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Website-Based Boarding House Rental Information System (Case Study at Pondok Saluyu Company)

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Abstract

A traditional information management system is still in use at Pondok Saluyu, a boarding house in Bandung City. This method is unsuccessful or inefficient, particularly regarding marketing and providing potential tenants with information. This project aims to create and implement a web-based information system to facilitate digital payments, streamline the online room rental procedure, and distribute information more efficiently. Agile development, which enables quick development, adapts to change, and actively incorporates all relevant parties in the process, is the system development methodology employed. The findings of this study should make it easier for boarding house operators to verify room availability, manage boarding rooms, and handle tenant transactions. Additionally, this website will serve as a more contemporary form of advertising. The use of mobile/Android applications for system optimization, payment gateways to enhance payment systems, the creation of more comprehensive applications, and the improvement and development of programs in line with technological advancements are some recommendations for future development.

Keywords: *Information Systems, Website, Boarding House Management, Agile Development, Digital Payments*

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Introduction

Pondok Saluyu, a boarding house in the busy city of Bandung, continues to use a conventional information management system. The techniques used at Pondok Saluyu are antiquated and ineffective, although the demand for boarding house lodging has steadily increased. Both prospective renters and boarding house operators face substantial difficulties with these antiquated systems, which frequently depend on manual procedures and offline communication. The boarding house's marketing challenges and the incapacity to promptly and accurately notify potential renters are the leading causes of the problems. The need for a modernized approach to managing boarding house operations is becoming increasingly apparent as digital transformation becomes essential in many industries.

Marketing initiatives are one area where the inefficiencies of conventional systems are very noticeable. In the current digital era, prospective tenants frequently use Internet resources to locate lodging that suits their requirements. Pondok Saluyu's lack of an internet presence restricts its visibility and reach, which makes it challenging to draw in new residents. Furthermore, the absence of a unified system for handling tenant data and room availability causes misunderstandings and delays in giving interested parties appropriate updates. These issues lead to missed chances of finding new tenants and impairimpair the boarding house's effectiveness. (Kristianto, 2022; Mutmainah, Rahayu, Faujan Budiman & Ibrahim, 2025; Aziiza, Darrel & Prijambodo, 2025)

This project suggests creating and implementing a web-based information system customized to Pondok Saluyu's unique requirements to address these issues. By incorporating elements that expedite the online

room rental procedure, enable digital payments, and improve the general effectiveness of information distribution, the suggested solution seeks to modernize the boarding house's operations. Pondok Saluyu may increase its reach, enhance its marketing initiatives, and give prospective renters a smooth and easy-to-use experience by utilizing a web-based platform.

The Agile methodology, which stresses incremental progress, adaptability to change, and active involvement of all stakeholders, was used to develop this web-based information system. Because agile development enables ongoing input and improvements throughout the development process, it is especially well-suited for this project. The system can be created to handle particular problems and satisfy the various needs of its users by incorporating boarding house operators, possible renters, and other pertinent parties. This cooperative method guarantees that the finished product is useful, user-focused, and aligned with Pondok Saluyu's objectives.

The capacity of the suggested method to expedite the online room-renting procedure is one of its primary characteristics. A user-friendly interface will be offered to prospective tenants, allowing them to easily browse available rooms, examine comprehensive details about each room, and make bookings. This condition lessens the effort for boarding home operators by eliminating the necessity for manual queries. Tenants can also make safe and easy online payments thanks to the system's digital payment capability. This feature gives tenants more control over handling their payments and solves the drawbacks of conventional cash-based transactions.

Enhancing the effectiveness of information distribution is one of the many noteworthy advantages of a web-based information system. The

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system will work as a consolidated platform for boarding house operators to handle transaction records, tenant data, and room availability. This centralized method guarantees everyone access to current and correct information while reducing the possibility of mistakes. Additionally, the internet presence of the system acts as a contemporary promotional tool, raising the boarding house's profile and drawing in additional customers.

The study's conclusions demonstrate how the suggested system might affect Pondok Saluyu's operations. Boarding house operators can improve the tenant experience, streamline operations, and lessen administrative responsibilities by implementing a web-based platform. The system's characteristics, like online room reservations and digital payments, suit the tastes of contemporary tenants who place a high value on efficiency and convenience. Furthermore, the boarding home and its tenants benefit from increased openness and confidence thanks to the system's capacity to deliver real-time updates on room availability and other pertinent information. (Bakır & Atalık, 2021; Ramlan, Ibrahim, Ahmad & Cahyani, 2024)

Although the suggested approach solves a lot of Pondok Saluyu's problems, it also creates opportunities for further advancements and improvements. For example, adding Android or mobile applications can improve the system's usability and accessibility even more. Tenants may browse rooms, make reservations, and handle payments even more conveniently with the help of mobile applications, which allow them to access the platform from their cell phones. Payment gateway integration can also improve the digital payment system by giving tenants more

payment choices and guaranteeing safe transactions. (Sidharta & Rahmahwati, 2023; Putri & Maulana, 2024; Wahyudi, Irsyad & Azmi, 2023)

The development of increasingly extensive apps that address the changing requirements of boarding house operators and tenants represents another direction for future advancement. Tenant ratings and comments, automated payment deadline reminders, and analytics tools for monitoring occupancy rates and income trends are some features that could be added to the system. For boarding house operators, these extra features can offer insightful information and facilitate data-driven decision-making. (Ramadhani, Eltivia & Riwajanti, 2024; Fitriah & Haryanti, 2022; Wahyuni, 2024)

Furthermore, developing and improving programs through technological breakthroughs can guarantee the system's long-term relevance and efficacy. The system can be modified as technology advances to include new developments and trends, such as machine learning and artificial intelligence. These technologies can improve the system's functionality by automating repetitive chores for boarding house operators or offering renters tailored recommendations. (Alfonsius, Ngangi & Kalua, 2023; Arman, Wang & Zou, 2023; Yeni, Komara, Suzanto & Rusjiana,2023)

Creating a web-based information system for Pondok Saluyu is important in updating its business practices and resolving issues with conventional systems. The suggested solution can improve the effectiveness of information distribution, expedite the online room rental procedure, and enable digital payments by utilizing the potential of digital technology. Using the Agile process guarantees that the system is created iteratively and collaboratively, producing a functional and user-centric product. In addition to addressing many of Pondok Saluyu's present

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problems, the system opens the door for upcoming advancements and improvements that could increase its influence even more. Pondok Saluyu can establish itself as a cutting-edge, competitive boarding house that caters to the demands of today's renters by embracing digital change.

Research Method

The methodology for developing the website-based boarding house rental information system at Pondok Saluyu was designed to address the inefficiencies of the traditional information management approach. The Agile Development methodology was selected for this study due to its adaptability, iterative progress, and focus on active stakeholder involvement. This approach ensures the system is developed responsively and collaboratively, allowing continuous feedback and improvements.

The Agile Development methodology comprises several stages, beginning with identifying system requirements through direct consultation with Pondok Saluyu's management and potential users. This stage involved gathering detailed information about the boarding house's current challenges and understanding the specific needs of its operators and tenants. These requirements were then prioritized and translated into a comprehensive development plan.

Following the requirements analysis, the system design phase was initiated. This phase focused on creating a user-friendly and intuitive interface that lets tenants easily browse room availability, view room details, and make reservations online. The design also incorporated features for digital payments, providing a secure and convenient way for tenants to complete transactions. Special attention was given to ensuring

that the system design aligns with the operational needs of the boarding house, including room management and transaction tracking.

The implementation phase involved the iterative development of the website using modern web technologies. Each iteration included coding, testing, and refining specific system features. Regular feedback sessions with stakeholders allowed for identifying areas for improvement and ensured that the system met user expectations. This iterative approach enabled the development team to promptly adapt to changes and address unforeseen challenges.

Testing and evaluation were critical components of the methodology. The system underwent rigorous testing to identify and resolve technical issues, ensuring it functioned smoothly and reliably. User acceptance testing was also conducted, allowing stakeholders to assess the system's usability and provide final feedback before deployment.

The final phase of the methodology involved deploying the website and training Pondok Saluyu's staff to use the system effectively. Documentation and user manuals were provided to support the staff in managing the system independently. This comprehensive approach ensured that the website-based information system was fully operational and ready to address the challenges faced by Pondok Saluyu in managing its boarding house operations.

Results and Discussion

System design aims to define the technical elements that make up the design's solution. The design will now be thoroughly described to address additional technical issues pertaining to implementation activities, such as

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Use Case Diagrams, Activity Diagrams, Sequence Diagrams, Class Diagrams, and Interface design.



Figure 1. Use Case Diagram

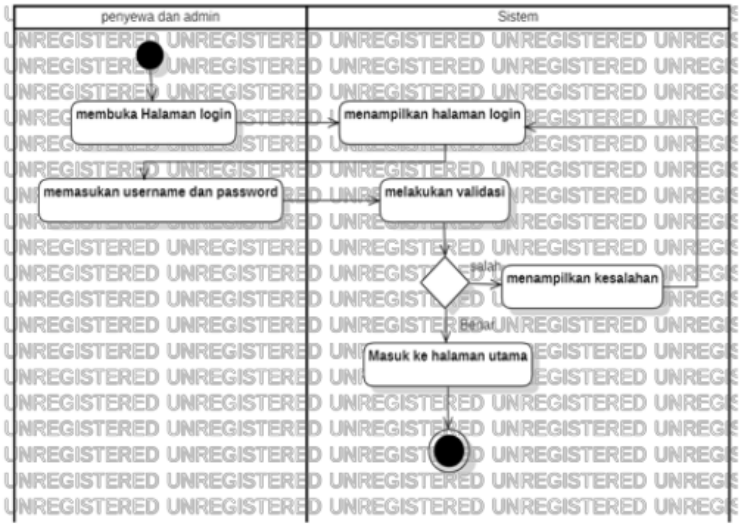


Figure 2. Activity Diagram

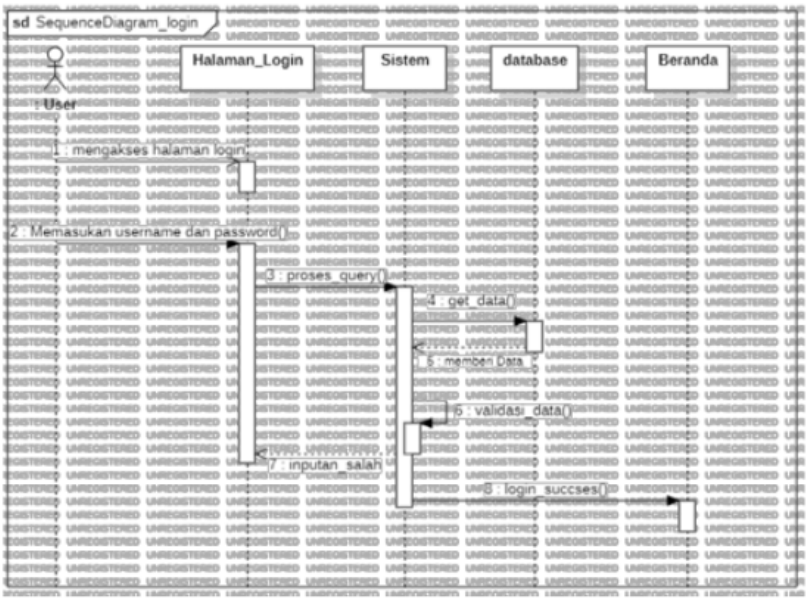


Figure 3. Sequence Diagram

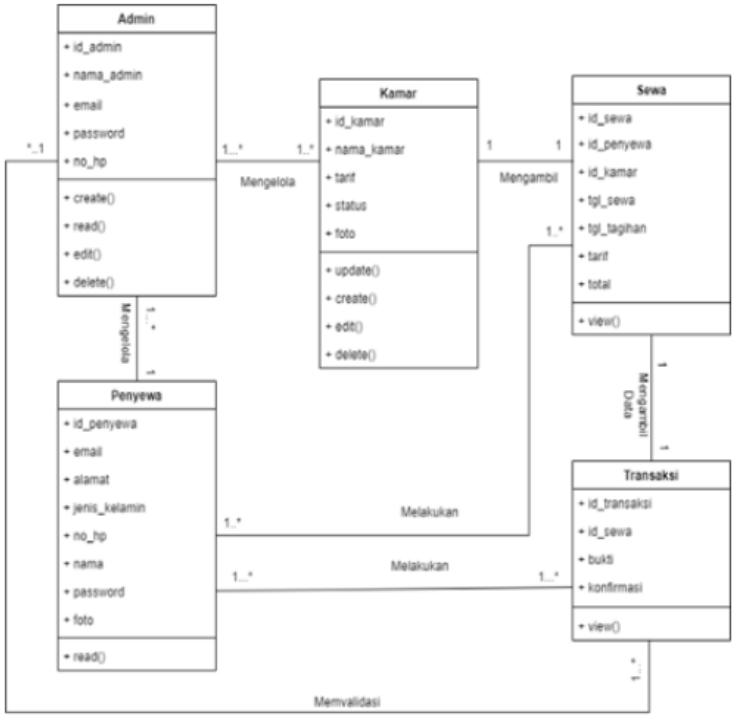


Figure 4. Class Diagram

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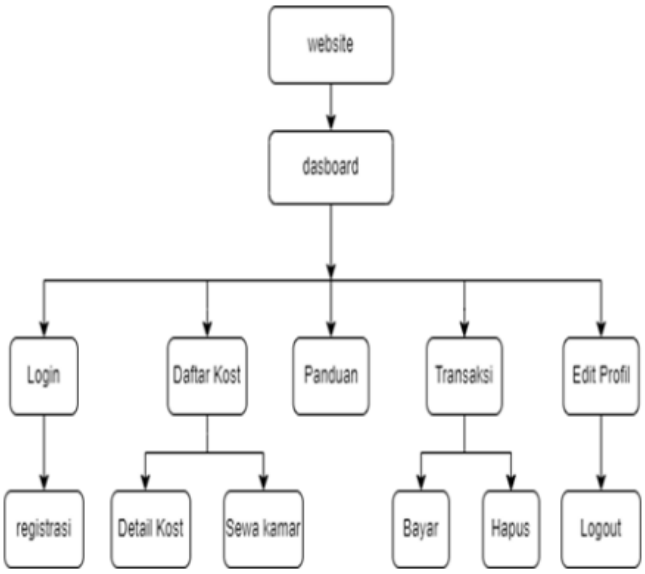


Figure 5. Interface Design



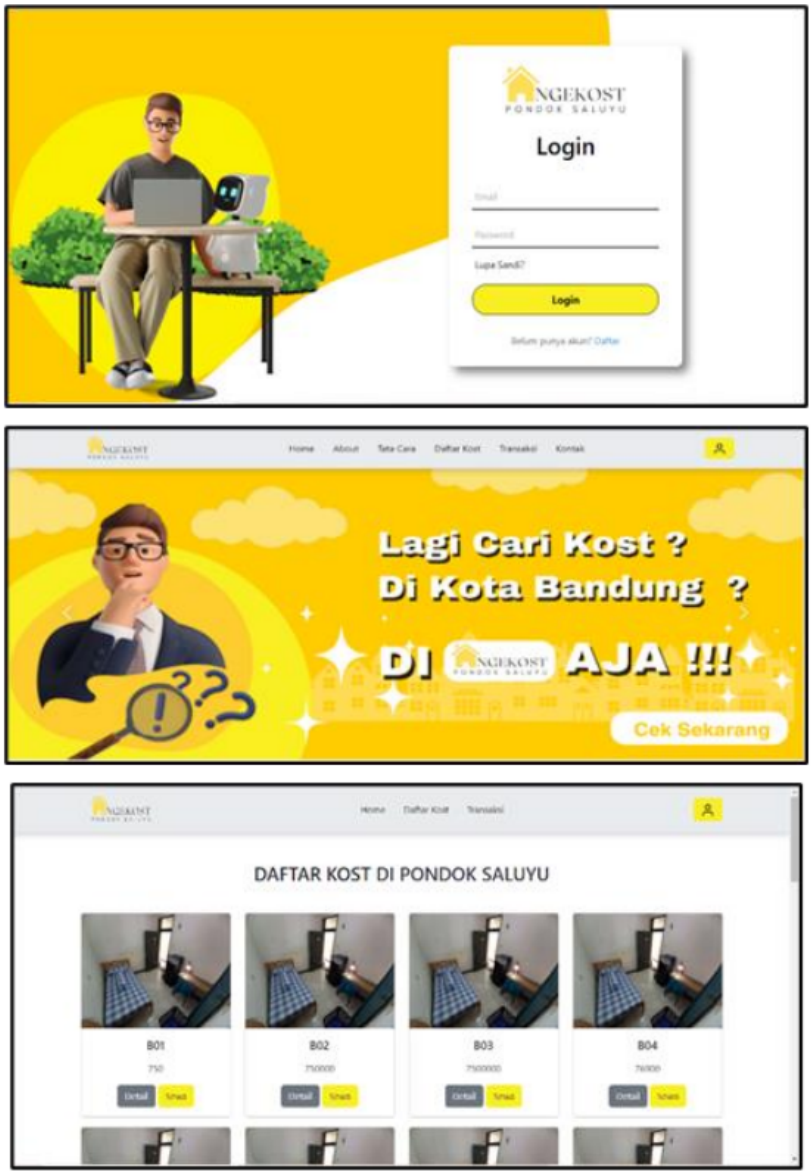


Figure 6. System Implementation

Implementation is the process of ensuring that a program or policy is carried out and that its goals are met. According to the study, Pondok Saluyu's management and operations have significantly improved since a web-based boarding house rental information system was implemented.

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Before this system was created, Pondok Saluyu mainly managed room availability, tenant data, and payment transactions through manual procedures. In addition to being time-consuming, these conventional approaches were also prone to mistakes and inefficiencies, especially when it came to marketing and promptly informing prospective renters.

The built solution effectively addressed these issues by providing a user-friendly web-based platform that expedited the boarding house's operational procedures. One of the most noteworthy results was the simplicity with which tenants could now obtain information regarding room availability, cost, and amenities. Without the need for in-person visits, prospective tenants could make well-informed judgments because of the website's comprehensive room descriptions, which included amenities and photos. This feature alone significantly improved the boarding house's marketing efforts since it raised awareness and drew in more customers.

Another significant project accomplishment was the incorporation of an online reservation system. Now, potential renters can use the website to make bookings and view real-time room availability. This function lessens the administrative burden on boarding house employees while also making the booking procedure easier for tenants. The technology reduces the possibility of duplicate reservations and guarantees proper record-keeping by automating the reservation process.

The system's usefulness was further improved with a digital payment option. The website allowed tenants to conduct transactions safely and conveniently, eliminating the necessity for cash payments. By addressing earlier issues with payment collection and reconciliation, this innovation improved Pondok Saluyu's financial management effectiveness.

Additionally, to accommodate a range of demands and preferences, the system's payment gateway offered tenants a variety of payment methods, such as e-wallets, bank transfers, and credit cards.

Operationally speaking, the web-based solution made managing room availability and tenant data more effective. In order to maintain correct and current data, boarding house operators could now change room statuses, tenant information, and transaction records in real time. Better decision-making was made possible by this consolidated approach to information management, which also decreased errors. Additionally, Pondok Saluyu was able to manage its operations and plan for future expansion because of the reporting and analytics aspects of the system, which offered insightful data on occupancy rates, revenue trends, and tenant demographics.

Additionally, the website was a cutting-edge marketing tool that improved Pondok Saluyu's online visibility and competitiveness in the marketplace. Using search engine optimization (SEO) strategies, the website received more visitors and connected with prospective renters who would not have known about the boarding house. Tenants could share their experiences through the feedback and review section, which increased the boarding house's legitimacy and repute even further.

User feedback was an important factor in determining the system's efficacy. Both boarding home operators and tenants highly rated the website's usability and functionality. Operators welcomed the system's capacity to increase overall productivity and streamline administrative operations, while tenants valued the ease of online room browsing, reservation, and payment processing. However, some users recommended other features for future development, like automated reminders for payment deadlines and support for mobile applications.

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The project's success was largely due to the application of the Agile Development approach. The development team was able to integrate feedback and make ongoing improvements throughout the process because Agile is an iterative methodology. Frequent stakeholder consultations ensured that the system took into account the unique requirements and problems of its users. In addition to producing a useful and user-friendly product, this cooperative approach gave stakeholders a sense of acceptance and ownership.

Notwithstanding its successes, the initiative highlighted areas that could use further development and refinement. One suggestion is to create a mobile application to go along with the website and improve accessibility for consumers constantly on the go. Mobile apps could offer additional features like push notifications for payment reminders and hotel availability updates. To further improve the system's functionality, it is also suggested that cutting-edge technology like machine learning and artificial intelligence be included. AI-driven chatbots, for instance, may answer questions from renters, and machine learning algorithms could examine user activity to offer tailored suggestions.

Another thing to consider is the addition of extra security measures. Future iterations could have stronger security features, such as two-factor authentication and sophisticated encryption techniques, even if the existing system has basic security safeguards to safeguard user data and transactions. These improvements would make users more confident and trusting, especially when managing sensitive financial data.

Finally, the system might be extended to include multilingual capability to serve a more varied tenant base. This feature would be beneficial in

luring in foreign tenants who might have trouble communicating in their native tongue while trying to find out more about Pondok Saluyu.

In conclusion, Pondok Saluyu's operational efficiency, tenant happiness, and competitiveness in the market have all significantly increased due to the creation and deployment of a website-based boarding house rental information system. By addressing the shortcomings of conventional techniques, the system's features—such as digital payments, online reservations, and centralized information management—established Pondok Saluyu as a cutting-edge and contemporary boarding home. Although the project's main goals were met, the suggestions for future improvement point to ways to increase the system's impact and guarantee its sustainability in changing technology developments. By following these suggestions, Pondok Saluyu can keep innovating and gaining a competitive edge in the boarding house market.

Conclusion

The shortcomings of conventional management techniques have been effectively overcome by creating Pondok Saluyu's web-based boarding home rental information system. The system offers an integrated platform that streamlines tenant transactions, makes room management more manageable, and improves the boarding house's overall operational efficiency by utilizing contemporary web technology. One of the most important results of research is the system's capacity to provide real-time updates on room availability, which makes it simpler for operators and renters to obtain reliable information.

The integration of digital payment capabilities has greatly increased the convenience and security of financial transactions by eliminating the need

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for cash-based payments and lowering the administrative load on employees. In addition to improving the user experience, this functionality supports the current market's rising inclination for digital financial solutions. Additionally, the website is a powerful marketing tool that raises the boarding house's profile and draws in more customers by having a contemporary and easily navigable online presence.

The website has become a great marketing tool, allowing Pondok Saluyu to connect with prospective renters outside its immediate geographic area. The boarding house's reputation has been further cemented by incorporating user ratings and feedback, which has further helped establish credibility and trust. Thanks to the Agile methodology's iterative development process, stakeholders were actively involved in the system's development, producing a functioning and user-friendly product that caters to the individual demands of its users.

Although the system has met its primary goals, this report also points out areas that could be improved in the future. Among the recommendations are creating a mobile application to accompany the website, incorporating cutting-edge security measures to safeguard user information, and adding multilingual assistance to accommodate a varied tenant base. These improvements guarantee that the system stays competitive and relevant in a constantly changing technical environment.

To sum up, Pondok Saluyu has made significant progress in modernizing its operations and improving the quality of its services by installing the website-based boarding home rental information system. By embracing technology, the boarding home has established itself as a

pioneer in offering dependable, effective, and customer-focused room rental solutions.

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