

Web-Based Information System for Boarding House Information

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Abstract:

Web-Based Information System for Boarding House Information is a platform designed to facilitate efficient search and management of boarding houses. This research produces a system that allows boarding house owners to present complete information regarding facilities, prices, and availability of boarding rooms through a user-friendly web interface. Prospective renters can quickly find boarding houses that suit their preferences, reducing time and effort in the housing search process. This system not only provides static information about boarding houses but also provides real-time updates regarding room availability. With the implementation of this Web-Based Information System, it is hoped that it can increase the efficiency of boarding house management, increase the accessibility of information, and provide a better experience for boarding house seekers. This system is a leading solution in supporting the development of the housing industry, providing an easy-to-use platform to meet the needs of tenants and boarding house owners in this computerized period.

Keywords: Boarding House, Information System, Web-Base Information

1. Introduction

In recent years, demand for temporary accommodation such as boarding houses has increased, especially in densely populated cities. This is due to the high demand for affordable and practical housing, especially for workers and students. In facing the increasingly promising development of the boarding house business, business people need to pay attention to factors that can influence business success. One of them is the use of technology such as online marketing, digital payments, and boarding house management applications that can make managing a boarding house business easier.

Currently, data management for boarding house residents is still often done manually using physical records, which creates the risk of data loss, recording errors, and difficulty accessing the required information. With these many risks, making physical records is no longer feasible amidst rapid technological developments.

A web-based information system is a very desirable solution because it allows data on boarding house residents to be accessed from various locations easily, making it easier for management to manage information and also enabling faster data processing [1], [2] Thus, the use of a web-based system is an important step to increase the efficiency and effectiveness of boarding house management, as well as meet the increasing demand in this field. Using a website as social media marketing is very important [3], [4].

2. Literature Review

An article entitled "A Web-Based Boarding House Information System in Yogyakarta" is written by Andry Rachmadi, Naufal Asyhab, Muhammad Dzulfikar Fauzi, Muhammad Dzulfikar Fauzi, and Agus Mulyanto [5]. The article presents the development and implementation of a web-based information system tailored for managing boarding houses in Yogyakarta, Indonesia. The system aims to address the challenges faced by boarding house owners and tenants in accessing and managing accommodation-related information efficiently. The study highlights the importance of technology in enhancing the transparency, accessibility, and convenience of boarding house management processes.

A boarding house is a place that provides accommodation services or temporary residence and consists of numerous rooms, each with several facilities offered or provided and a price set by the boarding house

owner. Students take a long time and pay extra to learn about the boarding homes they desire. Boarding house service proprietors confront difficulty in marketing their services and informing prospective boarding house residents about the availability of vacant rooms. One example of how information systems have benefited humans is website-based information technology. This study was carried out in the Tampan Borneo Island, April 2021. The population for this study was sixty boarding houses scattered throughout the city area. This study focuses on the boarding house's owner. Data collection methods include observation, interviews, documentation, and a review of relevant literature. Based on the findings of a series of research procedures related to the Web-Based Information System for Searching Boarding Houses in Tampan District. This website provides a platform for boarding house owners to promote and sell their boarding homes, as well as making it easy for those who wish to reserve boarding rooms by registering on the website through the registration page [6].

An article entitled “Analysis of Design and Development of Website - Based Boarding Information System in Taman District” written by Muhammad Sukri [7]. The article explores the development, implementation, and rental potential of a boarding house information system tailored for the context of Tangerang City, Indonesia. The system aims to address the challenges faced by boarding house owners in managing their properties efficiently while also providing tenants with a user-friendly platform for accessing accommodation-related information. In conclusion, the article emphasizes the significance of technology-driven solutions in addressing the evolving needs of the boarding house market in Tangerang City. It underscores the potential of information systems to streamline property management processes, improve tenant experiences, and drive business growth for accommodation providers. Additionally, it highlights the importance of ongoing support, updates, and community engagement to ensure the long-term success and sustainability of such systems in the local housing ecosystem.

3. Method

The flowchart below depicts the website's development process. Home is the first page of a website, followed by features for accessing the boarding house website, a gallery for accessing boarding house images and videos, a location for accessing detailed boarding house information, and a contact form for connecting with users. Figure 1 shows the website map for “Web-Based Information System for Boarding House Information”. The method for developing website-based applications uses the waterfall system development life cycle method [8].

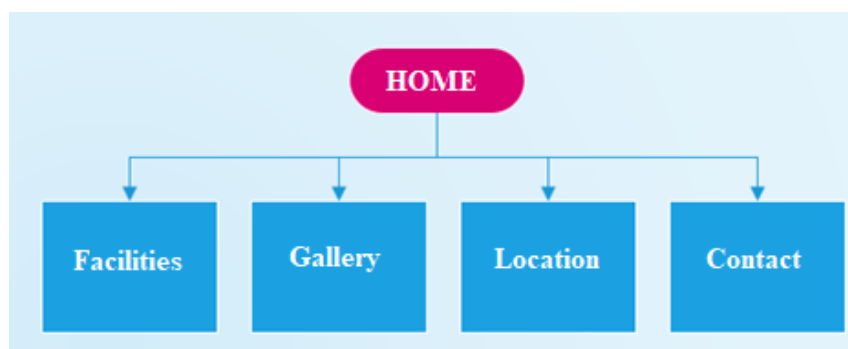


Figure 1: Website map

Designing a boarding house information system using Unified Modeling Language (UML) offers several benefits:

1. **Visual Representation:** UML provides a standardized and visual way to represent the various components, interactions, and relationships within the system. This visual representation makes it easier for stakeholders, including developers, designers, and clients, to understand the system's architecture and functionality.
2. **Modeling Complex Systems:** Boarding house information systems often involve multiple entities, such as properties, tenants, owners, transactions, and communications. UML allows developers to model these complex systems in a structured manner, breaking them down into manageable

components and defining their interactions through diagrams like class diagrams, sequence diagrams, and activity diagrams.

3. **Communication and Collaboration:** UML serves as a common language that facilitates communication and collaboration among different stakeholders involved in the design and development process. By using standardized UML diagrams, developers can effectively communicate their design ideas, requirements, and constraints to other team members, ensuring a shared understanding of the system's architecture and behavior.
4. **Analysis and Validation:** UML diagrams enable developers to analyze and validate the design of the boarding house information system before implementation. Through techniques like static analysis, dynamic modeling, and scenario-based testing, developers can identify potential design flaws, inconsistencies, or performance bottlenecks early in the development lifecycle, reducing the risk of costly errors or rework later on.
5. **Documentation:** UML diagrams serve as valuable documentation artifacts that capture the design decisions, architectural choices, and functional requirements of the boarding house information system. These diagrams can be used to generate comprehensive design documentation, user manuals, and technical specifications, which are essential for system maintenance, troubleshooting, and knowledge transfer.

Overall, designing a boarding house information system using UML helps ensure clarity, consistency, and maintainability throughout the development lifecycle, ultimately leading to a more robust and effective solution for managing boarding house information.

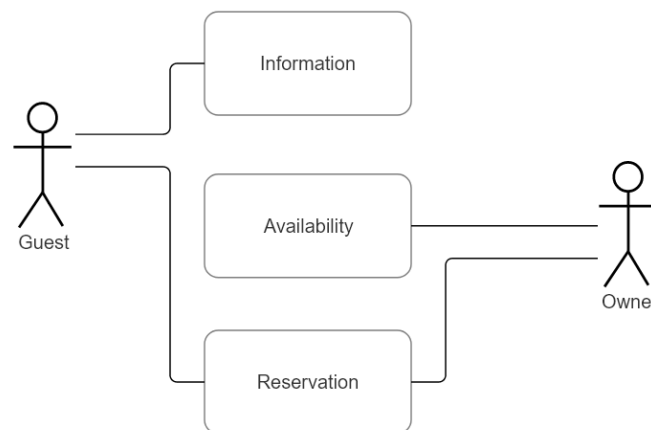


Figure 2: Use case diagram

Figure 2 shows use case diagram that provides a high-level overview of the actors, their interactions with the system, and the key functionalities supported by the boarding house information system. It serves as a foundation for further elaboration and refinement of the system requirements and design.

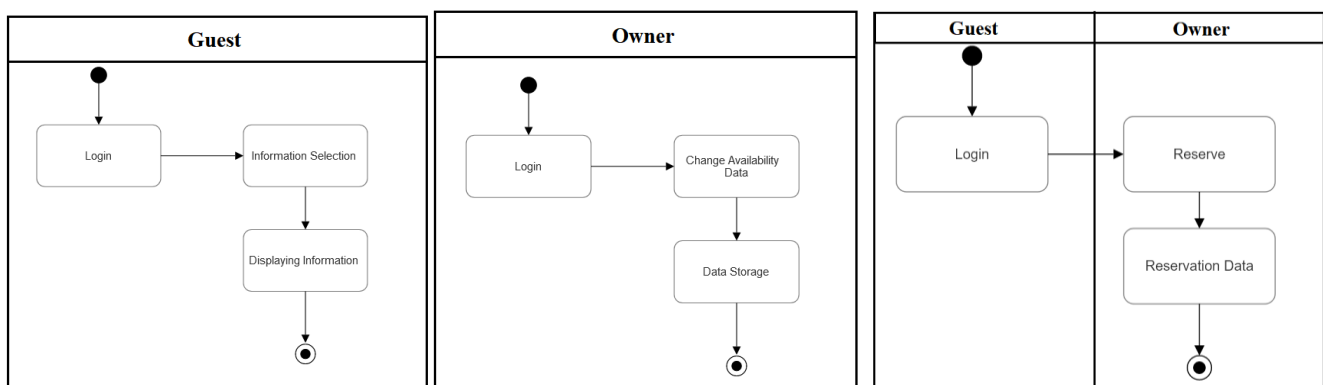


Figure 3: Activity diagram

An Activity Diagram for a Boarding House Information System can illustrate the flow of activities and actions involved in common scenarios, such as searching for accommodation, making a booking, and managing bookings. Figure 3 shows activity diagrams for the Web-Based Information System for Boarding House Information. This activity diagram illustrates the sequential flow of activities involved in searching for accommodation within the boarding house information system. Similar activity diagrams can be created for other scenarios, such as making a booking, managing bookings, or communicating with property owners. Each diagram helps to visualize the steps involved and the interactions between the user and the system.

4. Results

The website is made to be as attractive as possible, therefore there is quite a lot of multimedia used on this website [9], [10]. The main appearance of the website are as follows [11]:

- Home
The home contains room data information, where you can see whether rooms are available or not, and the prices as shown in Figure 4.
- Facilities
Facilities contain information related to the facilities available at the boarding house as shown in Figure 5.
- Location
Location contains information regarding the location of the boarding house.
- Gallery
The gallery contains pictures and videos about boarding as shown in Figure 6.
- Contact
Contacts contain a contacts list of who can be contacted as shown in Figure 7.

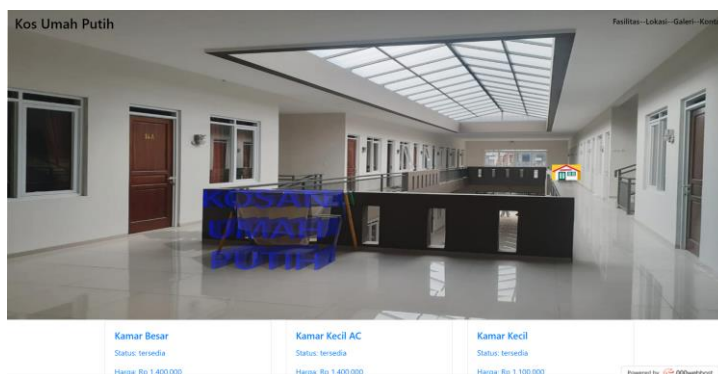


Figure 4: Homepage

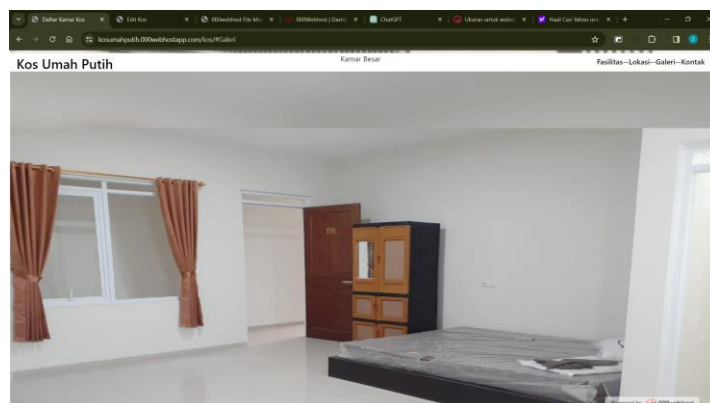


Figure 5: Facilities page



Figure 6: Gallery page



Figure 7: Contact page

Figures 4 to 7 are examples of screenshots for each content. The selection of content on the website is available at the top or header of the boarding house website. Each display result for each content has been tested many times on a local computer network.

Website testing is a crucial aspect of web development to ensure that a website functions properly, is user-friendly, and meets the intended requirements. A basic overview of the types of testing commonly conducted on websites are Functionality Testing, Compatibility Testing, Performance Testing, Usability Testing, Security Testing, Accessibility Testing, SEO Testing, Content Testing, Cross-Device Testing, and Cross-Platform Testing. By conducting thorough testing across these areas, developers can identify and address issues early in the development process, leading to a more reliable and user-friendly website [12].

Table 1 shows the results of website testing using a local network system. This test was carried out to determine the success of the Boarding House Information System website which has been implemented on a laboratory scale in the Computer Systems Study Program.

5. Conclusion

In conclusion, the development of a website-based system for managing information related to a boarding house is essential for enhancing efficiency, organization, and accessibility. By implementing such a system, various benefits can be achieved centralized information management, streamlined operations, improved accessibility, enhanced communication, efficient resource allocation, and data security and privacy. In essence, a website-based system for managing boarding house information offers numerous advantages, including improved operational efficiency, enhanced communication, and better tenant satisfaction. By investing in such a system, landlords can streamline their operations, optimize resource utilization, and provide a more convenient and transparent experience for tenants, ultimately leading to improved overall management of the boarding house.

Table 1: Website Testing

No.	Description	Pre-Condition	Result
TC-1	Homepage testing	The website is not open yet	The website successfully opens the main page
TC-2a	Facilities selected	Home page	Facilities page has been successfully opened
TC-2b	Facilities selected	Location page	Facilities page has been successfully opened
TC-2c	Facilities selected	Gallery page	Facilities page has been successfully opened
TC-2d	Facilities selected	Contact page	Facilities page has been successfully opened
TC-3a	Location selected	Home page	Location page has been successfully opened
TC-3b	Location selected	Facilities page	Location page has been successfully opened
TC-3c	Location selected	Gallery page	Location page has been successfully opened
TC-3d	Location selected	Contact page	Location page has been successfully opened
TC-4a	Gallery selected	Home page	Gallery page has been successfully opened
TC-4b	Gallery selected	Facilities page	Gallery page has been successfully opened
TC-4c	Gallery selected	Location page	Gallery page has been successfully opened
TC-4d	Gallery selected	Contact page	Gallery page has been successfully opened
TC-5a	Contact selected	Home page	Contact page has been successfully opened
TC-5b	Contact selected	Facilities page	Contact page has been successfully opened
TC-5c	Contact selected	Location page	Contact page has been successfully opened
TC-5d	Contact selected	Gallery page	Contact page has been successfully opened

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