

Phase 1

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CPS510 - Database Systems

Point of Sale System for Shopper Drug Marts

Technical Report:

1. Introduction

Shoppers Drug Mart is the largest Canadian pharmacy retailer. Customers can easily browse through a wide range of products from categories including but not limited to groceries, tools, beauty products, and pharmaceutical goods. The retailer is also associated with the PC Optimum Card, a membership program where cardholders can earn points based on their purchases at Shoppers Drug Mart, these points go back towards personalized offers for the customer.

The Point of Sale System for Shoppers Drug Mart is a database management system designed to handle the processing of product sales, inventory management and customer Optimum points for Shoppers Drug Mart retail stores. This system ensures the efficiency and security of all customer transactions, inventory checks, payments, and sales records. This DBMS mainly provides benefits towards store managers, cashiers, suppliers, shelf stockers and customers at Shoppers Drug Marts.

2. Application Functions

The key functions of the POS System include:

- **Record Transactions:**
 - Function to record completed customer purchases
 - Date, time, Names of items purchased, price of transaction.
 - Payment method (Cash, debit/credit or gift card)
 - Record Employee who completed transaction
- **Record Receipts:**
 - Function to record past customer purchases
 - Date, time, Names of items purchased, price of transaction.
 - Payment method (Cash, debit/credit or gift card)
 - Record points earned from transactions
- **Update/modify Products:**
 - Track current item quantities on shelves
 - Deduct item stock after transaction
 - Increase item stock after order shipments
 - Update individual product details such as name, price, category, store discount and stock
- **Update/modify Inventory:**
 - Track total item stocks in inventory
 - Deduct item stock after restock
 - Increase item stock after orders
 - Update individual product details such as name, price, category, store discount and stock
- **Read Optimum Member Profiles:**
 - Retrieval & updating of customer data such as name, email address, total points on optimum card
 - Retrieval & updating of issued/expiry date.
 - Retrieval & updating of total loyalty points on card.
- **Update/modify Customers:**
 - Function to record customer details
 - Add customer name
 - Add customer ID
 - Add customer Optimum ID
- **Update/modify Employees:**
 - Function to record working employees
 - Create employee ID
 - Record employee position

3. Entities and Attributes

Customer

| Customer_ID | Optimum_ID | Name |
|-------------|------------|-----------|
| 00000000 | 000000000 | Spongebob |

Employee

| Employee_ID | Name | Position |
|-------------|-----------|----------------|
| 00000000 | Spongebob | Position Title |

Optimum

| Optimum_ID | Name | Total_Points |
|------------|-----------|--------------|
| 00000000 | Spongebob | 1000 |

Transaction

| Transaction_ID | EmployeeID | Transaction_Date | Total_Price | Payment_Method |
|----------------|------------|------------------|-------------|-------------------|
| 00000000 | 00000000 | DD/MM/YYYY | 00.00 | Cash/Debit/Credit |

Receipt

| TransactionID | Transaction_Date | Product_List | Total_Price | Payment_Method | Points_Earned |
|---------------|------------------|----------------|-------------|-------------------|---------------|
| 00000000 | DD/MM/YYYY | {potato, milk} | 00.00 | Cash/Debit/Credit | 1000 |

Products

| ProductID | Category | Product_Name | Price | Shelf_Quantity |
|-----------|----------|--------------|-------|----------------|
| 00000000 | Food | Product_Name | 00.00 | 123 |

Inventory

| ProductID | Category | Product_Name | Storage_Quantity |
|-----------|----------|--------------|------------------|
| 00000000 | Food | Product_Name | 123 |