



# Delivery Management System

Complete Multi-Platform Solution for Food Delivery Operations

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# 1. Project Overview

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## What is the Delivery Management System?

The **Delivery Management System** is a comprehensive, enterprise-grade multi-platform solution designed to streamline and optimize food delivery operations. This complete ecosystem connects four distinct user types through a unified, real-time platform that handles everything from order placement to delivery completion.

## Purpose & Problem It Solves

The modern food delivery industry faces numerous challenges: fragmented communication between customers, restaurants, and delivery drivers; lack of real-time order tracking; inefficient order management; and difficulty in scaling operations. This system addresses all these pain points by providing:

- **Unified Platform:** A single ecosystem connecting customers, vendors, delivery drivers, and administrators
- **Real-Time Communication:** Instant updates and notifications for all stakeholders
- **Efficient Order Management:** Streamlined workflow from order placement to delivery completion
- **Comprehensive Analytics:** Data-driven insights for business optimization
- **Scalable Architecture:** Built to handle growth from small operations to enterprise-level businesses
- **Multi-Platform Support:** Native mobile apps for iOS and Android, plus web dashboard

# Target Users

## Customers

End users who want to browse restaurants, place food orders, track deliveries in real-time, and manage their accounts.

## Vendors (Restaurants)

Restaurant owners and staff who need to manage orders, update menus, track sales analytics, and handle customer interactions.

## Delivery Drivers

Delivery personnel who accept orders, navigate to locations, update delivery status, and track their earnings.

## Administrators

Platform administrators who oversee the entire system, manage users, shops, orders, and analyze platform-wide metrics.

## 2. Features & App Logic

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### Customer Application Features

- **Authentication:** Secure registration, login, email verification, and password reset
- **Shop Browsing:** Browse restaurants by category, location, rating, and search functionality
- **Menu Exploration:** View detailed menus with images, descriptions, prices, and availability
- **Shopping Cart:** Add items, adjust quantities, and manage cart before checkout
- **Order Placement:** Secure checkout with multiple payment methods and delivery address selection
- **Real-Time Tracking:** Live order status updates and delivery tracking
- **Order History:** Complete order history with details and reorder functionality
- **Favorites System:** Save favorite restaurants and products for quick access
- **Address Management:** Multiple delivery addresses with GPS-based location detection
- **Payment Methods:** Manage credit cards, digital wallets, and payment preferences
- **Reviews & Ratings:** Rate and review restaurants and products
- **Multi-Language:** Support for multiple languages (English, French)
- **Theme Support:** Light and dark mode preferences

### Vendor Application Features

- **Dashboard:** Real-time statistics, order overview, and quick actions
- **Order Management:** View, accept, reject, and update order status in real-time
- **Menu Management:** Add, edit, delete products with images, categories, and pricing
- **Analytics:** Sales analytics, performance metrics, revenue trends, and top products
- **Order Status Updates:** Update orders from pending → accepted → preparing → ready → delivered
- **Business Information:** Manage shop details, operating hours, and pricing information
- **Profile Management:** Update vendor profile, settings, and preferences

- **Payment Settings:** Configure payout methods and tax information
- **Notifications:** Real-time order notifications and alerts

## Delivery Driver Application Features

- **Driver Dashboard:** Today's summary, available deliveries, and active orders
- **Order Acceptance:** View available orders and accept deliveries
- **Delivery Management:** Track active deliveries, update status, and mark as delivered
- **Earnings Tracking:** View earnings, payment history, and performance metrics
- **Location Services:** GPS tracking for delivery navigation and location updates
- **Order History:** View completed deliveries and delivery statistics
- **Profile Management:** Manage driver profile, vehicle information, and settings
- **Real-Time Updates:** Receive instant notifications for new orders and status changes

## Admin Web Panel Features

- **System Dashboard:** Comprehensive overview with real-time statistics and metrics
- **User Management:** View, edit, activate/deactivate all users (customers, vendors, drivers)
- **Shop Management:** Approve shops, manage shop information, and control shop status
- **Order Management:** View all orders, update status, and handle order issues
- **Analytics:** System-wide analytics including revenue, orders, user growth, and shop performance
- **Content Moderation:** Review moderation and content management
- **System Configuration:** Platform settings, fee configuration, and system parameters

## How the App Works - Order Flow

1. **Customer Places Order:** Customer browses shops, adds items to cart, selects delivery address and payment method, then places order

2. **Vendor Receives Notification:** Vendor app receives real-time notification of new order
3. **Vendor Accepts/Rejects:** Vendor reviews order details and accepts or rejects the order
4. **Order Preparation:** Vendor updates order status to "Preparing" and then "Ready for Pickup"
5. **Driver Assignment:** Available drivers can see and accept the delivery order
6. **Driver Picks Up:** Driver navigates to restaurant, picks up order, and updates status to "In Transit"
7. **Delivery:** Driver navigates to customer location and marks order as "Delivered"
8. **Completion:** Customer receives notification, can rate the experience, and order is completed

## 3. Technical Stack

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### Frontend Technologies

#### Flutter Framework

Cross-platform mobile development framework for iOS and Android applications. Enables code sharing across all four apps.

#### Dart Language

Modern programming language optimized for client-side development with strong typing and excellent performance.

#### BLoC Pattern

State management architecture for predictable state management and reactive programming.

#### GoRouter

Declarative routing solution for Flutter applications with deep linking support.

#### GetIt

Dependency injection container for managing service dependencies and lifecycle.

#### Socket.io Client

Real-time bidirectional communication between client and server for live updates.

## Backend Technologies

### Node.js

JavaScript runtime environment for building scalable server-side applications.

### TypeScript

Typed superset of JavaScript providing type safety and enhanced developer experience.

### Express.js

Fast, unopinionated web framework for building RESTful APIs and web applications.

### Prisma ORM

Next-generation ORM for type-safe database access and migrations.

### PostgreSQL

Advanced open-source relational database with robust features and reliability.

### Redis

In-memory data structure store for caching, session management, and real-time features.

### Socket.io

Real-time event-based communication library for bidirectional client-server communication.

### JWT Authentication

JSON Web Tokens for secure, stateless authentication and authorization.

## Additional Technologies & Services

### Payment Gateways

Integration ready for Stripe, PayPal, and Razorpay payment processing.

## **Google Maps API**

Location services, geocoding, distance calculation, and route planning.

## **Firebase Cloud Messaging**

Push notification service for real-time alerts and updates.

## **SMTP Email Service**

Email verification, password reset, and notification emails.

## **Image Processing**

Sharp library for image optimization and processing.

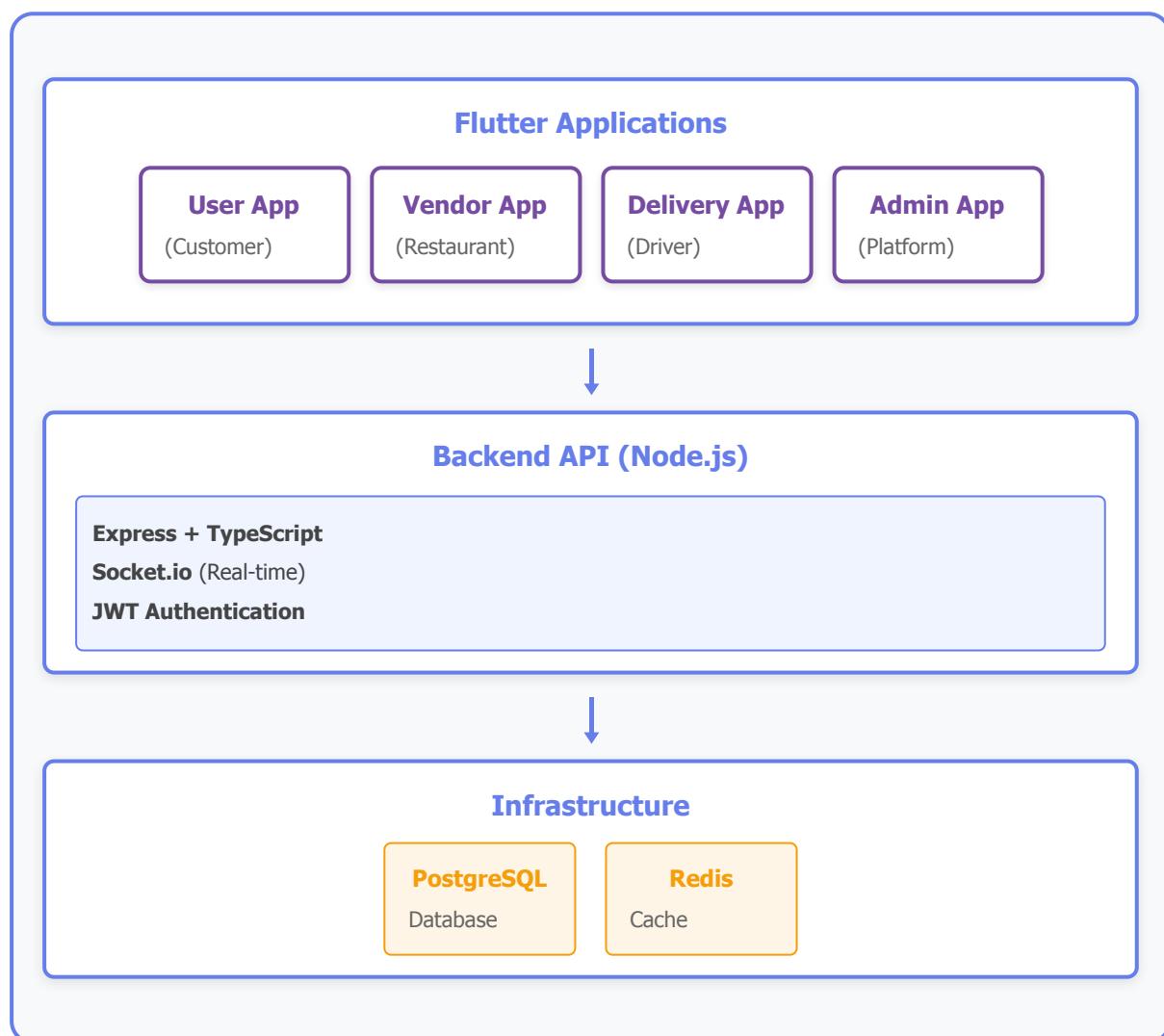
## **Melos**

Monorepo management tool for coordinating multiple packages and apps.

## 4. Architecture & Workflow

### System Architecture

The Delivery Management System follows a **Clean Architecture** pattern with clear separation of concerns and a microservice-inspired structure. The system is organized as a monorepo managed by Melos, allowing shared code and dependencies across all applications.



# Clean Architecture Layers

## Presentation Layer

Contains UI components (Widgets, Pages, Screens), state management using BLoC pattern, and user interactions. Each app has its own presentation layer tailored to its specific user needs.

## Domain Layer (Shared Package)

Contains business entities, repository interfaces, use cases, and core business logic. This layer is shared across all applications to ensure consistency.

## Data Layer (Shared Package)

Implements repository interfaces, handles remote data sources (API clients), local data sources (caching, storage), and data models. Provides a unified data access layer.

## Core Layer (Shared Package)

Contains common utilities, API client configuration, error handling, logging services, and shared UI components. Ensures code reusability and consistency.

# Component Interaction Flow

- User Action:** User interacts with UI (e.g., places an order)
- BLoC Event:** UI dispatches an event to the BLoC
- Business Logic:** BLoC processes the event using domain layer logic
- Repository Call:** BLoC calls repository interface from domain layer
- Data Fetching:** Repository implementation in data layer makes API call

6. **API Request:** HTTP request sent to Node.js backend with JWT authentication
7. **Backend Processing:** Express routes handle request, validate, and process business logic
8. **Database Operation:** Prisma ORM executes database queries on PostgreSQL
9. **Real-Time Update:** Socket.io emits event to all connected clients
10. **Response Flow:** Response flows back through layers, updating UI state

## Real-Time Communication

The system uses **Socket.io** for real-time bidirectional communication. When an order status changes, the backend emits a Socket.io event that is received by all relevant clients (customer, vendor, driver) simultaneously, ensuring everyone sees updates in real-time without manual refresh.

# Order Tracking & Status Management

## Order Status Flow

Orders progress through a well-defined status lifecycle. Each status change triggers real-time notifications to relevant parties and updates the order history for audit purposes.

### Status Progression

1. **PENDING** - Order created, awaiting vendor acceptance
2. **ACCEPTED** - Vendor accepted the order
3. **PREPARING** - Vendor is preparing the order
4. **READY\_FOR\_PICKUP** - Order ready for driver pickup
5. **IN\_DELIVERY** - Driver picked up and is delivering
6. **DELIVERED** - Order successfully delivered
7. **CANCELLED** - Order cancelled (before delivery)
8. **REFUNDED** - Order refunded (after delivery or cancellation)

## Who Can Change Order Status

### Vendor Actions

- **Accept Order:** Change status from PENDING → ACCEPTED
- **Reject Order:** Change status from PENDING → CANCELLED (with reason)
- **Start Preparing:** Change status from ACCEPTED → PREPARING
- **Mark Ready:** Change status from PREPARING → READY\_FOR\_PICKUP
- **Cancel Order:** Can cancel orders in PENDING or ACCEPTED status

### Delivery Driver Actions

- **Accept Delivery:** Accepts available order, changes status to IN\_DELIVERY

- **Mark Picked Up:** Changes status from READY\_FOR\_PICKUP → IN\_DELIVERY
- **Mark Delivered:** Changes status from IN\_DELIVERY → DELIVERED
- **Update Location:** Sends real-time GPS coordinates during delivery

## Admin Actions

- **Update Any Status:** Admins can change order status to any valid state
- **Assign Driver:** Manually assign delivery driver to orders
- **Process Refund:** Change status to REFUNDED and process payment refund
- **Cancel Order:** Cancel any order at any stage

## Real-Time Status Broadcasting

When an order status changes, the system uses **Socket.io** to broadcast updates to all relevant parties simultaneously. The broadcasting mechanism ensures that each role receives only the information they need.

### Socket.io Room System

The system uses a room-based messaging system for efficient real-time updates:

- **Order Rooms:** `order:{orderId}` - All parties tracking a specific order join this room
- **User Rooms:** `user:{userId}` - Customer receives updates for their orders
- **Shop Rooms:** `shop:{shopId}` - Vendor receives updates for their shop's orders

### Status Update Events

When status changes, the following events are emitted:

- **order:status** - Emitted to order room, user room, and shop room with new status

- **order:new** - Emitted to shop room when new order is created
- **order:created** - Emitted to user room when order is successfully created
- **order:payment\_succeeded** - Emitted when payment is confirmed

## Role-Based Status Visibility

### Customer View

- **Sees All Statuses:** Customers can see the complete order status progression
- **Real-Time Updates:** Receives instant notifications when status changes
- **Location Tracking:** Can view driver's real-time location when order is IN\_DELIVERY
- **Order History:** Complete order timeline with timestamps for each status change
- **Estimated Delivery Time:** Shows estimated delivery time based on distance and traffic

### Vendor View

- **Order Management:** Sees orders filtered by status (Pending, Preparing, Ready, etc.)
- **Status Control:** Can update status from PENDING through READY\_FOR\_PICKUP
- **New Order Alerts:** Receives instant notification when new order is placed
- **Order Details:** Full order information including customer details and delivery address
- **Status History:** Can view complete status change history for each order

### Delivery Driver View

- **Available Orders:** Sees orders with status READY\_FOR\_PICKUP that are available
- **Assigned Orders:** Sees orders assigned to them (status IN\_DELIVERY)

- **Status Updates:** Can update status when picking up and delivering
- **Location Sharing:** Automatically shares GPS location during active deliveries
- **Order Details:** Full delivery information including customer address and instructions

## Admin View

- **All Orders:** Can view all orders across the platform
- **Status Override:** Can change any order status to any valid state
- **Order Timeline:** Complete audit trail of all status changes
- **Analytics:** Status distribution and order flow analytics
- **Issue Resolution:** Can intervene in problematic orders

## Real-Time Location Tracking

### Driver Location Updates

- **GPS Tracking:** Delivery drivers share their GPS coordinates during active deliveries
- **Update Frequency:** Location updates sent every few seconds when order is IN\_DELIVERY
- **Location Storage:** Coordinates stored in OrderTracking table for historical tracking
- **Customer Visibility:** Customers can see driver's real-time location on map
- **Route Optimization:** System calculates optimal routes and ETA based on real-time location

### Order Tracking Endpoint

The `GET /api/orders/:id/track` endpoint provides:

- Current order status
- Real-time driver location (if in delivery)

- Estimated delivery time
- Status change history with timestamps
- Location tracking points (breadcrumb trail)

## Status Change Workflow Example

**Scenario:** Customer places an order for pizza delivery

### 1. Order Created: Status = PENDING

- Socket.io emits `order:new` to shop room
- Socket.io emits `order:created` to user room
- Vendor receives push notification: "New order received"
- Customer sees order in "Pending" status

### 2. Vendor Accepts: Status = ACCEPTED

- Socket.io emits `order:status` to order, user, and shop rooms
- Customer receives push notification: "Order accepted"
- Status history entry created

### 3. Vendor Starts Preparing: Status = PREPARING

- Socket.io broadcasts status update
- Customer sees "Preparing" status

### 4. Order Ready: Status = READY\_FOR\_PICKUP

- Socket.io broadcasts status update
- Order appears in "Available Deliveries" for drivers
- Customer sees "Ready for pickup" status

### 5. Driver Accepts: Status = IN\_DELIVERY

- Socket.io broadcasts status update
- Driver location tracking begins
- Customer receives notification and can track driver location
- Vendor sees order assigned to driver

### 6. Driver Delivers: Status = DELIVERED

- Socket.io broadcasts final status update
- Location tracking stops

- All parties see order as completed
- Customer can rate the experience

## Status History & Audit Trail

Every status change is recorded in the `OrderStatusHistory` table:

- **Timestamp:** Exact time of status change
- **Status:** New status value
- **Notes:** Optional notes about the change
- **Order Reference:** Links back to the order

This provides a complete audit trail for order tracking, dispute resolution, and analytics.

## Security Architecture

- **JWT Authentication:** Secure token-based authentication with access and refresh tokens
- **Role-Based Access Control:** Different permissions for customers, vendors, drivers, and admins
- **Password Hashing:** Bcrypt for secure password storage
- **API Rate Limiting:** Protection against abuse and DDoS attacks
- **Input Validation:** Comprehensive validation on both client and server side
- **HTTPS/SSL:** Encrypted communication for all API requests

# 6. API Documentation

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## Base URL

All API endpoints are prefixed with `/api`. The base URL structure is:

**Development:** `http://localhost:3000/api`

**Production:** `https://your-domain.com/api`

## Authentication

Most endpoints require authentication using JWT (JSON Web Tokens). Include the token in the Authorization header:

```
Authorization: Bearer <access_token>
```

Access tokens expire after 15 minutes. Use the refresh token endpoint to obtain a new access token.

## API Endpoints

### Authentication Endpoints

#### **POST /api/auth/register**

Register a new user account. Returns access token and refresh token.

#### **POST /api/auth/login**

Authenticate user and receive JWT tokens.

### **POST /api/auth/refresh**

Refresh access token using refresh token.

### **POST /api/auth/logout**

Logout user and invalidate refresh token.

### **POST /api/auth/forgot-password**

Request password reset email.

### **POST /api/auth/reset-password**

Reset password using reset token.

### **POST /api/auth/verify-email/:token**

Verify user email address.

## **User Endpoints**

### **GET /api/users/profile**

Get current user profile information.

### **PUT /api/users/profile**

Update user profile information.

### **PUT /api/users/password**

Change user password.

### **GET /api/users/addresses**

Get all user delivery addresses.

### **POST /api/users/addresses**

Add new delivery address.

### **GET /api/users/orders**

Get user order history.

### **GET /api/users/favorites**

Get user favorite shops.

## Shop Endpoints

### **GET /api/shops**

Get all shops with filtering and pagination.

### **GET /api/shops/featured**

Get featured shops.

### **GET /api/shops/nearby**

Get shops near a location (requires latitude/longitude).

### **GET /api/shops/:id**

Get shop details by ID.

### **GET /api/shops/:id/products**

Get all products for a specific shop.

## Order Endpoints

### **POST /api/orders**

Create a new order.

### **GET /api/orders**

Get user's orders with filtering.

### **GET /api/orders/:id**

Get order details by ID.

### **GET /api/orders/:id/track**

Track order in real-time.

### **PATCH /api/orders/:id/cancel**

Cancel an order.

## **Vendor Endpoints**

### **GET /api/vendor/shop**

Get vendor's shop information.

### **GET /api/vendor/orders**

Get vendor's orders with status filtering.

### **PATCH /api/vendor/orders/:id/status**

Update order status (accept, preparing, ready, etc.).

### **GET /api/vendor/products**

Get vendor's products.

### **POST /api/vendor/products**

Create new product.

### **GET /api/vendor/analytics/sales**

Get sales analytics data.

### **GET /api/vendor/analytics/performance**

Get performance metrics (prep time, accuracy, peak hours).

## **Delivery Endpoints**

### **GET /api/delivery/orders/available**

Get available orders for delivery drivers.

### **GET /api/delivery/orders**

Get assigned orders for current driver.

### **PATCH /api/delivery/orders/:id/accept**

Accept a delivery order.

### **PATCH /api/delivery/orders/:id/pickup**

Mark order as picked up.

### **PATCH /api/delivery/orders/:id/delivered**

Mark order as delivered.

### **GET /api/delivery/stats**

Get driver statistics (deliveries, earnings, rating).

### **GET /api/delivery/earnings**

Get driver earnings data.

## **Admin Endpoints**

### **GET /api/admin/dashboard/overview**

Get system-wide dashboard statistics.

### **GET /api/admin/users**

Get all users with filtering and search.

### **GET /api/admin/shops**

Get all shops for management.

### **GET /api/admin/orders**

Get all orders across the platform.

### **POST /api/admin/orders/:id/refund**

Process order refund through payment gateway.

### **GET /api/admin/analytics/revenue**

Get revenue analytics.

## Response Format

All API responses follow a consistent format:

### Success Response:

```
{  
  "status": "success",  
  "data": { ... },  
  "message": "Optional success message"  
}
```

### Error Response:

```
{  
  "status": "error",  
  "message": "Error description",  
  "errors": [ ... ] // Optional validation errors  
}
```

## Rate Limiting

The API implements rate limiting to prevent abuse:

- **Global Rate Limit:** 100 requests per 15 minutes per IP
- **Auth Endpoints:** 5 requests per 15 minutes (production), 100 (development)
- **Shop Endpoints:** 120 requests per minute
- **Delivery Endpoints:** 60 requests per minute

# 7. Database Schema

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## Overview

The system uses **PostgreSQL** as the primary database with **Prisma ORM** for type-safe database access. The schema is designed to support multi-role users, order management, real-time tracking, and comprehensive analytics.

## Core Entities

### User Model

**Purpose:** Central user table supporting all user types (Customer, Vendor, Delivery, Admin)

#### Key Fields:

- `id` - UUID primary key
- `email` - Unique email address
- `name` - User's full name
- `role` - UserRole enum (CUSTOMER, VENDOR, DELIVERY, ADMIN)
- `passwordHash` - Bcrypt hashed password
- `vehicleType` - For delivery drivers
- `licenseNumber` - For delivery drivers
- `isEmailVerified` - Email verification status
- `isActive` - Account activation status

**Relationships:** Orders, Shops (as owner), Addresses, Reviews, Payment Methods, Device Tokens

### Shop Model

**Purpose:** Restaurant/shop information and configuration

### **Key Fields:**

- `id` - UUID primary key
- `name` - Shop name
- `category` - ShopCategory enum (RESTAURANT, GROCERY, PHARMACY, RETAIL, OTHER)
- `address` - Physical address
- `latitude`, `longitude` - GPS coordinates
- `deliveryRadius` - Delivery radius in kilometers
- `openingHours` - JSON object with operating hours
- `rating`, `ratingCount` - Average rating and count
- `isOpen` - Current open/closed status
- `ownerId` - Foreign key to User (vendor)

**Relationships:** Owner (User), Products, Orders, Reviews, Categories

## **Product Model**

**Purpose:** Menu items and products sold by shops

### **Key Fields:**

- `id` - UUID primary key
- `name` - Product name
- `description` - Product description
- `price` - Current price
- `discountedPrice` - Optional discounted price
- `imageUrl` - Primary product image
- `images` - Array of additional image URLs
- `categoryId` - Foreign key to Category
- `inStock` - Availability status
- `stockQuantity` - Available quantity
- `rating`, `ratingCount` - Product ratings

**Relationships:** Shop, Category, OrderItems, Reviews

## Order Model

**Purpose:** Order information and tracking

### Key Fields:

- `id` - UUID primary key
- `orderNumber` - Human-readable order number
- `userId` - Customer (User)
- `shopId` - Shop (Shop)
- `deliveryAddress` - Full delivery address
- `deliveryLatitude`, `deliveryLongitude` - Delivery coordinates
- `subtotal`, `deliveryFee`, `serviceFee`, `tax`, `tip`, `discount`, `total` - Financial breakdown
- `paymentMethod` - PaymentMethod enum
- `status` - OrderStatus enum (PENDING, ACCEPTED, PREPARING, READY\_FOR\_PICKUP, IN\_DELIVERY, DELIVERED, CANCELLED, REFUNDED)
- `deliveryPersonId` - Assigned delivery driver
- `estimatedDeliveryTime` - Expected delivery timestamp

**Relationships:** User (customer), Shop, Address, User (delivery person), OrderItems, OrderStatusHistory, OrderTracking

## OrderItem Model

**Purpose:** Individual items within an order

**Key Fields:** `orderId`, `productId`, `productName` (snapshot), `productPrice` (snapshot), `quantity`, `totalPrice`, `instructions`

## Review Model

**Purpose:** User reviews and ratings for shops and products

**Key Fields:** userId, shopId (optional), productId (optional), rating (1-5), comment

## Address Model

**Purpose:** User delivery addresses

**Key Fields:** label, fullAddress, latitude, longitude, instructions, isDefault

## UserPaymentMethod Model

**Purpose:** Saved payment methods for users

**Key Fields:** type (PaymentMethodType enum), card details, wallet information, bank account details, isDefault

## Supporting Models

- **RefreshToken** - JWT refresh token storage
- **PasswordResetToken** - Password reset token management
- **EmailVerificationToken** - Email verification tokens
- **Category** - Product categories per shop
- **OrderStatusHistory** - Order status change tracking
- **OrderTracking** - Real-time order location tracking
- **DeliveryLocation** - Delivery driver location tracking
- **UserFavorite** - User favorite shops
- **DeviceToken** - Push notification device tokens
- **Config** - System configuration key-value store

## Database Relationships

**User Relationships:**

- One-to-Many: Shops (as owner), Orders (as customer), Orders (as delivery person)
- One-to-Many: Addresses, Reviews, Payment Methods, Device Tokens

### **Shop Relationships:**

- Many-to-One: Owner (User)
- One-to-Many: Products, Orders, Reviews, Categories

### **Order Relationships:**

- Many-to-One: User (customer), Shop, Address, User (delivery person)
- One-to-Many: OrderItems, OrderStatusHistory, OrderTracking

## 8. Security Features

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### Authentication & Authorization

#### JWT Token Authentication

- **Access Tokens:** Short-lived tokens (15 minutes) for API access
- **Refresh Tokens:** Long-lived tokens (7 days) stored securely in database
- **Token Rotation:** Refresh tokens are rotated on each use
- **Token Validation:** All tokens are verified against secret keys and expiration

#### Password Security

- **Bcrypt Hashing:** All passwords are hashed using bcrypt with salt rounds
- **Password Requirements:** Minimum 8 characters with complexity requirements
- **Password Reset:** Secure token-based password reset with expiration
- **Password History:** Prevents reuse of recent passwords

#### Role-Based Access Control (RBAC)

- **Four User Roles:** CUSTOMER, VENDOR, DELIVERY, ADMIN
- **Route Protection:** Middleware enforces role-based access to endpoints
- **Resource Ownership:** Users can only access their own resources
- **Admin Override:** Admins have access to all resources

### API Security

#### Rate Limiting

- **Global Rate Limiting:** 100 requests per 15 minutes per IP address
- **Auth-Specific Limiting:** 5 requests per 15 minutes for authentication endpoints (production)
- **Endpoint-Specific Limits:** Custom limits for shop browsing, delivery operations
- **IP-Based Tracking:** Rate limits tracked per IP address

## Input Validation

- **Request Validation:** All inputs validated using Zod schemas
- **SQL Injection Prevention:** Prisma ORM provides parameterized queries
- **XSS Protection:** Input sanitization and output encoding
- **File Upload Validation:** File type, size, and content validation

## CORS Configuration

- **Origin Whitelist:** Only allowed origins can access the API
- **Production Restrictions:** Wildcard CORS disabled in production
- **Credential Support:** Supports credentials for authenticated requests

# Data Security

## Data Encryption

- **HTTPS/SSL:** All API communication encrypted via HTTPS
- **Password Hashing:** Bcrypt with salt for password storage
- **Token Encryption:** JWT tokens signed with secret keys
- **Sensitive Data:** Payment information and tokens stored securely

## Email Verification

- **Email Verification Required:** Configurable requirement for email verification

- **Verification Tokens:** Secure, time-limited verification tokens
- **Resend Functionality:** Users can request new verification emails

## Account Security

### Account Management

- **Account Activation:** Accounts can be activated/deactivated by admins
- **Email Verification:** Email addresses must be verified before full access
- **Last Login Tracking:** Tracks user login timestamps
- **Session Management:** Refresh tokens stored in database for revocation

## Payment Security

### Payment Gateway Integration

- **PCI Compliance:** Payment data handled through PCI-compliant gateways
- **Tokenization:** Payment methods stored as tokens, not raw card data
- **Webhook Verification:** Payment webhooks verified with signatures
- **Refund Security:** Secure refund processing through payment gateways

# 9. Troubleshooting

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## Common Issues & Solutions

### Authentication Issues

**Issue:** "Access denied. No token provided"

**Solution:** Ensure the Authorization header is included in the request:

```
Authorization: Bearer <token>
```

**Issue:** "Token is not valid" or "Token expired"

**Solution:** Access tokens expire after 15 minutes. Use the refresh token endpoint to obtain a new access token. If refresh token is expired, user must login again.

**Issue:** "Please verify your email address"

**Solution:** Check email inbox for verification link. Use the resend verification endpoint if email was not received.

### Order Issues

**Issue:** Order creation fails with "Delivery zone validation failed"

**Solution:** Ensure the delivery address is within the shop's delivery radius. Check shop's deliveryRadius setting and customer's delivery coordinates.

**Issue:** Order status not updating in real-time

**Solution:** Check Socket.io connection. Ensure client is connected to the Socket.io server. Verify network connectivity and firewall settings.

## Payment Issues

**Issue:** Payment gateway integration not working

**Solution:** Verify payment gateway API keys are correctly configured in environment variables. Check whitelabel configuration for payment gateway selection. Ensure webhook endpoints are properly configured.

**Issue:** Refund processing fails

**Solution:** Verify the original payment was successful. Check payment gateway credentials. Ensure order status allows refunds (must be DELIVERED or CANCELLED).

## Location & Delivery Issues

**Issue:** Nearby shops not showing

**Solution:** Check location permissions are granted. Verify user's location coordinates are valid. Ensure shops have valid coordinates and delivery radius set. Check distance calculation logic.

**Issue:** Delivery driver location not updating

**Solution:** Verify location permissions on mobile device. Check GPS is enabled. Ensure driver app is sending location updates via the update location endpoint.

## Database Issues

**Issue:** Database connection errors

**Solution:** Verify DATABASE\_URL environment variable is correct. Check PostgreSQL service is running. Verify database credentials and network connectivity. Check database connection pool settings.

**Issue:** Migration errors

**Solution:** Run `npx prisma migrate dev` to apply pending migrations. Check for migration conflicts. Verify database schema matches Prisma schema.

## Performance Issues

**Issue:** Slow API responses

**Solution:** Check database query performance. Enable query logging to identify slow queries. Verify indexes are properly set on frequently queried fields. Check Redis cache is working. Review rate limiting settings.

**Issue:** High memory usage

**Solution:** Check for memory leaks in long-running processes. Review image processing settings (Sharp library). Monitor Socket.io connections. Check for unbounded data queries.

## Email Issues

**Issue:** Emails not being sent

**Solution:** Verify SMTP configuration (host, port, username, password). Check email service credentials. Review email service logs. In development, emails may be logged to console instead of sent.

## Error Codes

- **400 Bad Request:** Invalid request data or validation errors

- **401 Unauthorized:** Missing or invalid authentication token
- **403 Forbidden:** Insufficient permissions or role restrictions
- **404 Not Found:** Resource does not exist
- **409 Conflict:** Resource conflict (e.g., duplicate email)
- **429 Too Many Requests:** Rate limit exceeded
- **500 Internal Server Error:** Server-side error, check logs

## Debugging Tips

- **Enable Logging:** Set log level to DEBUG for detailed information
- **Check API Logs:** Review server logs for error messages and stack traces
- **Database Queries:** Enable Prisma query logging to see executed queries
- **Network Inspection:** Use browser DevTools or Postman to inspect API requests/responses
- **Token Inspection:** Decode JWT tokens at jwt.io to verify payload

# 10. Performance & Scalability

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## Performance Optimizations

### Database Optimization

- **Indexing:** Strategic indexes on frequently queried fields (email, userId, shopId, orderNumber, status)
- **Query Optimization:** Prisma ORM optimizes queries with selective field loading
- **Connection Pooling:** PostgreSQL connection pooling for efficient database connections
- **Pagination:** All list endpoints support pagination to limit result sets
- **Aggregations:** Database-level aggregations for analytics to reduce data transfer

### Caching Strategy

- **Redis Caching:** Shop listings, featured shops, and product catalogs cached
- **Cache Durations:** Shop data cached for 5-10 minutes, product data for 3 minutes
- **Cache Invalidation:** Automatic cache invalidation on data updates
- **Session Storage:** Redis used for session management and temporary data

### API Optimization

- **Response Compression:** Gzip compression enabled for API responses
- **Selective Field Loading:** Only required fields loaded from database

- **Batch Operations:** Bulk operations where possible to reduce round trips
- **Lazy Loading:** Related data loaded only when needed

## Image Optimization

- **Image Processing:** Sharp library for server-side image optimization
- **Multiple Sizes:** Images resized to appropriate dimensions for different use cases
- **Format Optimization:** Images converted to efficient formats (WebP, optimized JPEG)
- **CDN Ready:** Image URLs structured for CDN integration

## Scalability Considerations

### Horizontal Scaling

- **Stateless API:** API is stateless, allowing multiple server instances
- **Load Balancing:** Multiple Node.js instances can be load balanced
- **Database Scaling:** PostgreSQL supports read replicas for read-heavy workloads
- **Redis Clustering:** Redis can be clustered for high availability

### Real-Time Scaling

- **Socket.io Scaling:** Redis adapter enables Socket.io scaling across multiple servers
- **Room Management:** Efficient room-based messaging for order updates
- **Connection Management:** Automatic cleanup of disconnected clients

### Database Scaling

- **Read Replicas:** Separate read replicas for analytics and reporting
- **Partitioning:** Large tables (orders, tracking) can be partitioned by date
- **Archiving:** Old orders and tracking data can be archived to separate tables
- **Connection Pooling:** Efficient connection management prevents connection exhaustion

## Performance Metrics

- **API Response Time:** Average response time < 200ms for most endpoints
- **Database Query Time:** Optimized queries execute in < 50ms
- **Real-Time Latency:** Socket.io events delivered in < 100ms
- **Image Processing:** Image optimization completes in < 500ms
- **Concurrent Users:** System tested for 1000+ concurrent users

## Monitoring & Optimization

- **Logging:** Comprehensive logging for performance monitoring
- **Error Tracking:** Error logging with stack traces for debugging
- **Query Monitoring:** Slow query logging for database optimization
- **Resource Monitoring:** CPU, memory, and network usage tracking

## Best Practices

- **Use Indexes:** Ensure all frequently queried fields are indexed
- **Implement Caching:** Cache frequently accessed, rarely changed data
- **Optimize Images:** Compress and resize images before storage
- **Pagination:** Always paginate large result sets

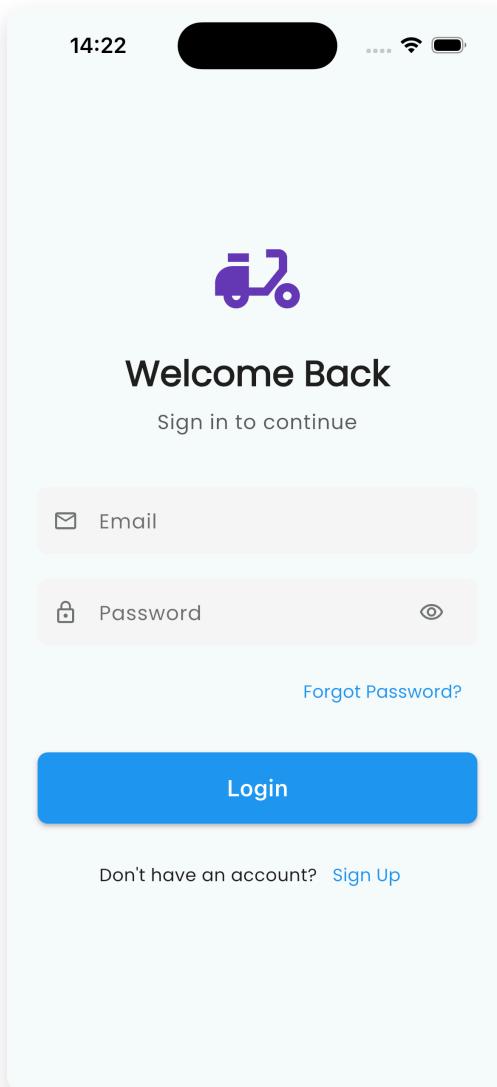
- **Connection Management:** Use connection pooling and close unused connections
- **Async Operations:** Use async/await for non-blocking operations
- **Error Handling:** Implement proper error handling to prevent crashes

# 11. Application Screenshots

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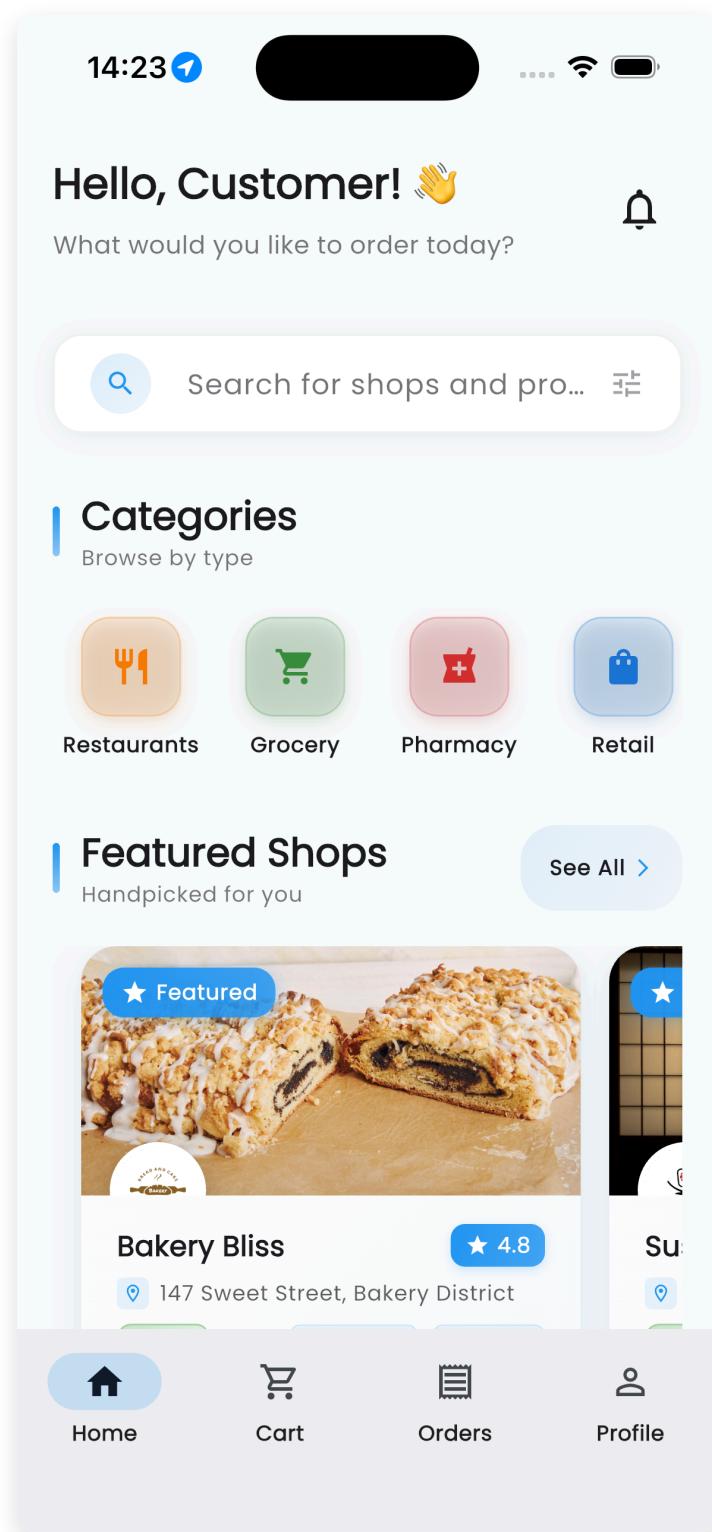
## Customer Application

### Login Screen



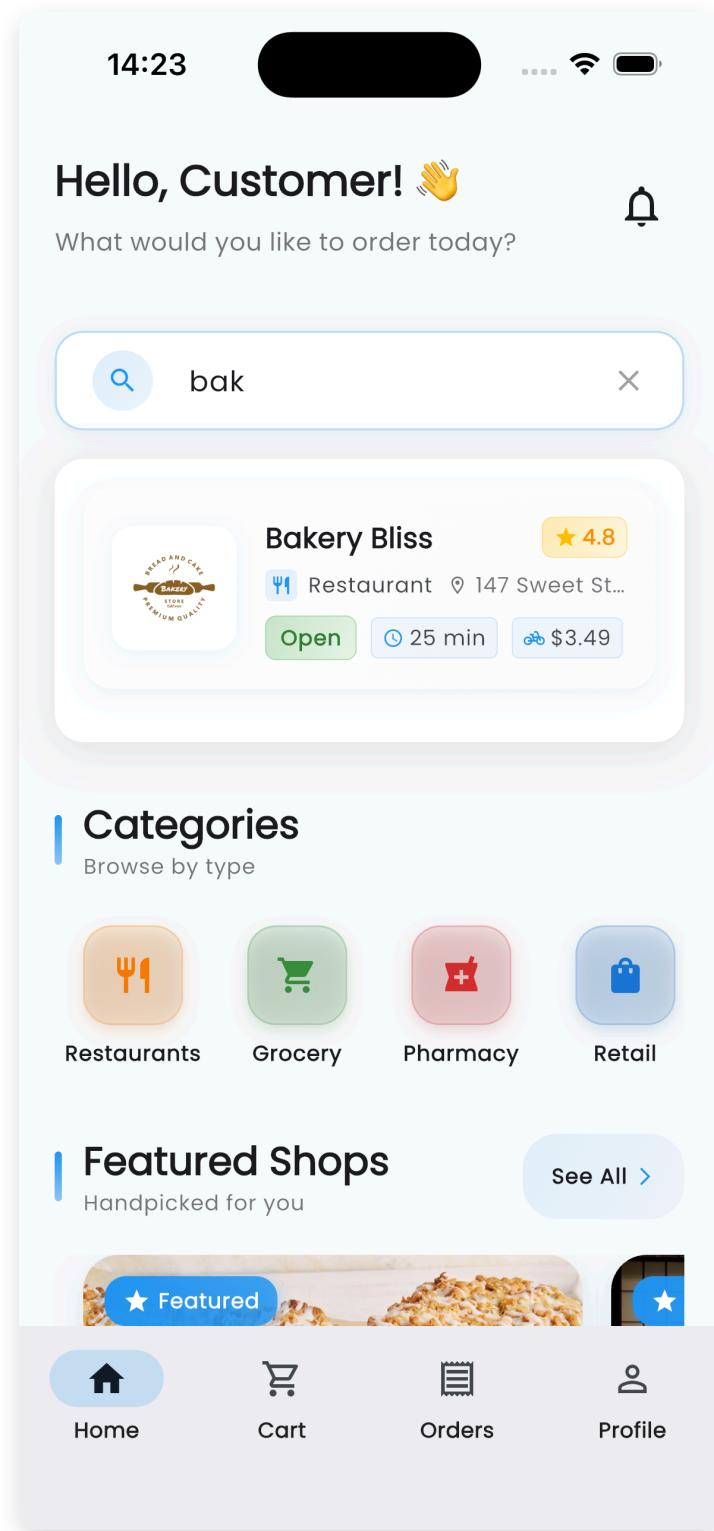
The customer login screen provides a clean interface for users to sign in with email and password. Includes options for registration, password recovery, and secure authentication.

## Home Screen



The main home screen displays featured restaurants and nearby shops. Users can browse available restaurants, view ratings, and quickly access their favorite establishments.

## Home Screen With Search



Search functionality allows customers to quickly find restaurants by name, cuisine type, or location. Real-time search results help users discover new dining options.

## All Shops Page

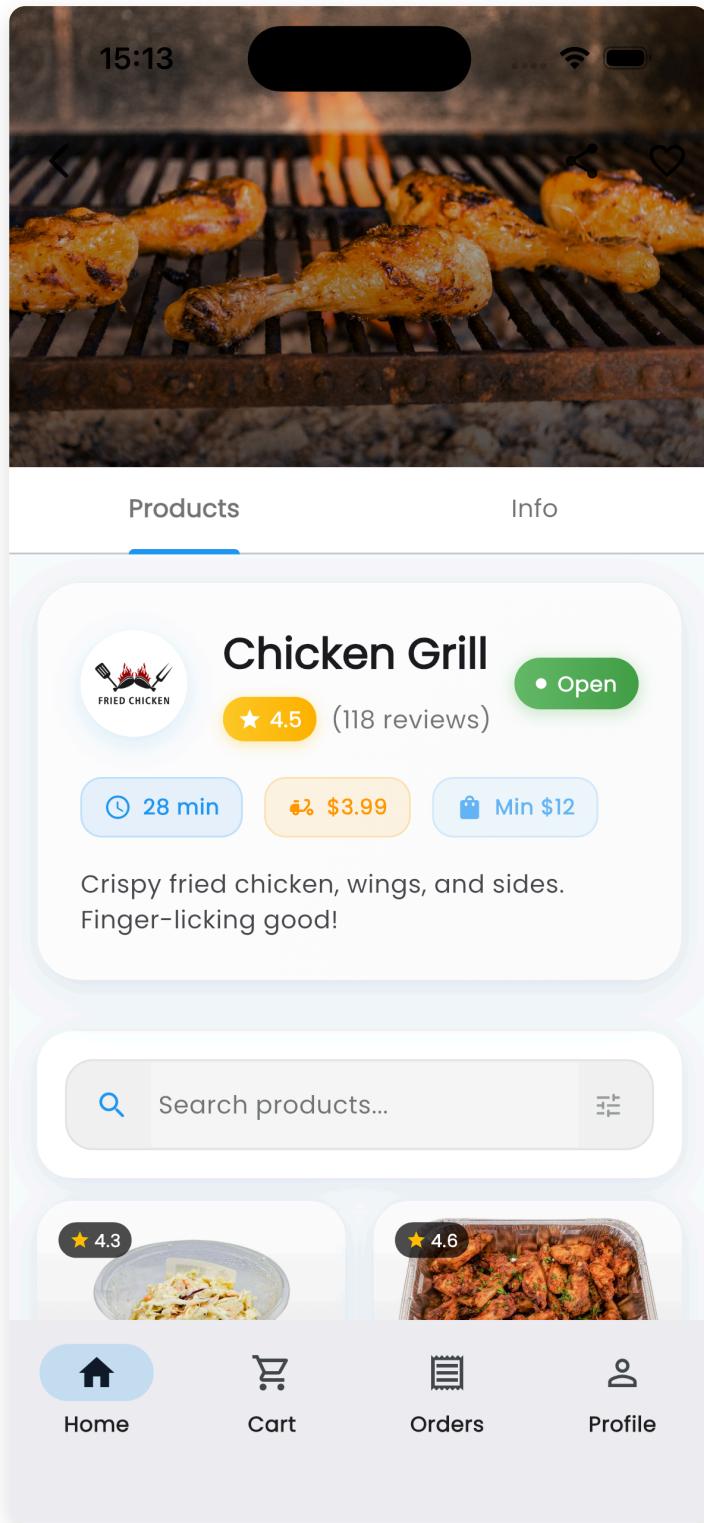
The screenshot shows the 'All Shops Page' of a delivery app. At the top, the time is 14:23 and there are signal and battery icons. Below the header, a back arrow and the title 'All Shops' are displayed. A navigation bar with tabs for 'All', 'Restaurants', 'Grocery', and 'Pharmacy' is visible, with 'All' being the active tab. A search bar with the placeholder 'Search shops...' is present. The main content area displays four shop cards:

- Bakery Bliss** (Rating: 4.8)  
Restaurant located at 147 Sweet Street, B...  
Status: Open | Delivery Time: 25 min | Cost: \$3.49
- Sushi House** (Rating: 4.7)  
Restaurant located at 321 Park Avenue, U...  
Status: Open | Delivery Time: 35 min | Cost: \$5.99
- Coffee Corner** (Rating: 4.6)  
Restaurant located at 654 Elm Street, Do...  
Status: Open | Delivery Time: 20 min | Cost: \$2.49
- Mega Retail Store** (Rating: 4.6)  
Retail located at 850 Commerce Boulev...  
Status: Open | Delivery Time: 45 min | Cost: \$4.99

At the bottom, there are navigation icons for Home (selected), Cart, Orders, and Profile.

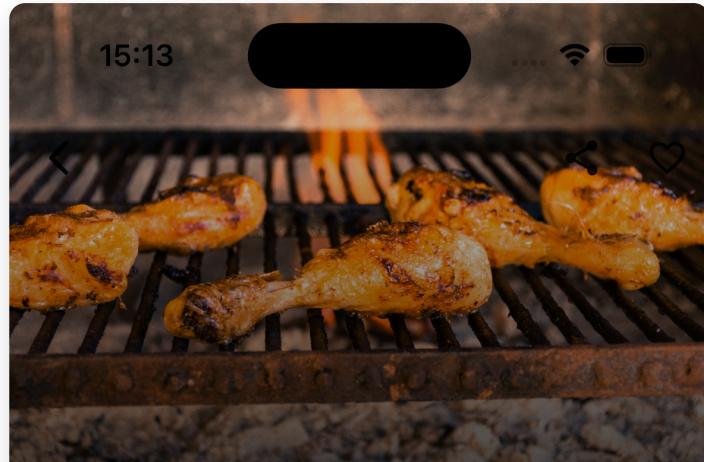
Comprehensive listing of all available restaurants and shops. Users can filter by category, view ratings, and see delivery information for each establishment.

## Restaurant Details - Products Tab



Detailed view of restaurant menu items. Customers can browse products, view descriptions, prices, and add items to their cart. Includes product images and availability status.

## Restaurant Details - Info Tab



Products

Info



Chicken Grill

• Open

★ 4.5 (118 reviews)

⌚ 28 min

📍 \$3.99

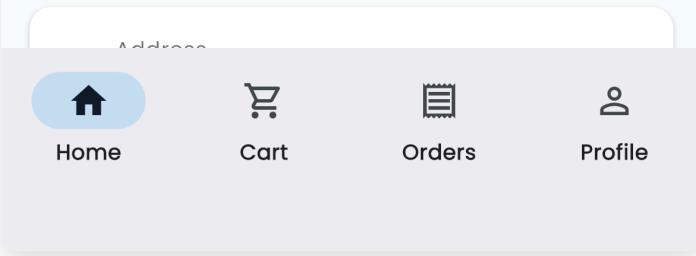
🛒 Min \$12

Crispy fried chicken, wings, and sides.  
Finger-licking good!

### About

Crispy fried chicken, wings, and sides. Finger-licking good!

### Contact Information



Complete restaurant information including operating hours, contact details, delivery zones, pricing information, and customer reviews. Helps customers make informed decisions.

## Shopping Cart - Empty

14:23



### My Cart



## Your Cart is Empty

Looks like you haven't added anything  
to your cart yet.  
Time to start shopping!

Browse Shops



Home



Cart



Orders



Profile

Shopping cart interface when empty. Provides clear call-to-action to start adding items from restaurants.

## Shopping Cart - With Items

The screenshot shows a mobile application interface for a shopping cart. At the top, the time is 15:13 and there are standard status icons. Below this, the title "My Cart" is displayed next to a close button (X). The main content area shows a product card for "Chicken Wings". The card includes a small image of the food, the product name, a delete icon, a quantity selector (set to 1), the price (\$10.99), and a "Special Instructions" section with a placeholder "Tap to add instructions". Below this card is a large, semi-transparent "Order Summary" box. Inside the box, it says "Order Summary" and "Tap to view details" above a total price of "\$17.85" with a dropdown arrow. A prominent blue button at the bottom of the box says "Proceed to Checkout" with a shopping cart icon. Below the box, a message states "You will review your order before final confirmation". At the very bottom, there is a navigation bar with four items: "Home" (with a house icon), "Cart" (with a shopping cart icon, highlighted in blue), "Orders" (with a list icon), and "Profile" (with a person icon).

Shopping cart with added items. Customers can view selected products, adjust quantities, see total price, and proceed to checkout.

## Checkout Page

The screenshot shows a mobile application interface for a checkout process. At the top, the status bar displays the time as 15:14 and various connectivity icons. Below the status bar, the title "Checkout" is centered above a back arrow icon.

The main content area is divided into three main sections:

- Order Summary:** A light gray rounded rectangle containing a table of charges:

Subtotal	\$32.97
Delivery Fee	\$3.99
Service Fee	\$1.99
Tax	\$2.64
<b>Total</b>	<b>\$41.59</b>
- Delivery Address:** A white rounded rectangle featuring a blue outlined box for the default home address:

Home Default  
100 Customer Street, Apt 1

Add New Address
- Place Order - \$41.59**: A large blue button with a shopping bag icon and the total amount.

At the bottom, a navigation bar contains four items: Home (with house icon), Cart (with shopping cart icon, highlighted in blue), Orders (with list icon), and Profile (with person icon).

Secure checkout process where customers review order details, select delivery address, choose payment method, and place their order. Includes order summary and total calculation.

## Order Details Page

15:14

Order Details

Order #e0f5c8ee

Pending

November 26, 2025 - 2:14 PM

Chicken Grill

View Shop

Order Items

3x Chicken Wings \$32.97  
\$10.99 each

Order Summary

Subtotal	\$32.97
Delivery Fee	\$3.99
Service Fee	\$1.65
Tax	\$2.64
<b>Total</b>	<b>\$41.25</b>
Payment Method	Cash on Delivery

Home

Cart

Orders

Profile

Comprehensive order details showing order status, items, delivery information, and real-time tracking updates. Customers can track their order from placement to delivery.

## Orders Page - Active Orders

15:14



### My Orders

Active Orders

Past Orders

#### Order #e0f5c8ee

Pending

Nov 26, 2:14 PM



Chicken Grill

3 items - \$41.25

Cancel

#### Order #0cca2357

Pending

Nov 26, 2:02 PM



Mario's Pizza Palace

4 items - \$90.39

Cancel

#### Order #0738a7a9

Pending

Nov 26, 1:51 PM



Fresh Market

6 items - \$101.04



Home



Cart



Orders



Profile

List of active orders with current status. Customers can quickly see which orders are being prepared, in transit, or ready for pickup.

## Profile Page

15:18 15:18

Profile

Customer User

customer@example...  
+1-555-0200

Email Verified

Account

Edit Profile  
Update your personal information >

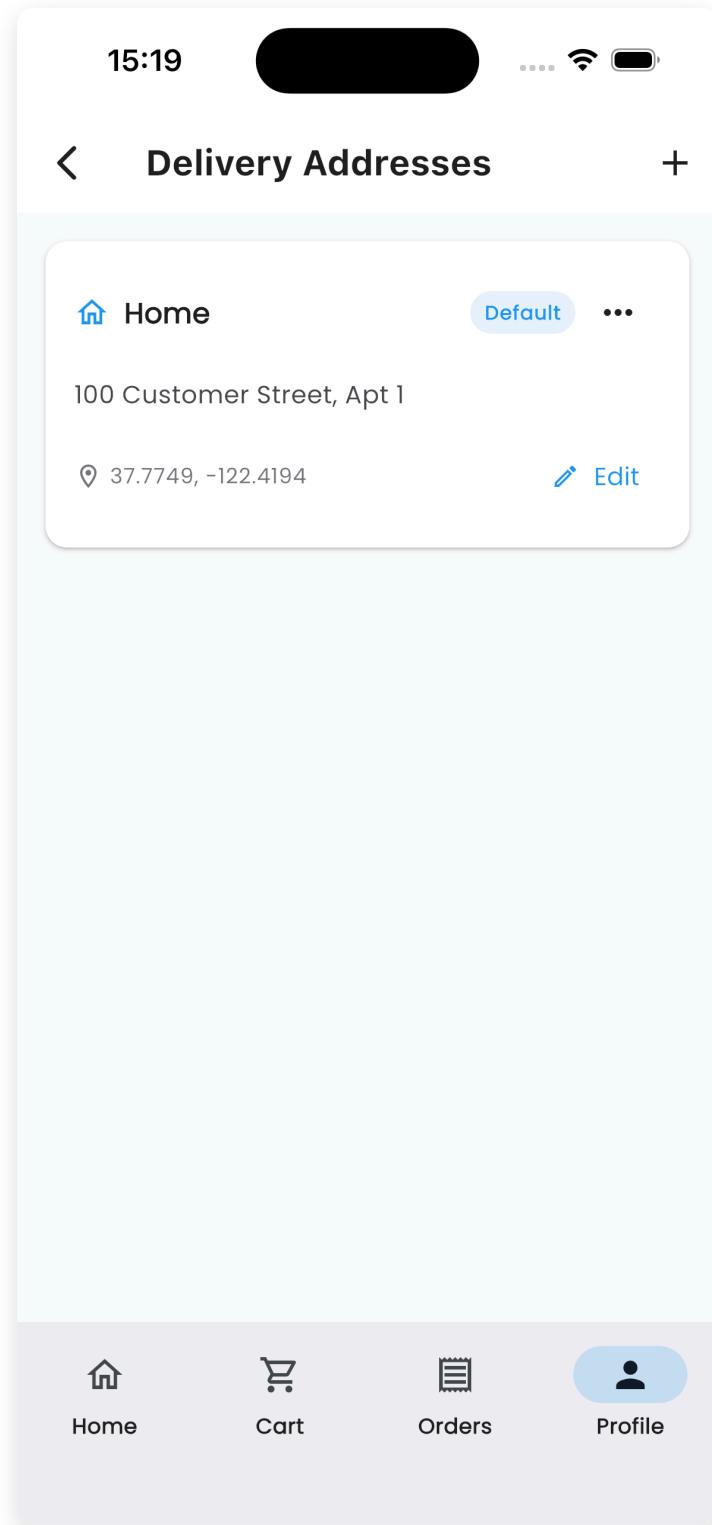
Change Password  
Update your account password >

Delivery Addresses  
Manage your saved addresses >

Home Cart Orders Profile

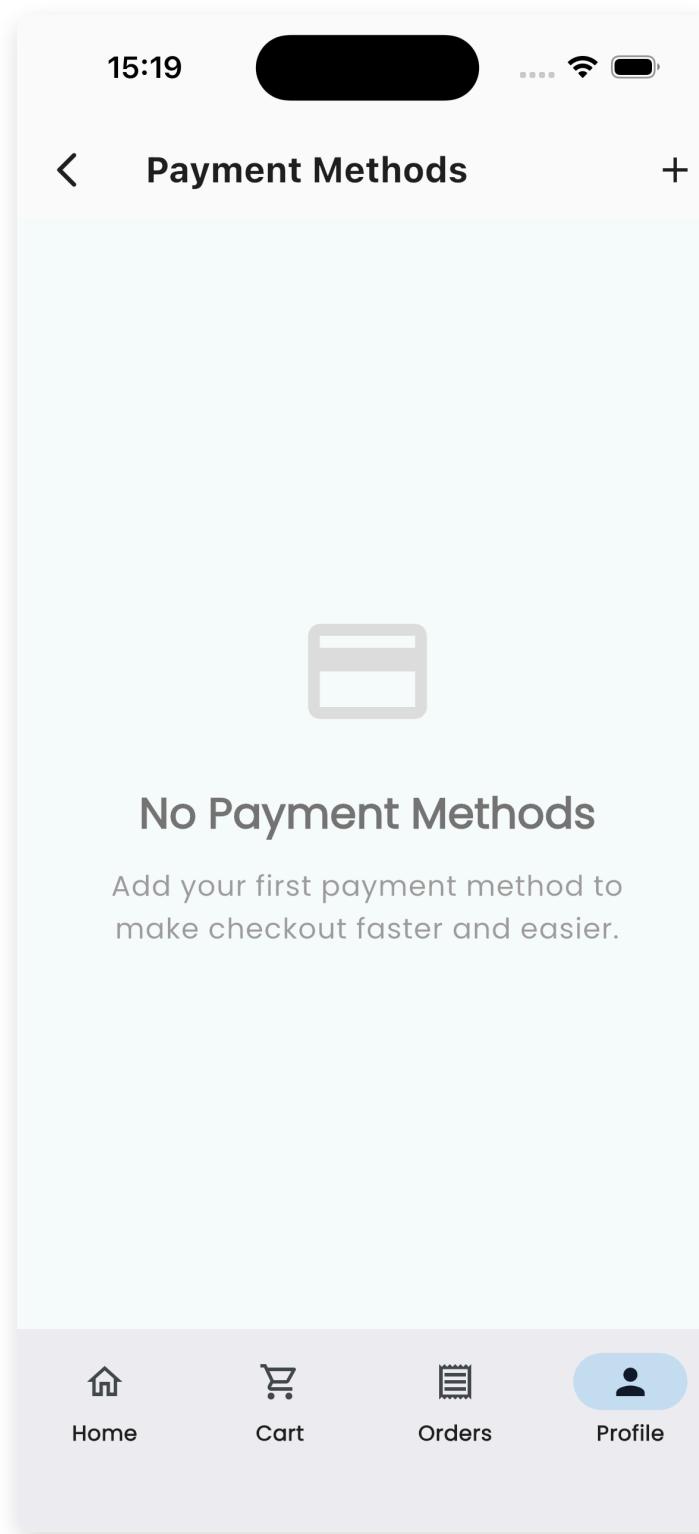
User profile management page. Customers can view and edit personal information, manage addresses, payment methods, and access account settings.

## Delivery Addresses Page



Management interface for delivery addresses. Customers can add, edit, delete, and set default addresses for quick checkout.

## Payment Methods Page



Payment method management. Customers can add credit cards, digital wallets, and other payment options for faster checkout.

## Add Payment Method

The screenshot shows a mobile application interface for adding a new payment method. At the top, there is a header bar with the title "Add Payment Method" and a "Save" button. Below the header, there is a grid of four payment method options: PayPal (with a credit card icon), Apple Pay (with a smartphone icon), Google Pay (with a smartphone icon), and Bank Account (with a bank building icon). The "Bank Account" option is currently selected.

The main form area contains the following fields:

- Label:** A text input field containing the placeholder "my card".
- Card Number:** A masked input field showing "1234 5678 9033 5678".
- Expiry D...:** A date picker showing "03/29".
- CVV:** A masked input field showing "123".
- Card Brand:** A dropdown menu showing "Visa".
- Cardholder Name:** An input field containing "Jhon Felix".

At the bottom of the form, there is a "Set as Default" button. Below the form, there is a navigation bar with four items: Home (icon: house), Cart (icon: shopping cart), Orders (icon: list), and Profile (icon: person, highlighted with a blue background).

Secure form for adding new payment methods. Includes validation and security features for protecting payment information.

## Language Settings

15:35



### ← Language Settings

#### Choose Language



Select your preferred language  
for the app



English

English



French

Français



#### ⓘ Language Support

The language change will take effect  
immediately. Some features may not be fully  
translated yet.



Home



Cart



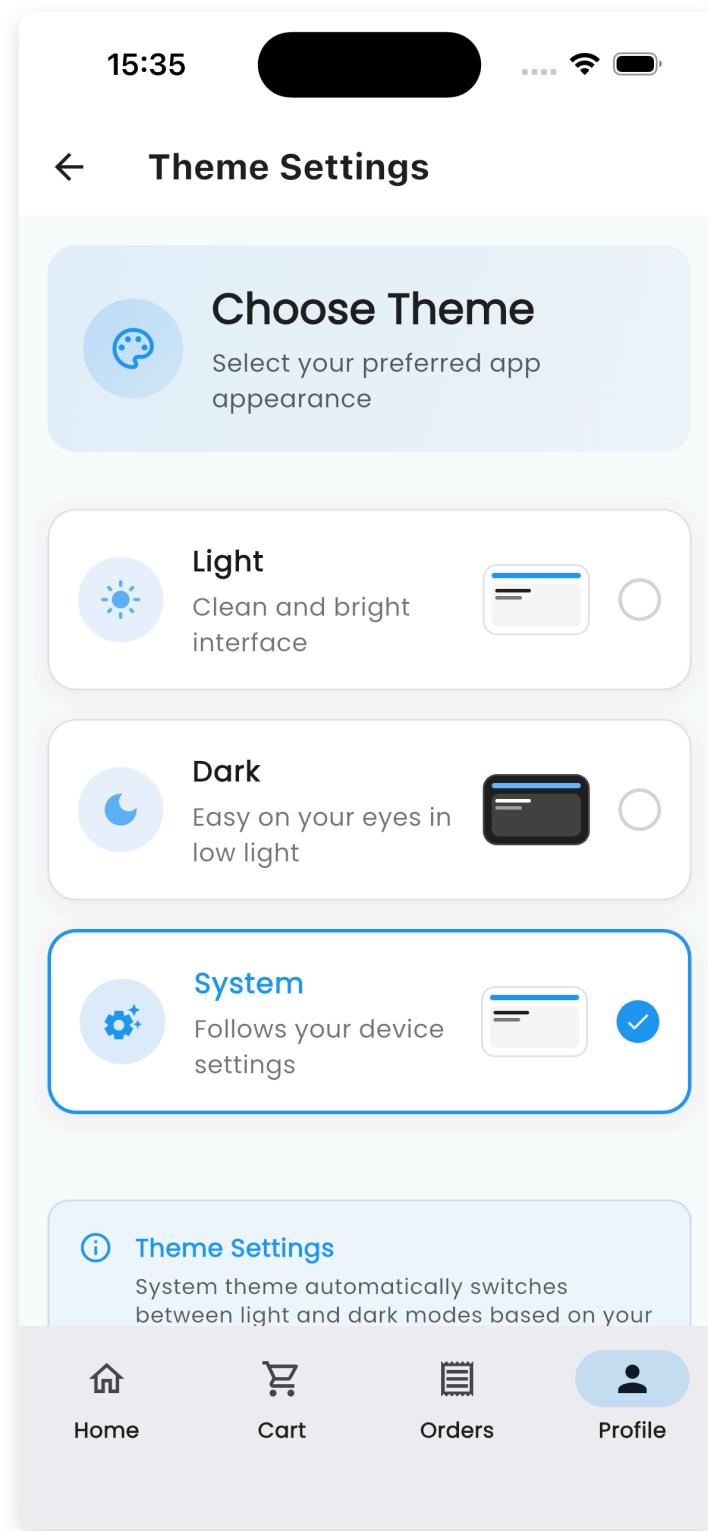
Orders



Profile

Multi-language support interface. Customers can switch between available languages (English, French) with instant UI updates.

## Theme Settings



Theme customization options. Users can switch between light and dark modes for personalized viewing experience.

## Vendor Application

## Vendor Login Page



### Vendor Login

Sign in to manage your business

Email

Password



Login

[Forgot Password?](#)

Don't have an account? [Register](#)

Secure login interface for restaurant owners and staff. Provides access to vendor dashboard and order management system.

# Vendor Registration

← Vendor Registration



## Join as a Vendor

Start your food delivery business today

### Personal Information

Full Name

Email

Phone Number

### Business Information

Business Name

Business Address

Registration form for new vendors. Collects business information, contact details, and credentials for shop account creation.

# Vendor Dashboard

15:55



## Dashboard



Welcome back!  
**Mario's Pizza Palace**

Currently Open

## >Status Overview



Active

Shop Status



4.5

Rating



Available

Delivery



Available

Pickup

## Business Information



Address

123 Main Street, Downtown



Phone

+1-555-0123

Email



Dashboard



Orders



Menu



Analytics



Profile

Comprehensive vendor dashboard showing real-time statistics, order overview, quick actions, and business information. Provides at-a-glance view of shop performance.

## Orders Page - All Tab

15:55

Orders

All Pending Preparing Ready Completed

**Order #ORD-176** • Pending \$90.39

Customer User 3 items

1 x BBQ Chicken Pizza, 2 x Supreme Pizza, 1 x Meat Lovers Pizza

1 day ago Cash

**Order #ORD-176** • Delivered \$94.39

Michael Taylor 3 items

1 x Margherita Pizza, 1 x Pepperoni Pizza, 2 x Veggie Pizza

1 day ago Cash

**Order #ORD-176** • Pending \$32.24

Customer User 3 items

3 x Margherita Pizza, 3 x Pepperoni Pizza, 2 x Veggie Pizza

1 day ago CARD

Dashboard Orders Menu Analytics Profile

Complete list of all orders with filtering options. Vendors can view orders by status, search by order number, and access detailed order information.

## Orders Page - Pending Tab

The screenshot shows the 'Orders' page with the 'Pending' tab selected. At the top, there's a header with the time '15:55' and battery status. Below the header, the word 'Orders' is displayed next to a circular icon with a 'C'. A navigation bar below the header includes tabs for 'All', 'Pending' (which is highlighted in green), 'Preparing', 'Ready', and 'Completed'. The main content area shows two pending orders in a list format.

**Order #ORD-176** • Pending \$90.39

Customer User 3 items

1 x BBQ Chicken Pizza, 2 x Supreme Pizza, 1 x Meat Lovers Pizza

1 day ago Cash

**Order #ORD-176** • Pending \$32.24

Customer User 3 items

3 x Margherita Pizza, 3 x Pepperoni Pizza, 2 x Veggie Pizza

1 day ago CARD

At the bottom of the screen, there's a navigation bar with icons for Dashboard, Orders (highlighted with a green circle), Menu, Analytics, and Profile.

New orders awaiting vendor response. Vendors can review order details, accept or reject orders, and see customer information.

## Order Details - Pending Status

16:00

Order #0cca235

Order #ORD-  
176416577290 \$90.39  
6-UJVW

1 day ago

Pending

**Customer Information**

Name: Customer User

Phone: +1-555-0200

Email: customer@example.com

**Delivery Information**

Address: 100 Customer Street, Apt 1

**Order Items**

1 BBQ Chicken Pizza \$18.49

Detailed view of pending order with customer information, items, delivery address, and order total. Vendors can accept or reject the order from this screen.

## Order Details - Accepted Status

16:00



< Order #0cca235 >

Order #ORD-  
176416577290 \$90.39  
6-UFVV



1 day ago

Accepted



### Customer Information

👤 Name

Customer User

📞 Phone

+1-555-0200



✉️ Email

customer@example.com



### Delivery Information

📍 Address

100 Customer Street, Apt 1

Order status updated successfully!

1

BBQ Chicken Pizza

\$18.49

Accepted order details showing preparation workflow. Vendors can update order status to "Preparing" and track order progress.

## Order Details - Preparing Status

16:00



< Order #0cca235 >

Order #ORD-  
176416577290 \$90.39  
6-UFVV

1 day ago

Preparing



### Customer Information

👤 Name

Customer User

📞 Phone

+1-555-0200



✉️ Email

customer@example.com



### Delivery Information

📍 Address

100 Customer Street, Apt 1

Order status updated successfully!

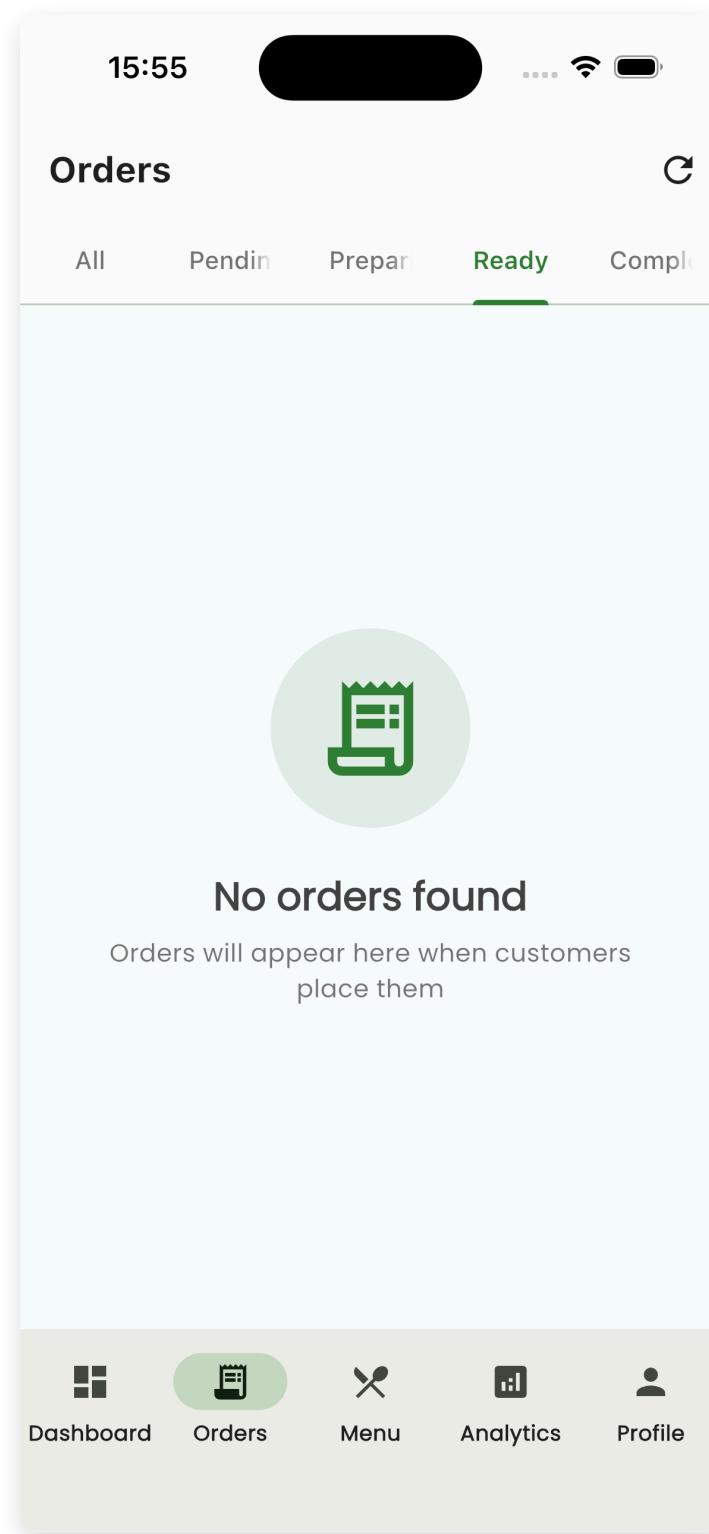
1

BBQ Chicken Pizza

\$18.49

Order in preparation phase. Vendors can update status to "Ready for Pickup" when order preparation is complete.

## Orders Page - Ready Tab



Orders ready for pickup by delivery drivers. Shows orders that have been prepared and are waiting for driver assignment.

## Menu Management Page

15:56

... WiFi

### Menu Management

≡ +

✖ 10 items

≡ Name A-Z



**BBQ  
Chicken ...**

• Available

Grilled chicken, BBQ sau...

\$18.49

Main Cour...



**Cheese  
Pizza**

• Available

Golden mozzarella over ...

\$13.99

Main Cour...



**Coca  
Cola**

• Available

Classic refreshing cola ...

\$2.99

Beverages

≡

Dashboard Orders Menu Analytics Profile

Complete menu management interface. Vendors can view all menu items, filter by category or availability, and manage product listings.

## Add Menu Item

15:56



← Add Menu Item

🍴 Item Name \*

📷 Image URL (optional)

📄 Description \*

\$ Price \*

Category \*

⬆️ Main Course ⏪

Preparation Time

⌚ 15 min



Available

Item is available for orders



Dashboard



Orders



Menu



Analytics



Profile

Form for adding new menu items. Includes fields for name, description, price, category, image, and availability status.

## Edit Menu Item

15:56



### ← Edit Menu Item

Item Name \*

🍴 BBQ Chicken Pizza

Image URL (optional)

🖼 /uploads/products/product-bbq

Description \*

Grilled chicken, BBQ sauce, red  
onions, and cilantro

Price \*

\$ \$ 18.49

Category \*

⬆️ Main Course ⏪

Preparation Time

⌚ 15 min



Available

Item is available for orders



Dashboard



Orders



Menu



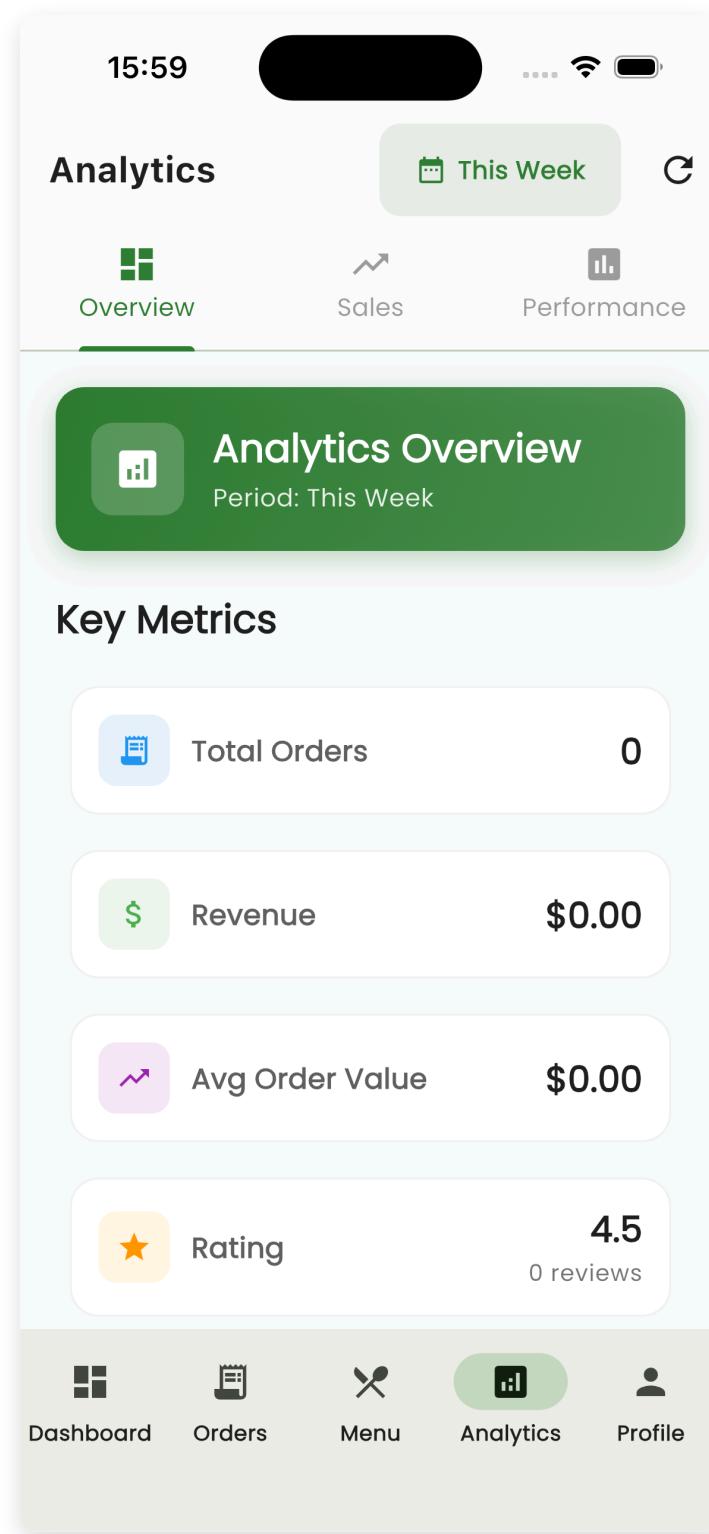
Analytics



Profile

Edit interface for existing menu items. Vendors can update product information, pricing, images, and availability.

## Analytics - Overview Tab



Comprehensive analytics dashboard showing key metrics, order status overview, and menu statistics. Provides insights into business performance.

## Analytics - Sales Tab

15:59

Analytics This Week

Overview Sales Performance

Total Revenue \$217.02

Total Orders 3

Revenue Trends

Last 7 Days

Day	Revenue
Thu	\$0
Fri	\$0
Sat	\$0
Sun	\$0
Mon	\$0
Tue	\$217
Yester...	\$0

Dashboard Orders Menu Analytics Profile

Sales analytics with revenue trends, sales summary by period, and top performing items. Helps vendors understand sales patterns and optimize offerings.

## Analytics - Performance Tab

The screenshot shows a mobile application interface for 'Analytics - Performance Tab'. At the top, the time is 15:59 and there are standard status icons. Below the header, the word 'Analytics' is displayed next to a circular button labeled 'This Week' with a calendar icon. To the right is a circular arrow icon.

Three navigation tabs are visible: 'Overview' (grid icon), 'Sales' (upward arrow icon), and 'Performance' (bar chart icon). The 'Performance' tab is currently selected, indicated by a green underline and a green bar at the bottom of the screen.

The main content area is titled 'Performance Metrics' with a circular icon containing a clock symbol. It displays four key metrics:

- Customer Rating:** 4.5/5.0 (0 reviews) with a star icon.
- Avg Prep Time:** 0 min (Average time) with a timer icon.
- Order Accuracy:** 100% (Success rate) with a checkmark icon.
- Total Orders:** 3 (All time) with a line graph icon.

Below the metrics is another section titled 'Peak Hours Analysis' with a circular icon containing a clock symbol.

At the bottom, a navigation bar contains five items: 'Dashboard' (grid icon), 'Orders' (calendar icon), 'Menu' (fork and spoon icon), 'Analytics' (bar chart icon, highlighted with a green oval), and 'Profile' (person icon).

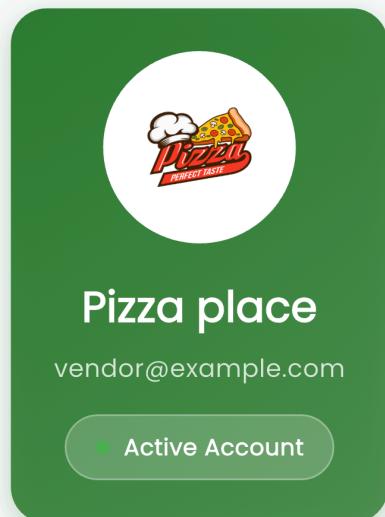
Performance metrics including average preparation time, order accuracy, peak hours analysis, and business insights for operational optimization.

# Vendor Profile Page

15:59



## Profile



## Business Information



Name

Pizza place



Email

vendor@example.com



Phone

+1-555-0100



Dashboard



Orders



Menu



Analytics



Profile

Vendor profile management showing business information, account settings, and profile customization options.

## Edit Profile Page

15:59



### Edit Profile

Save



Change Logo

Name \*

Pizza place

Email \*

vendor@example.com

Phone

+1-555-0100

Save Changes

Profile editing interface for updating vendor information, contact details, and account preferences.

## Payment Settings

16:00



### < Payment Settings

#### Payment Methods



##### No Payment Methods

Add a payment method to receive payouts from orders.

+ Add Payment Method

#### Payout Settings



##### Payout Frequency

Weekly >



##### Minimum Payout Amount

\$50.00 >

#### Tax Information

Payment configuration for vendors including payout methods, payout frequency, tax information, and payment history.

## Delivery Driver Application

## Driver Login Page

16:14



### Driver Login

Sign in to start delivering

Email

Password



Sign In

[Don't have an account? Register](#)

Login interface for delivery drivers. Secure authentication to access driver dashboard and delivery management features.

# Driver Registration

16:14



## ← Driver Registration



### Become a Driver

Join our delivery team

Full Name

Email

Password



Must contain uppercase, lowercase, number & s...

Confirm Password

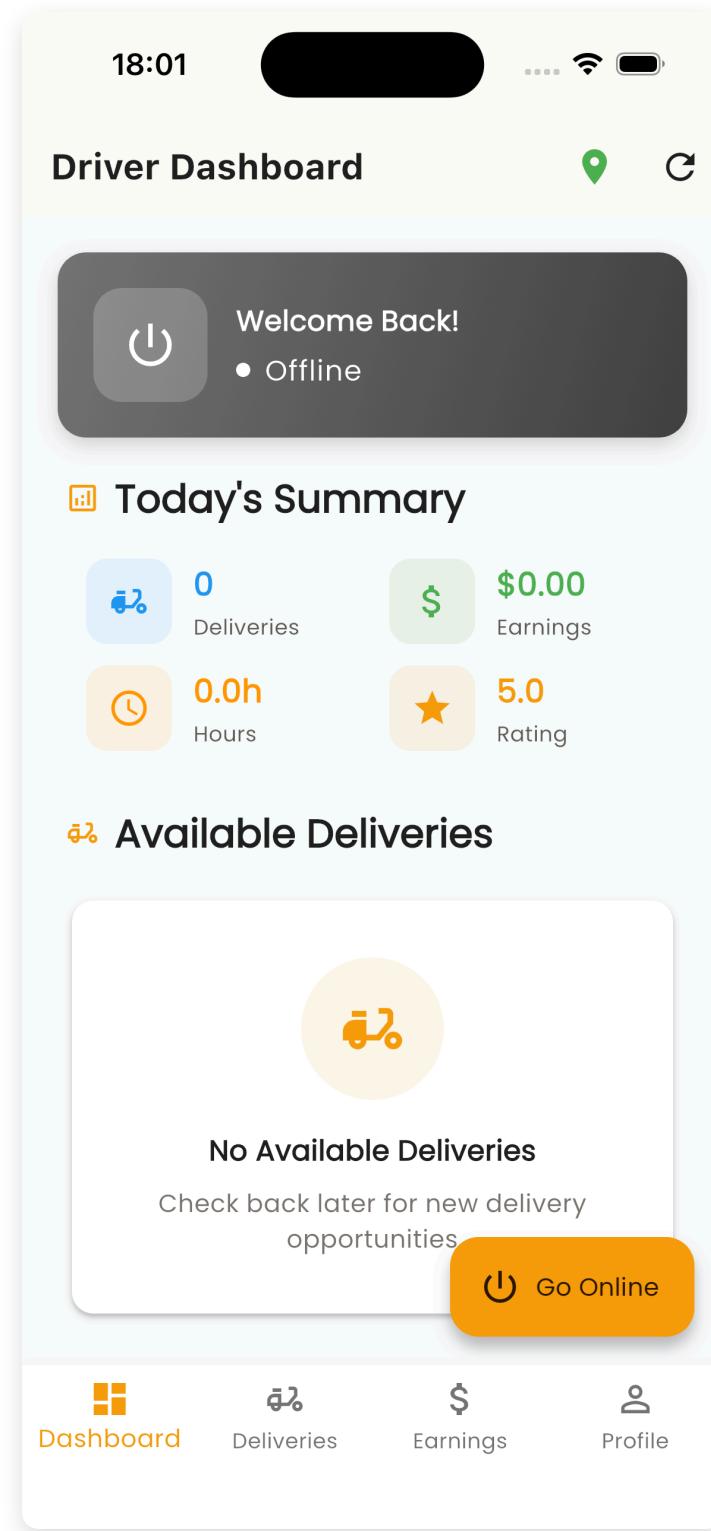


Phone Number (Optional)

Vehicle Type

Registration form for new delivery drivers. Collects personal information, vehicle details, license information, and credentials for driver account creation.

## Driver Dashboard - Offline



Driver dashboard when offline. Shows today's summary, available deliveries, and provides option to go online to start receiving delivery requests.

# Driver Dashboard - Online

The Driver Dashboard - Online application interface is displayed on a mobile device. The top status bar shows the time as 18:01, signal strength, and battery level. The main header "Driver Dashboard" is at the top left, with a location pin and refresh icon at the top right.

A prominent yellow banner at the top center displays a checkmark icon and the text "Welcome Back!" followed by a bullet point "• Online & Available".

## Today's Summary

Key performance metrics are shown in a grid:

- Deliveries: 0
- Earnings: \$0.00
- Hours: 0.0h
- Rating: 5.0

## Available Deliveries

View All

An order card for "Order #ORD-1..." is shown, pending delivery to James Brown at 130 Customer Street, Apt 4, 2.0 km away. The order value is \$51.19. A large orange button says "Accept Delivery".

Below the order card, another card shows the same information, with a red button labeled "Go Offline".

At the bottom, there is a navigation bar with four icons: Dashboard (orange), Deliveries (grey), Earnings (grey), and Profile (grey).

Active driver dashboard showing real-time statistics, available deliveries, active orders, and quick access to earnings and profile.

## Deliveries Page - Available Tab

18:02

Deliveries

Available Active Complete All

Order #ORD-176... Ready \$5.02

James Brown

130 Customer Street, Apt 4

2.0 km 4min \$ 51.19

View Details Accept

Order #ORD-176... Ready \$5.63

James Brown

130 Customer Street, Apt 4

2.0 km 4min \$ 81.59

View Details Accept

Order #ORD-176... Ready \$6.31

James Brown

130 Customer Street, Apt 4

2.0 km 4min \$ 115.49

Dashboard Deliveries Earnings Profile

List of available delivery orders. Drivers can view order details, distance, estimated earnings, and accept deliveries.

## Deliveries Page - Active Tab

18:02

Available Active Complete All

Order #ORD-176... Picked Up \$5.07

Lisa Anderson

140 Customer Street, Apt 5

2.0 km 4min \$ 53.34

Order #ORD-176... Picked Up \$6.45

Lisa Anderson

140 Customer Street, Apt 5

2.0 km 4min \$ 122.64

Dashboard Deliveries Earnings Profile

Currently active deliveries assigned to the driver. Shows orders in progress with status updates and navigation options.

## Deliveries Page - Completed Tab

The screenshot shows a mobile application interface for managing deliveries. At the top, the time is 18:02 and there are standard iOS status icons for signal, battery, and connectivity. Below this, the title "Deliveries" is centered above a navigation bar with five tabs: "Available", "Active", "Complete" (which is highlighted in orange), and "All". A circular refresh icon is positioned to the right of the tabs.

The main content area displays a single completed delivery card. The card includes the order number "Order #ORD-176...", a green button labeled "Delivered", and a yellow button showing the total amount "\$6.45". Below the order number, it shows the customer's name "Lisa Anderson" and address "140 Customer Street, Apt 5". At the bottom of the card are three metrics: "2.0 km" (blue), "4min" (orange), and "\$ 122.64" (green).

At the bottom of the screen is a navigation bar with four items: "Dashboard" (grey square icon), "Deliveries" (orange truck icon, currently selected), "Earnings" (green dollar sign icon), and "Profile" (purple person icon). The "Deliveries" item is highlighted with a blue background and white text.

History of completed deliveries. Drivers can review past deliveries, earnings, and delivery statistics.

## Earnings Page - Overview Tab

The screenshot displays the 'Earnings' page in its 'Overview' tab. At the top, the time is 18:02, and there are standard iOS status icons. Below the header, there are three tabs: 'Overview' (which is selected and highlighted in orange), 'History', and 'Analytics'. A large yellow rectangular area in the center contains the following information:

- A small icon of a calendar with a checkmark.
- The text 'Period: Today'.
- A large bold dollar amount: '\$6.44'.
- A smaller text below it: '+\$6.44 today'.

Below this yellow area, under the heading 'Quick Stats', are two rows of data:

Icon	Value	Unit
Delivery truck icon	1	Deliveries
Clock icon	0h 30m	Online Time
Dollar sign icon	\$6.44	Avg/Order

At the bottom of the main content area, there is a navigation bar with four items:

- Dashboard (represented by a grid icon)
- Deliveries (represented by a delivery truck icon)
- Earnings** (represented by a dollar sign icon, which is highlighted in orange to indicate the active tab)
- Profile (represented by a person icon)

Comprehensive earnings overview showing total earnings, today's earnings, recent deliveries, and earnings breakdown by category.

## Earnings Page - History Tab

The screenshot displays the 'Earnings Page - History Tab' on a mobile device. At the top, the time is 18:02 and there are standard status icons. Below this, the word 'Earnings' is displayed next to a circular profile icon. A navigation bar with three tabs is visible: 'Overview' (disabled), 'History' (selected, indicated by an orange underline), and 'Analytics'. The main content area is titled 'Payment History' with a subtitle 'Order ORD-17641651... PAID \$6.44 Nov 27, 2025 • 17:02'. Below this, a 'This Week Summary' section shows: 1 Deliveries (\$6.44 Earnings) and 0h Hours. At the bottom, a navigation bar includes icons for Dashboard (grid), Deliveries (truck), Earnings (dollar sign), and Profile (person). A purple callout box at the bottom left provides a descriptive note about the payment history feature.

18:02

Earnings

Overview History Analytics

Payment History

Order ORD-17641651... PAID \$6.44  
Nov 27, 2025 • 17:02

This Week Summary

1 Deliveries \$6.44 Earnings  
0h Hours

Dashboard Deliveries Earnings Profile

Payment history showing all payouts, payment dates, and transaction details. Helps drivers track their income over time.

## Earnings Page - Analytics Tab

The screenshot displays the 'Analytics' tab of the Earnings page on a mobile application. At the top, the time is 18:02, and there are standard iOS status icons for signal, battery, and connectivity.

The main header is 'Earnings' with a back arrow icon. Below it, there are three tabs: 'Overview', 'History', and 'Analytics', with 'Analytics' being the active tab.

**Performance Metrics:**

- Acceptance Rate:** 33% (Green icon)
- Customer Rating:** 4.0/5 (Yellow icon)
- On-Time Rate:** 0% (Blue icon)

**Earnings Trend:**

A bar chart showing earnings over the last seven days. The x-axis labels are Nov 21, Nov 22, Nov 23, Nov 24, Nov 25, Nov 26, and Nov 27. The y-axis represents earnings, with a single orange bar reaching \$6 on Nov 27.

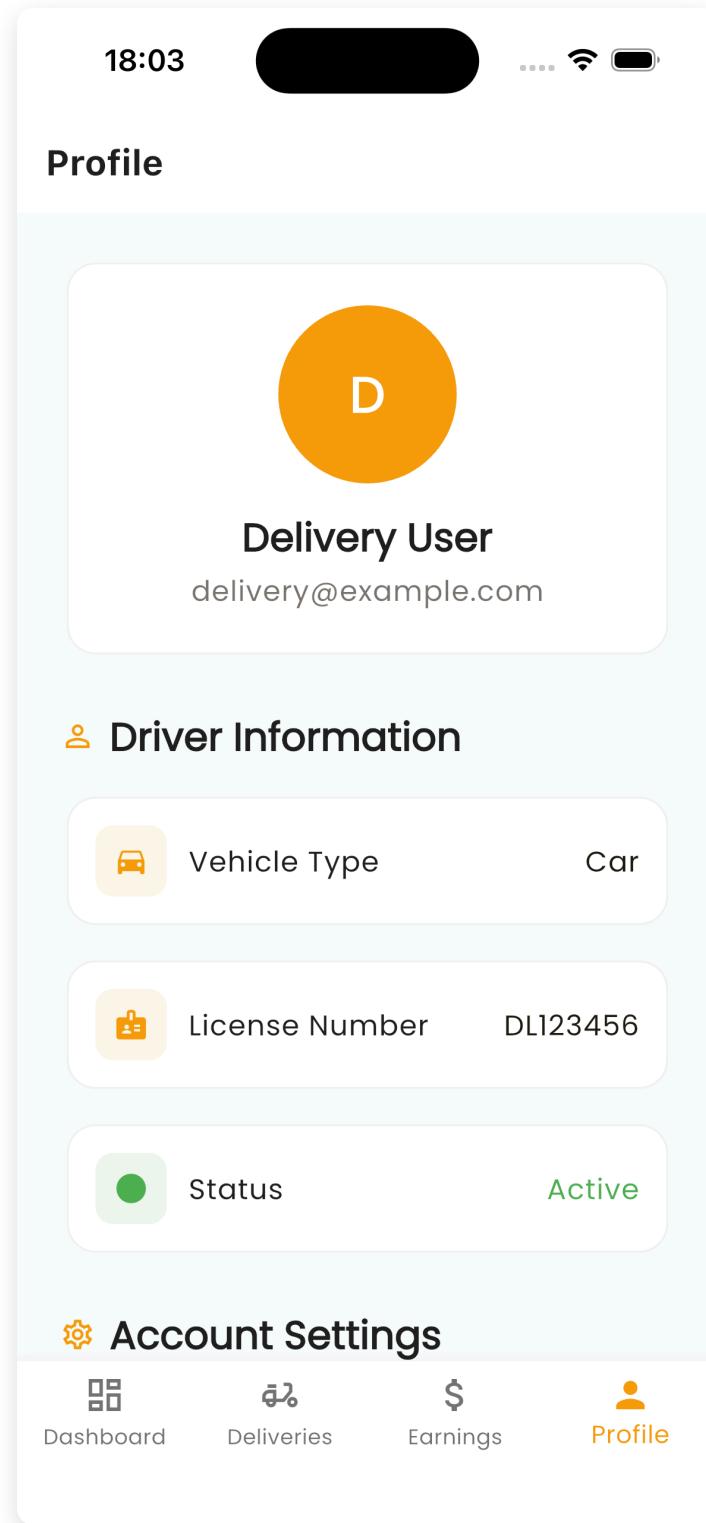
**Tips Analysis:**

- Average Tip:** \$0.00 (Green icon)
- Best Tip:** \$0.00 (Yellow icon)

At the bottom, there is a navigation bar with four items: Dashboard (grid icon), Deliveries (truck icon), Earnings (dollar sign icon), and Profile (person icon). The 'Earnings' item is highlighted in orange, indicating the current tab.

Earnings analytics with trends, weekly summary, performance metrics, and tips analysis. Provides insights for optimizing delivery performance.

## Driver Profile Page



A mobile application screen showing a driver profile. The top bar shows the time as 18:03 and battery level. Below the header, the word "Profile" is displayed. The main area features a large orange circular placeholder with a white letter "D". Below this, the text "Delivery User" and the email "delivery@example.com" are shown. A section titled "Driver Information" contains three items: "Vehicle Type" (Car), "License Number" (DL123456), and "Status" (Active). At the bottom, a navigation bar includes "Dashboard", "Deliveries", "Earnings", and "Profile" (which is highlighted).

18:03

Profile

D

Delivery User

delivery@example.com

Driver Information

Vehicle Type Car

License Number DL123456

Status Active

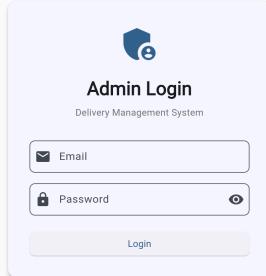
Account Settings

Dashboard Deliveries Earnings Profile

Driver profile management showing personal information, vehicle details, account settings, and driver statistics.

## Admin Web Panel

## Admin Login Page



Secure login interface for system administrators. Provides access to comprehensive admin dashboard and management tools.

## Admin Dashboard

A screenshot of the Admin Dashboard. The left sidebar shows 'Admin Panel' with 'Dashboard' selected, and links for 'Users', 'Shops', 'Orders', and 'Analytics'. The main area has a 'Welcome back!' message and a summary of system status: '0 Orders Today', '15 Active Orders', '\$0.00 Revenue Today', '\$1.44K Total Revenue', '6/6 Vendors Active', and '6 Customer Base'. Below this is a 'Quick Actions' section with buttons for 'Manage Users', 'Manage Shops', 'Orders Board', and 'Analytics'. At the bottom left is a 'Logout' link.

System-wide dashboard showing real-time statistics, key metrics, user counts, order statistics, and revenue overview. Provides comprehensive system health monitoring.

## Users Management Page

The screenshot shows the 'All Users' section of the Admin Panel. It displays a list of 17 users, each with a profile icon, name, email, role (Vendor or Customer), status (Active), and actions (Edit, Delete). A search bar at the top allows filtering by name, email, or phone number.

Name	Email	Role	Status	Actions
Vendor User +1-555-0100	vendor@example.com	VENDOR	Active	
Mario Rossi +1-555-1000	vendor1@example.com	VENDOR	Active	
Sarah Johnson +1-555-1001	vendor2@example.com	VENDOR	Active	
Ahmed Hassan +1-555-1002	vendor3@example.com	VENDOR	Active	
Emma Wilson +1-555-1003	vendor4@example.com	VENDOR	Active	
David Chen +1-555-1004	vendor5@example.com	VENDOR	Active	
John Smith +1-555-2000	customer1@example.com	CUSTOMER	Active	
Maria Garcia +1-555-2001	customer2@example.com	CUSTOMER	Active	
James Brown +1-555-2002	customer3@example.com	CUSTOMER	Active	
Lisa Anderson +1-555-2003	customer4@example.com	CUSTOMER	Active	
Michael Taylor +1-555-2004	customer5@example.com	CUSTOMER	Active	

Complete user management interface. Admins can view, search, filter, edit, activate/deactivate, and manage all users (customers, vendors, drivers, admins).

## Shops Management Page

The screenshot shows the 'All Shops' section of the Admin Panel. It displays a list of 11 shops, each with a profile icon, shop name, address, contact information, category (Restaurant, Pharmacy, Retail, Grocery, etc.), status (Active), and actions (Edit, Delete). A search bar at the top allows filtering by name, address, or email.

Shop	Contact	Category	Status	Actions
Sushi House 321 Park Avenue, Uptown	sushi@example.com +1-555-0321	RESTAURANT	Active	
Burger King Express 789 Broadway, Midtown	burger@example.com +1-555-0789	RESTAURANT	Active	
Pharmacy Plus 987 Health Boulevard, Medical District	pharmacy@example.com +1-555-0987	PHARMACY	Active	
Bakery Bliss 147 Sweet Street, Bakery District	baker@example.com +1-555-0147	RESTAURANT	Active	
Chicken Grill 258 Spice Road, Food Court	chicken@example.com +1-555-0258	RESTAURANT	Active	
Fast Food Express 741 Quick Street, Fast Lane	fastfood@example.com +1-555-0741	RESTAURANT	Active	
Mega Retail Store 850 Commerce Boulevard, Shopping District	retail@example.com +1-555-0850	RETAIL	Active	
Fresh Market 456 Oak Avenue, Uptown	grocery@example.com +1-555-0456	GROCERY	Active	
Coffee Corner 554 Elm Street, Downtown	coffee@example.com +1-555-0654	RESTAURANT	Active	
Ice Cream Parlor 369 Chili Avenue, Dessert Lane	icecream@example.com +1-555-0369	RESTAURANT	Active	
Mario's Pizza Palace 123 Main Street, Downtown	pizza@example.com +1-555-0123	RESTAURANT	Active	

Shop management interface for viewing, approving, and managing all restaurants and shops on the platform. Includes filtering and search capabilities.

# Orders Management Page

The Orders Management Page displays a list of 18 orders. Each order row includes the order ID, creation date, customer name, shop name, total amount, status, and action buttons for viewing or editing.

Order	Customer	Shop	Total	Status	Actions
Order #ORD-1763822814056-18 Nov 22, 2025 14:46	Michael Taylor	Bakery Bliss	\$127.79	Delivered	
Order #ORD-1763822814055-17 Nov 22, 2025 14:46	Lisa Anderson	Pharmacy Plus	\$122.64	In Delivery	
Order #ORD-1763822814053-16 Nov 22, 2025 14:46	James Brown	Coffee Corner	\$115.49	Ready	
Order #ORD-1763822814052-15 Nov 22, 2025 14:46	Maria Garcia	Sushi House	\$113.34	Preparing	
Order #ORD-1763822814050-14 Nov 22, 2025 14:46	John Smith	Burger King Express	\$104.69	Accepted	
Order #ORD-1763822814048-13 Nov 22, 2025 14:46	Customer !	Fresh Market	\$101.04	Pending	
Order #ORD-1763822814047-12 Nov 22, 2025 14:46	Michael Taylor	Mario's Pizza Palace	\$94.39	Delivered	
Order #ORD-1763822814045-11 Nov 22, 2025 14:46	Lisa Anderson	Mega Retail Store	\$89.74	In Delivery	
Order #ORD-1763822814043-10 Nov 22, 2025 14:46	James Brown	Fast Food Express	\$81.59	Ready	
Order #ORD-1763822814042-8 Nov 22, 2025 14:46	John Smith	Chicken Grill	\$71.79	Accepted	
Order #ORD-1763822814043-9 Nov 22, 2025 14:46	Maria Garcia	Ice Cream Parlor	\$76.44	Preparing	
Order #ORD-1763822814040-7					

Comprehensive order management showing all orders across the platform. Admins can view order details, update status, and handle order-related issues.

# Revenue Analytics

The Revenue Analytics page displays a summary of revenue trends and financial insights. It shows the total revenue (\$1443.27) and the average order value (\$80.18).

Total Revenue	Avg Order Value
\$1443.27	\$80.18

System-wide revenue analytics with charts, trends, and financial insights. Helps administrators understand platform performance and revenue patterns.

## Order Analytics

**Admin Panel**

**Orders Analytics**  
Detailed order statistics and trends

**Week** Month Year

**Summary**

Total Orders: **18** Total Revenue: **\$1443.27**

**Orders by Status**

Status	Count	Percentage
PREPARING	3	16.7%
PENDING	3	16.7%
READY FOR PICKUP	3	16.7%
IN DELIVERY	3	16.7%
ACCEPTED	3	16.7%
DELIVERED	3	16.7%

[Logout](#)

Order analytics dashboard showing order trends, status distribution, and order-related metrics for platform optimization.

## Customer Analytics

**Admin Panel**

**Customer Analytics**  
Customer growth and demographics

**Customer Summary**

Total Customers: **6** Growth Rate: **+10.5%**

**User Distribution**

Role	Count	Percentage
ADMIN	1	1%
DELIVERY	1	2%
VENDOR	2	35%
CUSTOMER	2	35%

[Logout](#)

Customer analytics providing insights into user behavior, growth metrics, and customer-related statistics for business intelligence.

# Vendor Analytics

The Vendor Analytics dashboard provides a comprehensive overview of vendor performance and insights. Key metrics include:

- Vendor Summary:** Total Vendors (6), Active Vendors (6), Avg Rating (4.5).
- Top Performing Vendors:** Bakery Bliss (#1, 2 orders, \$193.43), Pharmacy Plus (#2, 2 orders, \$183.13), Coffee Corner (#3, 2 orders, \$168.83), Sushi House (#4, 2 orders, \$164.53), Burger King Express (#5, 2 orders, \$147.23).
- Performance Metrics:** Vendor Activity Rate (100.0%), Inactive Vendors (0).

[Logout](#)

Vendor performance analytics showing shop statistics, performance metrics, and vendor-related insights for platform management.

# Delivery Analytics

The Delivery Analytics dashboard provides a detailed view of the delivery network's performance and agent status. Key metrics include:

- Delivery Network Summary:** Total Agents (4), Active Agents (4), Online (0).
- Agent Status:** Offline Agents (4 agents unavailable).
- Delivery Performance:** Network Availability (0.0%), Active Agent Rate (100.0%), Average Delivery Time (-660 min).

[Logout](#)

Delivery analytics dashboard with driver performance metrics, delivery statistics, and delivery-related insights for operational optimization.

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Complete Multi-Platform Solution for Food Delivery Operations