after 24 Hours
Order History	Retained indefinitely for analytics