PROJECT REPORT

ALMAS SHAFQAT (-006)

Project Report on Online Cosmetic Shopping System

Introduction

The Online Cosmetic Shopping System is a comprehensive platform designed to provide users with an efficient and user-friendly experience for purchasing cosmetics online. This system is integrated with an SQLPlus database to ensure robust data management and seamless transaction processing. The application offers various features, including browsing products by category, adding items to a cart, viewing the cart, and completing purchases.

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1. Project Overview

The Online Cosmetic Shopping System aims to digitize the traditional cosmetic shopping experience, providing users with an online platform to browse, select, and purchase cosmetics. The system supports various product categories, including electronics, beauty products, skincare, and haircare.

2. Objectives

- To create a user-friendly online shopping platform for cosmetics.
- To integrate with an SQLPlus database for efficient data management.
- To provide a seamless shopping experience from browsing products to completing purchases.
- To ensure data security and integrity.

3. System Architecture

The system follows a three-tier architecture:

- **Presentation Layer**: Java Swing for GUI
- **Business Logic Layer**: Java for application logic
- **Data Layer**: SQLPlus for database management

4. Functional Requirements

- **User Registration and Login**: Users can register and log in to their accounts.
- **Product Browsing**: Users can browse products by categories.
- **Shopping Cart**: Users can add products to a shopping cart.
- **Checkout**: Users can view their cart and proceed to checkout.
- **Order History**: Users can view their past orders.

5. Non-Functional Requirements

- **Usability**: The system should be easy to use with a clean and intuitive interface.
- **Performance**: The system should handle multiple users simultaneously without performance degradation.
- **Security**: User data should be protected against unauthorized access.
- **Scalability**: The system should be scalable to handle an increasing number of users and transactions.

6. Database Design

Database Schema

- **Users**: Stores user information (id, username, password, email).
- **Products**: Stores product details (id, name, category, price, description, stock).
- **Orders**: Stores order information (id, user_id, date, total_amount).
- **OrderItems**: Stores details of products in each order (order_id, product_id, quantity, price).

SQLPlus Integration

- The database is managed using SQLPlus, with tables created and managed through SQL scripts.
- Data access is handled through Java Database Connectivity (JDBC).

7. User Interface Design

Screens

- **Login Screen**: For user authentication.

- **Registration Screen**: For new user registration.
- **Main Menu**: Provides navigation to different categories and user account options.
- **Product Listing**: Displays products in the selected category.
- **Product Details**: Shows detailed information about a selected product.
- **Shopping Cart**: Displays items added to the cart.
- **Checkout**: Finalizes the purchase and generates an order summary.

8. Implementation

Technologies Used

- **Java**: For application logic and Swing for the GUI.
- **SQLPlus**: For database management.
- **JDBC**: For database connectivity.

Key Classes and Methods

- **Login**: Handles user authentication.
- **Registration**: Manages new user registration.
- **ProductListing**: Displays products from the database.
- **ShoppingCart**: Manages cart operations.
- **Checkout**: Finalizes purchases and stores order details in the database.

9. Testing

Testing Strategy

- **Unit Testing**: Testing individual components for correct functionality.
- **Integration Testing**: Ensuring that different components of the system work together.
- **User Acceptance Testing**: Verifying the system with real user scenarios. **Test**

Cases

- **Login Test**: Verify that users can log in with valid credentials.
- **Registration Test**: Ensure new users can register successfully.
- **Add to Cart Test**: Check if products can be added to the cart.
- **Checkout Test**: Verify that the checkout process completes and updates the database.

10. Conclusion

The Online Cosmetic Shopping System successfully provides a platform for users to browse and purchase cosmetics online. The integration with SQLPlus ensures efficient data management and secure transactions. The system meets both functional and non-functional requirements, providing a seamless and scalable shopping experience.

11. Future Enhancements

- **Mobile App**: Develop a mobile application to complement the web version.
- **Advanced Search**: Implement advanced search and filtering options.
- **Recommendations**: Provide product recommendations based on user behavior.
- **Enhanced Security**: Implement additional security measures like two-factor authentication.

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