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## **Point of Sale System for Shoppers Drug Mart**

### **Introduction**

The dedicated Point of Sale (POS) system designed for Shoppers Drug Mart is tailored exclusively to the retail segment. Its primary objectives are to enhance operational efficiency, provide a superior retail customer experience, ensure compliance within the retail context, and offer valuable business insights. This system serves as an indispensable tool for all locations.

### **Entity Relationship Analysis**

#### **Product**

- ProductID (int, Primary Key)
- Name (string)
- Category (string)
- StockLevel (int)
- Price (float)
- Barcode (string)

#### **Transaction**

- TransactionID (int, Primary Key)
- Timestamp (datetime)
- PaymentMethod (string)
- TotalAmount (float)

#### **Customer**

- CustomerID (int, Primary Key)
- Name (string)
- Email (string)
- Phone (string)
- LoyaltyPoints (int)

#### **Employee**

- EmployeeID (int, Primary Key)
- Name (string)
- Role (string)
- Shift (string)
- PerformanceScore (float)

#### **Manager**

- ManagerID (int, Primary Key)
- Name (string)
- Email (string)
- Phone (string)

### Supplier

- SupplierID (int, Primary Key)
- Name (string)
- ContactPerson (string)
- Email (string)
- Phone (string)

### Promotion

- PromotionID (int, Primary Key)
- DiscountAmount (double)
- Description (string)
- StartDate (datetime)
- EndDate (datetime)

## **Attributes Analysis**

### Product

- ProductID: Unique identifier for products.
- Name: Name of the product.
- Category: The category to which the product belongs.
- StockLevel: Current stock level of the product.
- Price: The price of the product.
- Barcode: Unique barcode for the product.

### Transaction

- TransactionID: Unique identifier for transactions.
- Timestamp: Date and time of the transaction.
- PaymentMethod: Method used for payment.
- TotalAmount: Total amount of the transaction.

### Customer

- CustomerID: Unique identifier for customers.
- Name: Name of the customer.
- Email: Email address of the customer.
- Phone: Phone number of the customer.
- LoyaltyPoints: Loyalty points accumulated by the customer.

### Employee

- EmployeeID: Unique identifier for employees.
- Name: Name of the employee.
- Role: The role or position of the employee.
- Shift: The shift in which the employee works.
- PerformanceScore: Score representing employee performance.

### Manager

- ManagerID: Unique identifier for managers.
- Name: Name of the manager.
- Email: Email address of the manager.
- Phone: Phone number of the manager.

### Supplier

- SupplierID: Unique identifier for suppliers.
- Name: Name of the supplier.
- ContactPerson: Name of the contact person at the supplier.
- Email: Email address of the supplier.
- Phone: Phone number of the supplier.

### Promotion

- PromotionID: Unique identifier for promotions.
- DiscountAmount: The amount of discount offered.
- Description: Description of the promotion.
- StartDate: Start date of the promotion.
- EndDate: End date of the promotion.

### **Data Types and Length Definitions**

- int: Integer
- string: String
- float: Floating-point number
- datetime: Date and time
- double: Double-precision floating-point number

Data type and length definitions for attributes have been provided in the attributes analysis section.

### **Cardinality**

- Each Transaction links to multiple Product records (1 to N).
- Each Transaction is associated with one Customer (1 to 1).
- Each Employee may perform multiple Transactions (1 to N).
- Each Manager may oversee multiple Employees (1 to N).
- Each Supplier may provide multiple Products (1 to N).
- Each Promotion may be linked to multiple Products (M to N).

### **Keys Analysis**

- Primary keys have been identified for each entity to ensure unique identification.
- Primary keys are denoted in the attributes analysis section.