UNIVERSITI MALAYSIA TERENGGANU

FACULTY OF COMPUTER SCIENCE AND MATHEMATICS

CSE 3023

WEB-BASED APPLICATION DEVELOPMENT

PROJECT TITLE: CLOTIFY

PREPARED BY: GROUP 7

PREPARED FOR:

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BACHELOR OF COMPUTER SCIENCE (SOFTWARE ENGINEERING) WITH HONOURS

SEMESTER II 2024/2025

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Introduction

Industry Domain: E-Commerce – Fashion and Clothing Retail

With the rapid growth of digital technology, the fashion industry has been significantly influenced by online platforms. People now prefer to shop from the comfort of their homes, making e-commerce more relevant than ever. Clotify is our response to this shift, a web-based application dedicated to providing an efficient, user-friendly, and visually appealing platform for online fashion retail.

This project is developed as part of the CSE3023 Web-Based Application Development course at Universiti Malaysia Terengganu. Our goal is to create a real-world application that demonstrates our understanding of web development concepts, particularly using the MVC (Model-View-Controller) architecture with JSP, Servlets, HTML, CSS, and JavaScript.

Clotify is not just another e-commerce website, it's a platform designed with both users and independent fashion designers in mind. The system supports typical online shopping features like browsing, adding to cart, reviewing products, and managing items, but it also provides a clean and structured admin backend to maintain product listings and customer feedback. Every module is developed to ensure ease of use and a smooth shopping experience.

Problem Statement

The main objectives of Clotify are centered on creating a robust, interactive, and easy-to-use e-commerce platform tailored for fashion products. The specific objectives include:

- To develop a complete web-based application that allows both customers and admins to interact with the system according to their roles.

- To implement CRUD (Create, Read, Update, Delete) functionalities for products, shopping carts, and reviews, ensuring dynamic content management.

- To support product variants (such as size and color), dynamic price calculations, and real-time stock validation.

- To provide a responsive and clean user interface that works across different devices (mobile, tablet, desktop).

- To allow customers to leave reviews after purchasing a product, building trust and promoting engagement.

- To enable admins to manage inventory and product listings easily through a backend system.

- To apply the MVC architecture for better separation of concerns, reusability, and code maintainability.

By achieving these objectives, Clotify will serve as a complete platform for fashion-focused online businesses while offering a professional development experience for us as developers.

Objectives of the System

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Scope of the System

Clotify is designed to include multiple core modules. The system supports two main types of users:Customer and admin. The main features of the system are:

1. **Product Management (Admin Only)**
   Admins can create, edit, delete, and manage product listings. Each product can include multiple images, detailed descriptions, specifications, prices, stock information, and variant options (such as size and color).

2. **Cart Management (Customer Side)**
   Customers can add products to their shopping cart, modify the quantity, select product options (e.g., size, color), and view the dynamically updated total cost. They can remove items from the cart or proceed to checkout. Real-time validation ensures items are in stock before proceeding.

3. **Review Management (Customers and Admins)**
   Customers who have completed a purchase can leave reviews for products. Reviews include a rating and comment, and can be edited or deleted by the customer. Admins have the authority to moderate reviews for quality control or inappropriate content.

4. **User Registration and Login**
   New users can register by filling in basic information (name, email, password, date of birth), and their role is automatically set as "Customer". Admins will have special access to administrative features after login.
5. **Role-Based Interface Display**
   Customers see only shopping and cart-related features. Admins are provided with additional navigation options to manage products and reviews.

   Each module is built with usability and performance in mind, ensuring that both new users and experienced shoppers can interact with the system smoothly.

Significance of the System

Clotify holds significant value for both the academic development of the group members and the practical needs of the fashion e-commerce industry.

From a learning perspective, this project allows us to apply theoretical concepts learned in class into a real system, including:

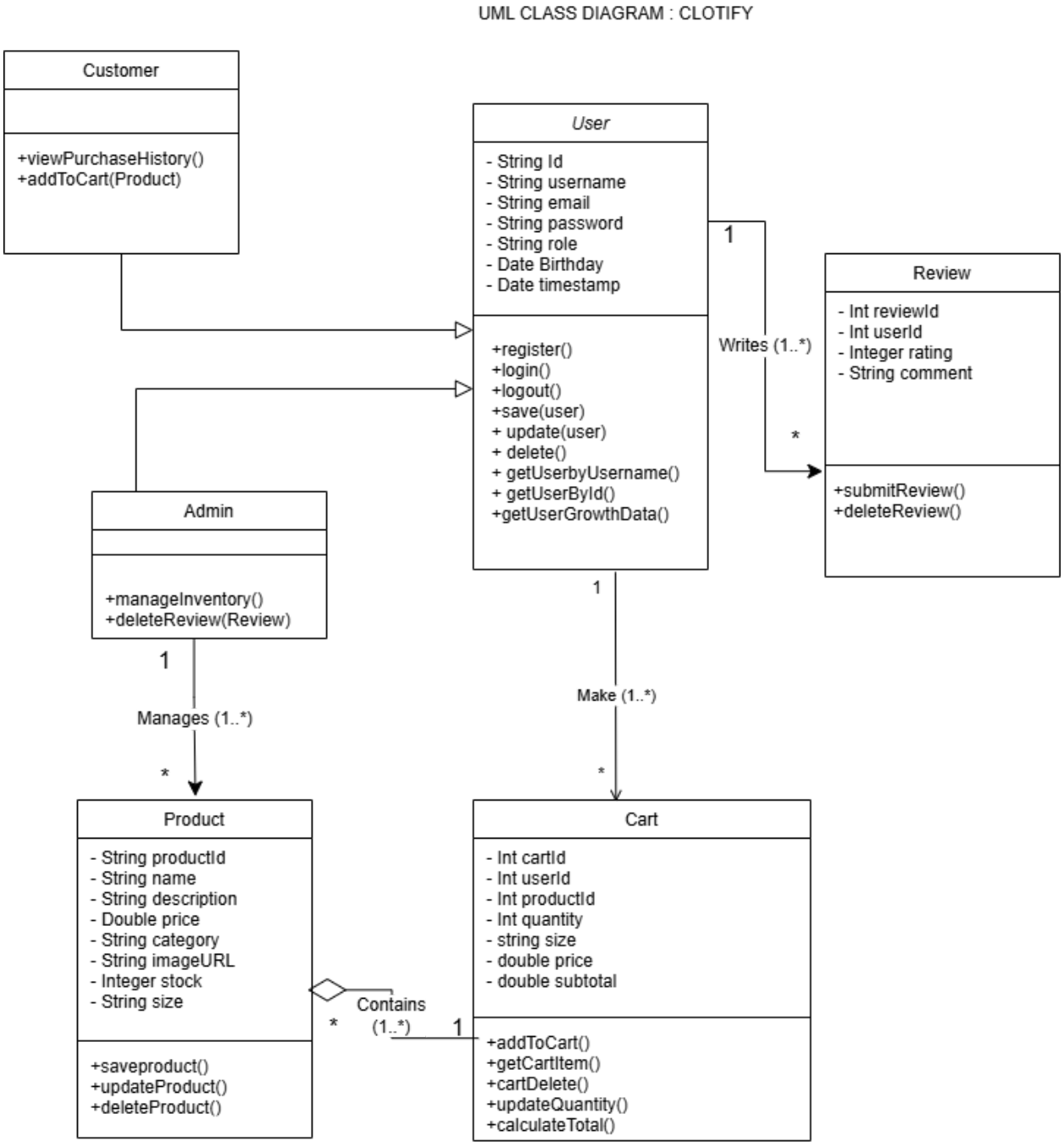
- Using JSP and Servlets to create dynamic web content.
- Implementing MVC architecture to improve system structure.
- Handling CRUD operations and server-side validation.
- Designing user interfaces that focus on user experience.

For the industry, Clotify demonstrates a working model that small to medium fashion retailers can use as a starting point or inspiration for launching their online stores. The features provided cater specifically to the fashion niche, making it easier to manage inventory that includes sizes, colors, and style variants.

Furthermore, the inclusion of review and feedback systems enhances trust and customer engagement, which is crucial for online fashion brands to grow and retain buyers. With a simple yet powerful backend, admins can manage the store without needing deep technical knowledge.

System Design

1. Class Diagram



2. GUI

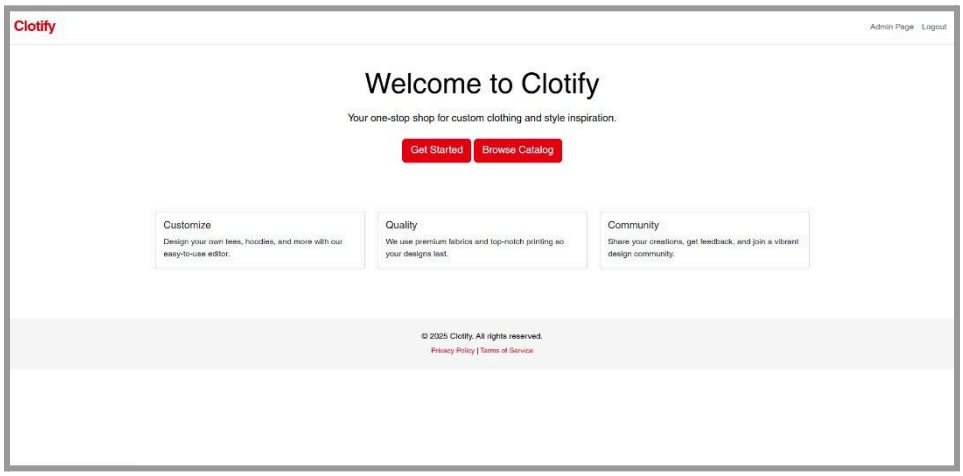


Figure 1: Home Page (Welcome Screen)

Figure 1: Clotify's homepage showcasing branding, customization options, and calls-to-action (Get Started, Browse Catalog).

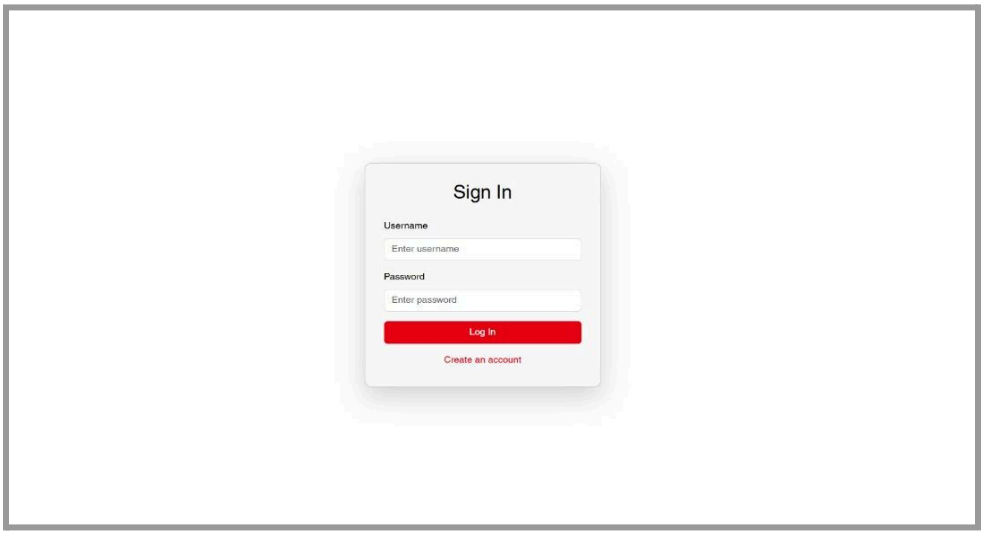


Figure 2: Login Page

Figure 2: User login interface with username/password fields and account creation link.

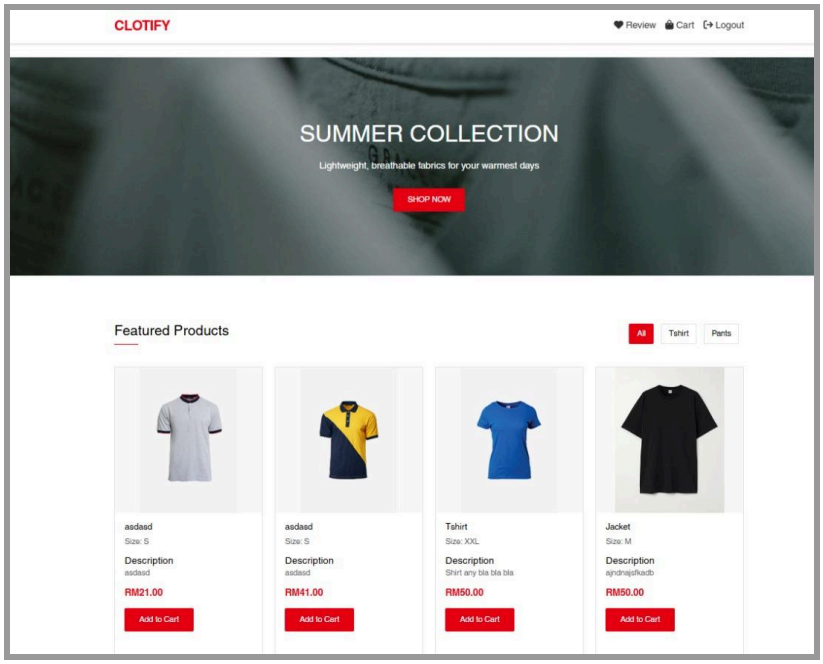


Figure 3: Product Catalog (Customer View)

Figure 3: Featured product catalog with ‘Add to Cart’ buttons, description with details, and seasonal promotions.

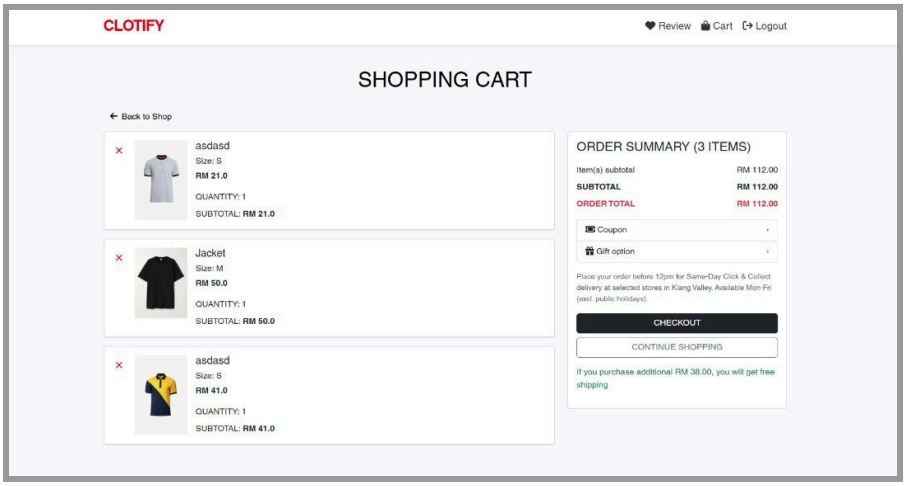


Figure 4: Shopping Cart

Figure 4: Shopping cart with order summary, quantity adjustments, and Total price.

Figure 5: Customer Reviews

Figure 5: Customer review section displaying user feedback with star and a submission form for new reviews.

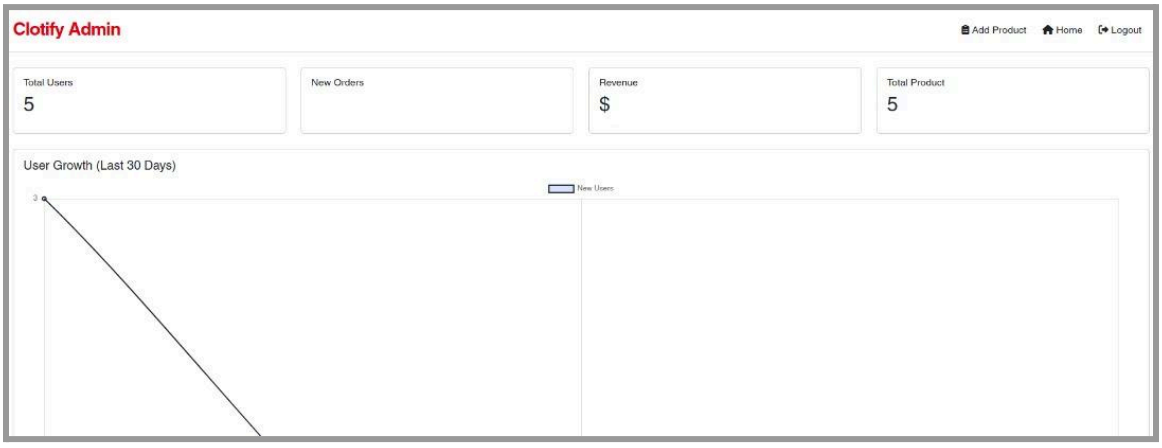


Figure 6: Admin Dashboard

Figure 6: Admin dashboard with metrics (users, orders, revenue) and navigation shortcuts.

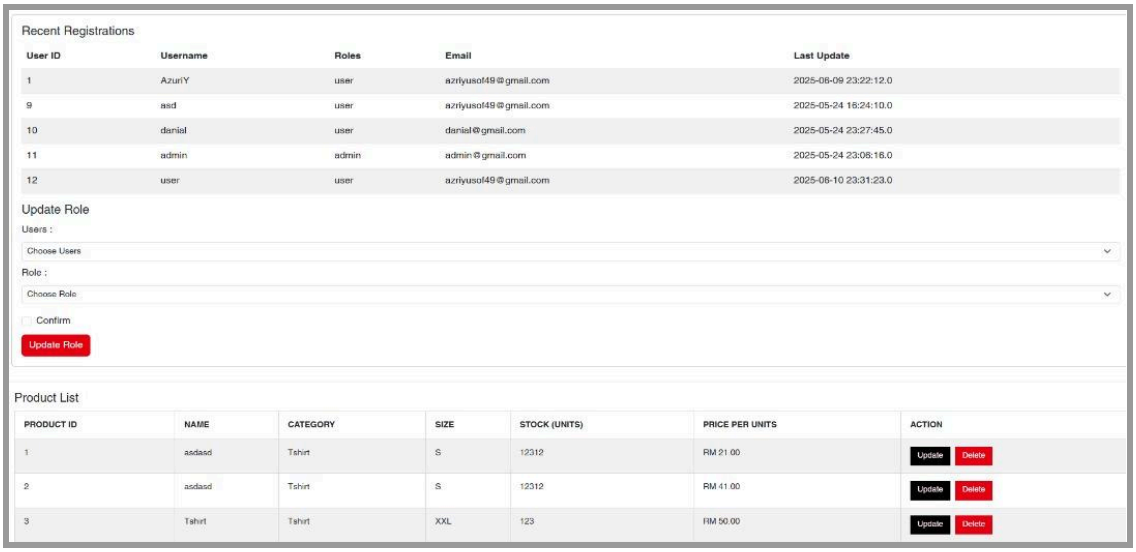


Figure 7: User & Role Management

Figure 7: Admin panel for user registrations and role updates (e.g., assigning ‘admin’ privileges).

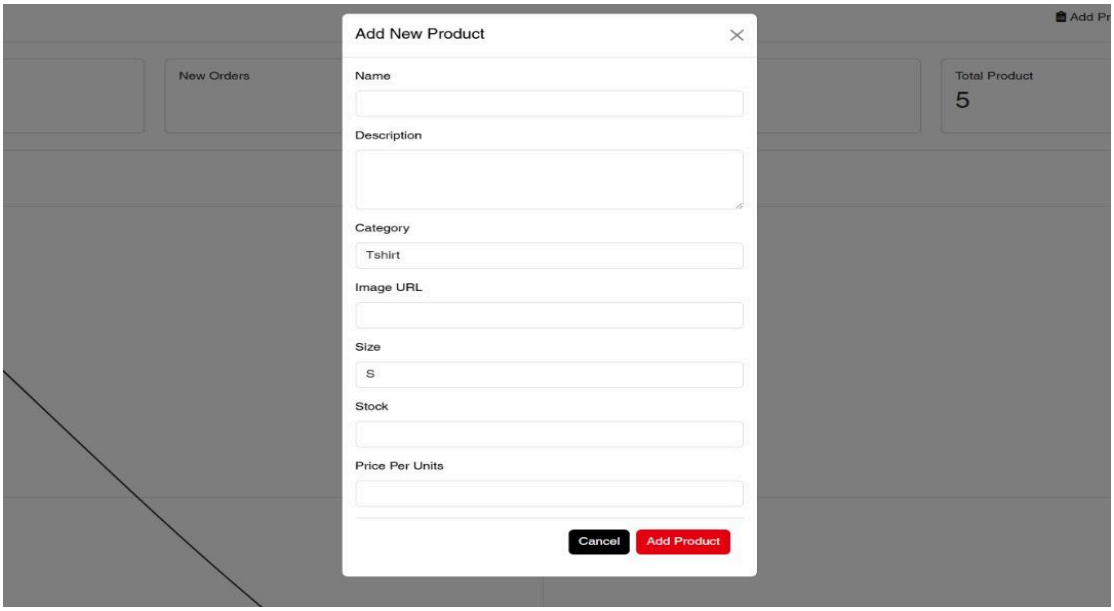


Figure 8: Product Management

Figure 8: Admin view of product inventory with edit/delete actions and stock/price details.

Conclusion

In conclusion, Clotify is more than just a group project. It is a full-fledged, functional web application that brings together the essentials of e-commerce and the style of modern fashion retail. From product browsing and cart management to customer reviews and admin controls, every feature is designed to provide a practical and efficient experience for all users.

This project helped us strengthen our understanding of web technologies, user interface design, and software development principles. Each team member played a key role in bringing the system together, making it a true collaboration. Ultimately, Clotify serves as a showcase of how thoughtful design and solid technical implementation can meet the real-world needs of users in the digital age.

Appendix

Name	Matric No.	Module Assigned	Responsibilities (CRUD)
Muhamad Azri Bin Yusof	S6911	Product Management	• Responsible for implementing full CRUD operations for products: ➤ Create – Add new products with name, details, images, price, size, and color. ➤ Read – Display product listings to users. ➤ Update – Edit existing product details and stock levels. ➤ Delete – Remove outdated or discontinued products.
Muhammad Danial Bin Zainal Ariffin	S72342	Cart Management	• Handles all CRUD operations in the shopping cart module: ➤ Create – Add products to cart with selected size, color, and quantity. ➤ Read – Display cart items, individual and total prices. ➤ Update – Adjust quantities and recalculate total dynamically. ➤ Delete – Remove single items.

Muhammad Muflih Bin Mohd Zawawi	S72570	Review Management	● Manages CRUD functions related to product reviews: ➤ Create – Submit reviews for general feedback. ➤ Read – Display reviews on the general review page ● Delete Review: Admin can delete customer reviews