

CS 432 DATABASES

Outlet Management System (ShopStop)

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1. Introduction

ShopStop is a comprehensive inventory and sales management system designed to streamline retail operations for outlets at IIT Gandhinagar. It integrates inventory tracking, sales transactions, supplier management, customer loyalty programs, employee management, payment processing, and order fulfillment into a single platform. The system provides real-time monitoring, automated processes, and insightful analytics to improve operational efficiency, reduce manual errors, and enhance the customer experience.

2. Objectives

- Automate inventory management with real-time stock updates and low-stock alerts.
- Manage sales transactions securely and efficiently across multiple payment methods.
- Integrate customer loyalty programs to boost engagement and retention.
- Generate actionable reports on sales trends, inventory turnover, and supplier performance.
- Handle discounts, promotions, and employee performance tracking.
- Ensure seamless order processing and fulfilment for both online and offline sales.

3. Software Stack

- *Database:* MySQL
- *Backend:* Flask (Python), PHP
- *Frontend:* HTML, CSS, JavaScript

4. Functionalities

4.1 Inventory Management

- Track product details including ID, name, category, supplier, quantity, and price.
- Maintain real time stock updates and enforce data integrity to prevent negative stock levels.
- Set up automatic alerts for low-stock products.
- Manage supplier information and purchase orders.

4.2 Customer Loyalty Management

- Register customers with their names, contact details, and loyalty points.
- Track loyalty points earned per purchase and redeemable rewards.
- Send targeted promotional offers and discounts to registered customers.
- Implement tiered loyalty levels (e.g., Silver, Gold, Platinum) for enhanced engagement.

4.3 Supplier Management

- Store supplier details, including contact information and supplied products.
- Track supplier performance, delivery history, and reliability.
- Manage multiple suppliers for each product category to ensure flexibility.

4.4 Employee Management

- Register employees with role, contact details, and assigned store location.
- Track attendance, work shifts, and performance metrics.
- Manage payroll processing and salary tracking for accurate compensation.

4.5 Payment Processing

- Capture payments securely using cash, credit, debit, UPI, or digital wallets.
- Record payment details, including Payment ID, Order ID, Amount, Method, and Transaction Timestamp.

4.6 Order Management

- Generate unique order receipts at the time of purchase.
- Record order details such as ID, Customer ID, Item Details, Quantity, Total Amount, Status, and Timestamp.
- Enforce business rules to prevent duplicate or incomplete orders.
- Manage order fulfilment and delivery tracking for both online and offline orders.