

# 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 <b>10 Minutes</b>
Phone Number	Must be exactly <b>10 Digits</b>
Admin Session	Auto-logout after <b>24 Hours</b>
Order History	Retained indefinitely for analytics