ORDER AND CASHIER MANAGEMENT SYSTEM

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1. Objectives

The primary objectives of the proposed system are focused on automating customer service processes and improving transaction efficiency. The key objectives include:

Develop a system that allows users to select multiple products in a single order.

Ensure seamless database integration for order management.

Provide an intuitive and efficient user interface.

Store order details securely in the database.

2. System Design

Features Implemented

Order Management: Allows users to select products and place orders.

Cashiering Module: Processes payments and generates receipts.

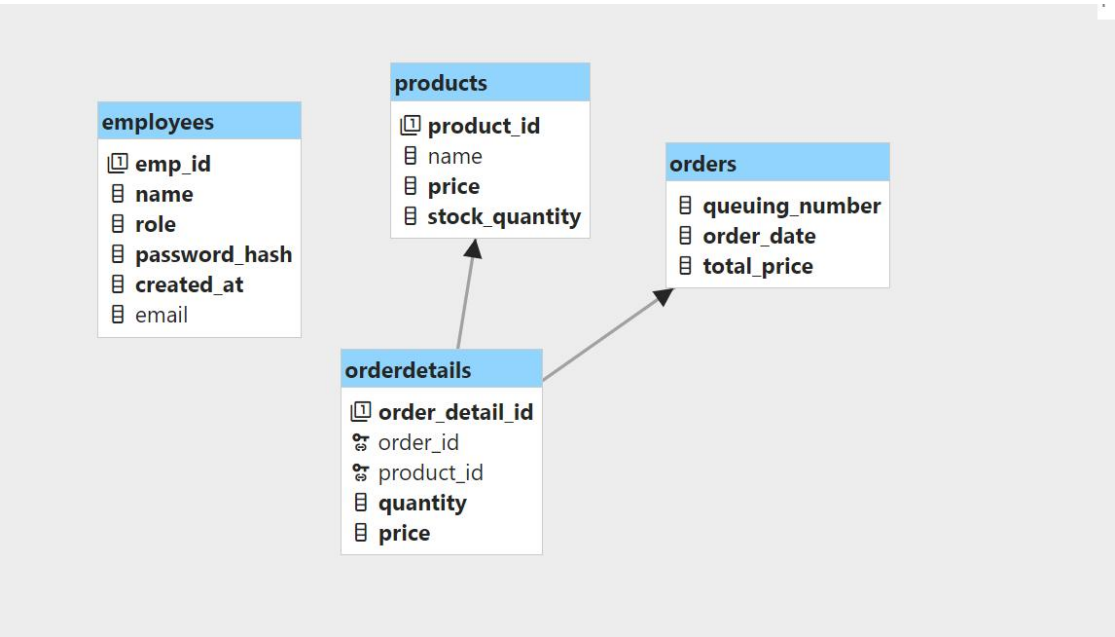
Database Integration: Stores transaction details securely.

User Authentication: Ensures access control for employees.

Role-Based Access: Differentiates access for cashiers and administrators.

Sales Reporting: Provides reports on sales transactions and revenue.

3. Database Schema Diagram



4. Code Snippets

Authentication System

```
public boolean login(String name, String password, String role) {
    String query = "SELECT * FROM employees WHERE name = ? AND password_hash = ? AND role = ?";

    try (Connection conn = EmployeeDB.getConnection();
         PreparedStatement stmt = conn.prepareStatement(query)) {

        stmt.setString(1, name);
        stmt.setString(2, hashPassword(password));
        stmt.setString(3, role);

        ResultSet rs = stmt.executeQuery();
        return rs.next();

    } catch (SQLException e) {
        e.printStackTrace();
        return false;
    }
}
```

Session Management

```
public class SessionManager {
    private static String loggedInUser = null;
    private static String role = null;

    public static void setUser(String username, String userRole) {
        loggedInUser = username;
        role = userRole;
    }

    public static boolean isLoggedIn() {
        return loggedInUser != null;
    }

    public static String getUser() {
        return loggedInUser;
    }

    public static String getRole() {
        return role;
    }

    public static void logout() {
        loggedInUser = null;
        role = null;
        System.out.println("Logged out successfully!");
    }
}
```

5.Challenges Encountered & Solutions

Challenges	Solutions Applied
Secure Password Storage	Used SHA-256 hashing for password
Session Mangement	Implemented session tracking using a database table
Role-Based Access Control	Validated user roles before granting access
Efficient Query Execution	Optimized SQL queries for better performance

5. Conclusion

The system successfully implements authentication and session management, ensuring secure login and role-based access. Future enhancements may include session expiration handling and multi-factor authentication for added security.

6. Screenshots

```
Enter Name: Crystal
Enter Password: 1123
Enter Role: admin
Welcome Admin!

==============================
     ADMIN DASHBOARD
==============================
1. View Employees Record
2. Add new employee
3. Remove employee
4. Update employee details
5. Log out
==============================
Enter choice: 5
Logged out successfully!
```

```
Enter Name: Ogille
Enter Password: 0312
Enter Role: cashier
Welcome Cashier!

==============================
     CASHIER DASHBOARD
==============================
1. Process a sale
2. View sales history
3. Log out
==============================
Enter choice: 3
Logged out successfully!
```