University of Macau

Faculty of Science and Technology

Department of Computer and Information Science

CISC3003 Web Programming

Project Proposal：Macau House Rental Platform

Submitted by:

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1. Project introduction

With the rapid development of Macao's economy, the demand for housing rental market is growing day by day. However, the traditional leasing method is inefficient and has serious information asymmetry. Our team proposed to develop a "Macau House Rental Platform", aiming to optimize the rental process and enhance user experience through digital solutions.

2. Market demand analysis

Market background: Macau has a dense population. People are highly mobile and the house rental market is active, but there is a lack of a centralized and easy-to-operate online platform.
Potential target: Main users include migrant workers, student groups and small families.
Competitive analysis: The current leasing platforms on the market have too many functions and too complicated steps. Our platform will gain competitive advantages by providing comprehensive and concise leasing solutions with a clear, direct and user-friendly interface.

3. Detailed description of project goals and functions

functional module:
Login/Registration System: Provides customized login and registration processes for tenants and landlords.
Listing browsing: Users can filter listings based on multiple dimensions such as price, region, room type, etc.
User profile management: Users can edit and manage their own personal profile, such as basic personal information, contact information, etc.
Order management system: Process rental orders, including order creation, viewing, etc.
Housing information management: Landlords can upload new housing information, or update or delete existing listings.

4. Detailed plan for technical implementation

1. Front-end development (HTML, CSS, JavaScript)
- Page layout and design: Use HTML and CSS to develop responsive web pages to ensure compatibility and user experience on multiple devices.
- Implementation of interactive functions: Use JavaScript to enhance the interactivity of pages, such as login and registration windows, as well as form processing and verification.

2. Back-end development (PHP, SQL)
- User Authentication System: Develop a secure login and registration system that uses

password encryption to protect user data.

- Database design and management: Use SQL to implement a relational database to handle the addition, deletion, modification, and query functions of listings, as well as the management of orders, user data, listing information, and transaction data to ensure data security and integrity.

5. Team introduction and division of responsibilities

- Team composition: The team consists of 6 members, including designers, front-end developers, and back-end developers.
- Division of labor: The designer is responsible for drafting the overall project and coordinating resources and communication, the front-end team is responsible for the user interface and interactive functions, and the back-end team is responsible for server-side logic and database management.

6. Project Achievements

Through the development of the Macau House Rental Platform, our team has achieved several key milestones demonstrating our proficiency in applying front-end and back-end technologies to create a comprehensive and user-friendly online rental management system.

- Responsive Web Pages (HTML/CSS):

We successfully developed multiple responsive web pages using HTML and CSS. By leveraging CSS media queries, we ensured the website displays optimally across devices with varying resolutions, including desktops, tablets, and mobile phones. This responsive design provides users with a seamless and visually appealing experience regardless of their device.

- User Authentication and Session Management (PHP):

Our team implemented a robust user authentication system using PHP scripts on the backend. This system supports user login and registration functionalities, enhancing convenience for users. To ensure the security of user data, we utilized PHP's session management mechanism to maintain user login status across different pages, allowing for secure transfer of user information.

- Dynamic Content Filtering and Search (JavaScript):

Through the use of JavaScript, we incorporated dynamic content filtering and real-time search capabilities into the website. Users can now dynamically filter and find property listings based on custom parameters such as location, room type, and square footage. This functionality greatly improves the user experience by enabling efficient navigation and targeted searches.

●   Structured Database Management (SQL):

Utilizing SQL database technology, we designed and implemented a well-structured database to store user information, property data, and transaction records. The database design prioritizes data integrity, security, and scalability, supporting efficient data querying, updating, and management. This optimized database structure enhances the efficiency and security of data processing on the website's backend.

7. Project shortcomings and areas for improvement

1. The password retrieval function has not yet been implemented.
2. Search and filter functionality is flawed.
3. The trading module is relatively simple and needs further development.