



UNIVERSITI
TEKNOLOGI
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TFB1033/TEB1043 Object Oriented Programming
Lecturer. Dr. M Nordin B Zakaria

Project title: Marketplace for Universiti Teknologi PETRONAS (UTP) Students

Group Members

1. Abdullah Fouzi Naji (22012364)
2. Mohammed Faisal Hassan (22009298)
3. Mohammad Adiyana Alvi (20001611)

Marketplace for Universiti Teknologi PETRONAS (UTP) Students

1. Introduction

In today's digital age, the convenience of online marketplaces has become indispensable. Students at Universiti Teknologi PETRONAS (UTP) frequently need a platform to buy and sell items such as textbooks, electronics, furniture, and other essentials. The proposed project aims to develop a Virtual Marketplace for UTP students, leveraging a client-server architecture to provide a secure, efficient, and user-friendly platform tailored to their needs. This project will be implemented using Java as the primary programming language.

2. Project Description

2.1 Objective

The primary objective of this project is to create a virtual marketplace platform exclusively for UTP students. This platform will facilitate the buying, selling, and trading of various items, thereby fostering a community-driven approach to student needs and reducing reliance on external marketplaces.

2.2 Features

1. User Registration and Authentication

- **Description:** Students can register using their university email addresses, ensuring that only members of the UTP community can access the platform.
- **Functionalities:** Secure login and logout processes, password recovery options.

2. Item Listing

- **Description:** Users can list items they want to sell with detailed descriptions, prices, and photos.
- **Functionalities:** Categories for items such as textbooks, electronics, and furniture, an intuitive interface for adding new listings.

3. Search and Filter

- **Description:** Enables users to find specific items quickly and efficiently.
- **Functionalities:** A search bar for keyword searches, filters to sort items by category, price, and location.

4. Messaging System

- **Description:** Facilitates communication between buyers and sellers within the platform.
- **Functionalities:** In-app messaging, notifications for new messages to ensure timely responses.

5. Review and Rating

- **Description:** Builds trust within the community by allowing users to rate and review each other.
- **Functionalities:** Star rating system, written reviews, and feedback mechanisms

3. Client-Server Architecture

The platform will employ a client-server architecture, ensuring scalability, security, and efficient data management.

- **Client Side:** A web application developed using Java for a rich user interface or Java Servlets for a web-based application. This will handle user interactions, display information, and send requests to the server.
- **Server Side:** A robust backend server using Java Servlets and JSP (JavaServer Pages) to manage user data, item listings, messaging, and reviews. It will include authentication mechanisms and a database (e.g., MySQL) for storing all relevant data.

4. Market Potential

4.1 Target Audience

The primary audience for this platform is the UTP student body, comprising thousands of undergraduate and postgraduate students. This demographic is constantly in need of affordable items and services, making the marketplace an essential tool for their everyday needs.

4.2 Value Proposition

- **Convenience:** Provides a one-stop platform for buying and selling items, eliminating the need for students to use external platforms like eBay or WhatsApp groups.
- **Security:** By limiting access to UTP students, the platform ensures a safe and trustworthy environment for transactions.
- **Community Building:** Fosters a sense of community among students, encouraging interactions and exchanges within the university.

4.3 Potential Growth

The platform can be expanded in several ways:

- **Additional Services:** Include services such as tutoring, ride-sharing, and job listings tailored to students' needs.

- **Extended Reach:** Once established, the platform can be adapted and expanded to include other universities, creating a broader student marketplace network.

5. Conclusion

The Virtual Marketplace for UTP students is a project with significant potential to enhance the university experience. It addresses the specific needs of the student community, offering a convenient, secure, and efficient way to buy and sell items. With its client-server architecture implemented in Java, the platform is designed for scalability and future growth, making it a valuable addition to the UTP ecosystem. This project not only provides practical benefits but also offers an excellent learning opportunity in developing and managing a full-fledged application.