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Legal Information System with Housing Licensing for Administrative Efficiency Process

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ABSTRACT

The housing licensing administration process often faces challenges in the form of complex bureaucracy, long processing times, and lack of information integration between systems. This research aims to integrate the legal information system with the housing licensing process to improve administrative efficiency. By utilizing integrated information system technology, this research develops a platform that allows the synchronization of legal data related to housing regulations with licensing mechanisms. The methodology used includes needs analysis, system design, and efficiency evaluation through implementation case studies. The results of the study show that system integration is able to reduce processing time, improve data accuracy, and speed up decision-making. These findings are expected to make a significant contribution to optimizing the governance of housing licensing and encouraging transparency and accountability in public administration.

INTRODUCTION

The increasingly rapid and sophisticated development of information technology has made companies compete to utilize computer technology and the internet as supporting tools to make work easier. The development of information technology has an effect on the information system in society today. These technological advances make the information system easily accessible and the information obtained is more updated and reliable. Property is a form of object in the form of a house, housing, or dwelling owned by a person who is recognized as legal by the government and has a great influence on the economy of a person or group. In its development, this property is not only influenced by the improvement of the economy but has also influenced the interest of the community. The increase in the number of consumers or people who own a property from year to year is increasing and is an opportunity for every company that develops a business in the property sector such as housing (Wahyuni, D. S., Neneng, N., & Megawaty, D. A., 2021).

Web-based information systems provide ease and speed in obtaining information. Many jobs that used to be done conventionally using stationery took a lot of time in the recording process. However, with the use of computer technology, the recording can be done quickly and can produce precise and accurate information. In addition, to get information, people do not have to come directly to a company, but simply use a laptop/mobile phone connected to the internet. Housing is a collection of houses as part of settlements, both urban and rural, which are equipped with infrastructure, facilities and public utilities as a result of efforts to fulfill livable houses (Polanco, S. C., & Priandika, A. T., 2022).

PT Hutama Cipta Abadi is one of the companies engaged in the trading of goods, construction, building materials, engineering, mechanical, electrical, heavy equipment, machinery and work safety equipment. PT Hutama Cipta Abadi is located in the PTC MAll Shopping Complex, Block H 66, Village 8, Ilir, Ilir Timur II District, Palembang. It was founded by Mrs. Yorshaliza Thanzil Ankasiwi as President Director on December 8, 2014. Currently, PT Hutama Cipta Abadi Palembang is conducting housing development of various types. The processing of data on the sale of houses, facilities and services provided by PT Hutama Cipta Abadi Palembang is still conventional, namely recorded using books and documents. However, in making reports, Microsoft Office Word and Excel applications have been used.

Information technology is a technology that is developing very rapidly today, this rapid development of technology brings humans into a life that is always side by side with technology and information itself. With the advancement of information access technology, available data or information can be accessed quickly and

efficiently (Devega, M., Nasution, N., & Saputri, R., 2019).

To order a house, people must come directly to PT Hutama Cipta Abadi Palembang. Then fill out the order form that has been provided. This leads to increased working time, and the risk of data loss often occurs. In addition, there is no media to convey information about the sale of houses, facilities and services provided to the community. In this case, PT Hutama Cipta Abadi Palembang needs a web-based Information System that is expected to help make it easier for PT Hutama Cipta Abadi to convey information about the sale of houses, facilities and services provided by the company to the public. In addition, the public can also make home orders through the Web-based PT Hutama Cipta Abadi Palembang Information System.

With this system, it will make it easier and save time and effort for employees to offer their goods because this system will display the location and model as well as the price list of the housing they offer. This system will also be able to input data on customers who have ordered and given advance payments, so employees do not need to record manually. because it will be able to contact the admin directly through this web (Amirullah, A., & Megawati, M., 2016)

The system consists of inputs and outputs where in operation it consists of hardware and software.

1. Hardware: Hardware is the components that make up a computer system, allowing the computer to perform its tasks.
2. Software, Software is a component in a computer system in the form of a program to regulate the relationship between hardware and brainware and supervise all activities in the CPU (Rafin, A., 2013).

The main function of the Legal Information System with Housing Licensing is to support efficiency and effectiveness in the management, processing, and provision of legal and licensing data related to the housing sector. The following is an explanation of its main functions for the administrative efficiency process by means of Document Digitization and Centralization, Automation of Administrative Processes, Increasing Transparency and Effective Reporting and Monitoring so that by implementing this system, the legal administration and licensing process in the housing sector becomes more efficient, time-saving, and standardized, thus supporting faster and rule-based housing development.

METHOD

There are two groups of approaches in defining a system, namely those that emphasize the procedure and those that emphasize the components or elements. A procedural approach defines a system as a network of interconnected procedures, gathered together to carry out an activity or to accomplish a specific goal. Meanwhile, a system approach that emphasizes more on elements or components defines a system as a collection of elements that interact to achieve a certain goal. These two groups of definitions are true and not contradictory. What is different is the way of approaching it (Sidik, A., Sutarman, S., & Marlenih, M., 2017).

The development method uses the System Life Cycle method. The steps to develop the System Life Cycle are:

1. System Engineering**,** This stage occurs the process of finding the needs for the system to be created, as well as collecting data and determining what devices are needed. The data collection methods used are:
   a. Field study or Observation, which is the collection of data by direct observation of the object being studied to obtain accurate and systematic information.
   b. Literature study, which is the process of collecting reference materials from books, articles, journals, internet sites regarding existing housing data.
2. Analysist**,** At this stage, there are activities that analyze the results of needs. Such as the analysis of the results of system needs and the analysis of alternative solutions for better problem solving.
3. Design**,** Presenting the results of analysis (requirements) in the form of an information system design in the form of a program or software. By determining the data structure, software architecture, coding algorithms, and interface design.
4. Coding**,** Converting the design results into program form.
5. Testing**,** Testing is carried out both per unit and the submission of its integration (Rafin, A., 2013).

The System Development Method used by the researcher is the Systems Development Life Cycle (SDLC) method. The SDLC method has had a great influence on the history of information systems development methodology. Until now, SDLC is still taught in universities and is used in various information system development projects. SDLC is also often known as Waterfall because the visual modeling of the stages

of SDLC resembles a waterfall (Masudara, J. J., Rindengan, Y. D., & Najoan, X. B., 2015).

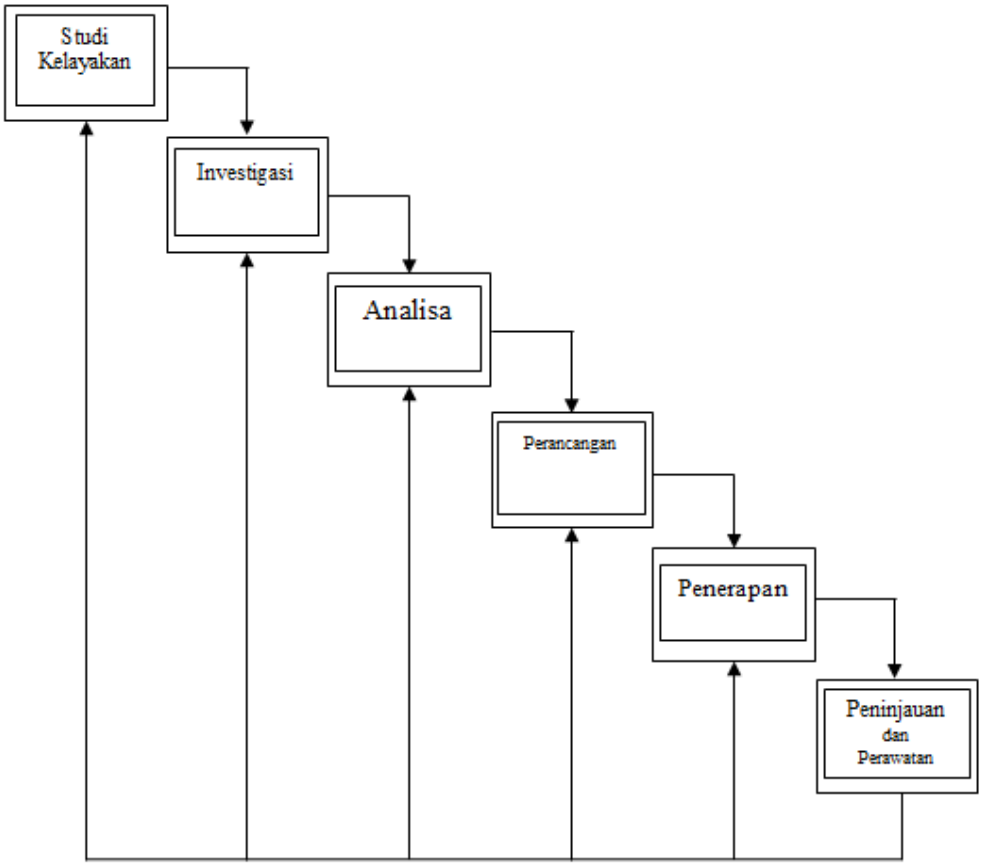

Figure 1. Waterfall Model Diagram

The stages in the development of the system in accordance with Waterfall include the following stages:

1. Feasibility study of information system project, The feasibility study tries to see whether the need for the development of a new information system (either new at all or replacing the old one) is economically feasible or according to other criteria. The report from this feasibility study is the basis for management to decide whether to continue the development of the new information system or not. If the decision is to continue, it means that it will enter the next stage.
2. Investigation Investigation and System Research, At this stage, a more detailed fact-finding is carried out. The purpose of this investigation and research is to trace in detail what kind of system is needed. In conducting an investigation, the developer or analyst of the information system must confirm, clarify, and validate the information he obtains.
3. System Analysis: In the Analysis stage, developers try to understand the old information system, why and how the system was created, and how the old information system can be improved or developed. These improvements and developments are manifested in the form of designing new information systems.
4. System design, The design stage involves designing computerized and manual parts of an information system. Of course, in this stage of planning, the output or artifacts produced are mainly documentation that describes the new information system.
5. Application, In this stage, the design produced in the information system design stage is realized. All aspects of the new information system must be tested and in good condition before the system is moved.

One of the main activities at the implementation stage is quality control. The implementation of the new system aims to test whether a system can run as expected or to find weaknesses in the system.

6. Review and maintenance, this last stage runs after the system is completed and running. In daily operations, it is not uncommon to find that the system must be modified or repaired to adjust to the conditions. There must be a team responsible for the maintenance of this system.

Regularly the system must be reviewed and all changes must be made. Proposed changes or improvements to the system can come from problems (errors) found by users. System maintenance is carried out continuously until eventually the system is no longer able to meet the needs of the organization and must be replaced with a new one (Arfianto, F. R., & Nugrahanti, F., 2019).

RESULTS AND DISCUSSION

After designing and making the program, the final result that the researcher will achieve is a simple program, namely the Information System at PT. New Hope Group is web-based. This system is produced after going through several stages of design consisting of Use Case Diagram design, Activity Diagram design, Class Diagram design, input and output design.

To run PHP programming applications, it is done using a freeware program in the form of apache friends. The steps in carrying it out are as follows:

1. Hover over the start menu.
2. Select the Apache Friends program, then XAMPP, and then select XAMPP Control Panel.
3. Then the XAMPP Control Panel will appear, click the start button on Apache Server and Mysql Server.
4. Once XAMPP is enabled, click the Exit button.
5. Click the start menu, then click Mozilla Firefox.
6. Then type Localhost/the name of the web folder created in the address bar.

The Testing of Legal Information Systems with Housing Licensing aims to ensure that the system functions properly, efficiently, and as needed in supporting administrative processes. Here are the relevant testing steps for the system:

1. Functional Testing
   Objective: Ensure all features run within specified specifications.
   Coverage:
   The process of applying for permits.
   Validation of legal documents and permit data.
   Approval flow and permission status tracking.
   Making reports and monitoring the status of permits.
   Access to legal information (regulations, policies, or guidelines).
   Method: Test each module based on a designed use case scenario.
2. Performance Testing
   Purpose: Measure the speed, capacity, and stability of the system as it is in use.
   Coverage:
   The system's response time for a search or permit application.
   System performance with multiple users simultaneously (stress testing and load testing).
   System efficiency in handling big data (big data handling).
   Method: Use a tool like JMeter or LoadRunner to simulate the load.
3. Security Testing
   Purpose: Protect legal and licensing data from external or internal threats.
   Coverage:
   User authentication and authorization security.
   Protection against cyberattacks such as SQL injection, XSS, or brute force.
   Encryption of sensitive data, including licensing documents.
   Method: Use vulnerability testing tools.
4. Integration Testing
   Objective: Ensure that integration between modules and with external systems runs well.

Coverage:
Integration with other government systems (e.g., OSS for unified licensing).
Synchronization of data with databases or repositories of legal documents.
Communication between API web services.
Methods: Trial integration with cross-system scenarios and data transfer monitoring.

5. User Experience Testing
Objective: To ensure that the system is easy to use and according to the needs of the user.
Coverage:
Ease of navigation in searching for legal information.
Intuitive permission application process.
Interface responsiveness across multiple devices (desktop, tablet, smartphone).
Methods: Direct testing by end-user representatives (user acceptance testing) with satisfaction surveys.

With this test, it is hoped that the system will be able to run optimally, safely, and provide maximum benefits for the administrative efficiency process in the housing sector.

The front page is the main page that will appear when this website is running. The following is what the home page looks like:

(a). Operational Permit Page (b). Logo Meaning Page

Figure 2. Home

The Operational Permit page consists of several supporting items for an operational permit. All files are uploaded and can be viewed by visitors when visiting the website. This file consists of the Decision on Hukun and Human Rights, Trade Business License. The license of the Mayor of Palembang and the registration certificate of PT.

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(a). Home Page (b). Service Page – Facilities

Figure 3. Website Pages

(a). Home Data Booking Page (b). Home Data Booking Form Page

Figure 4. Website Core Page

CONCLUSION

Based on the discussion in this research, it can be concluded that the study resulted in a web-based Information System for PT Hutama Cipta Abadi Palembang, enabling the public to view house data and make reservations online anytime and anywhere. This system accelerates access to information without the need to visit the company's office directly. The available menus include home, company profile, services, reservations, organization, gallery, guestbook, contact us, and others. The system automates manual processes such as submissions, validations, and permit issuance, thereby reducing time and operational costs while providing real-time tracking of permit status to minimize uncertainty. Additionally, the system offers open access to legal

and permit information, enhancing public trust. This system is expected to support and simplify the company's work programs in providing information about house data, reservation procedures, services, and more, replacing the previous manual methods that relied on office applications such as Microsoft Word and Microsoft Excel.

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