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Web-Based Deed Information System (Case Study: PPAT Yunita Elysabeth Nainggolan, SH., M.KN)

Sistem Informasi Akta Berbasis Web (Studi Kasus: PPAT Yunita Elysabeth Nainggolan, SH., M.KN)

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ABSTRACT

PPAT Office Yunita Elysabeth Nainggolan SH., M.Kn is an Office that handles notary affairs, where PPAT makes authentic deeds regarding certain legal actions regarding land rights or Ownership Rights over Flats Units. This research aims to design and build a deed information system at the PPAT Office of Yuni Elysabeth Nainggolan, SH., M.Kn, an Office located in Bekasi Regency. The background of this research is based on the importance of information systems in improving the quality of information and decision-making in companies, as well as the need for automation and efficiency in business processes, especially numbering and bookkeeping of deed data. This research will overcome problems such as manual deed bookkeeping, double deed numbering and missed. The method used is Waterfall with the main goal of creating a system that is able to input deed data quickly and also create an automatic deed numbering system. The results of the research are expected to help PPAT Yunita Elysabeth Nainggolan, SH., M.Kn in making monthly reports and also getting the deed number correctly and correctly.

Keywords: Information Systems; Actions; Web; PPAT Yunita Elysabeth Nainggolan

ABSTRAK

Kantor PPAT Yunita Elysabeth Nainggolan SH., M.Kn adalah Kantor yang mengurus urusan kenotariatan, dimana PPAT membuat akta-akta otentik mengenai perbuatan hukum tertentu mengenai hak atas tanah atau Hak Milik Atas Satuan Rumah Susun. Penelitian ini bertujuan untuk merancang dan membangun sistem informasi akta di Kantor PPAT Yuni Elysabeth Nainggolan, SH., M.Kn, sebuah Kantor yang berada di Kabupaten Bekasi. Latar belakang penelitian ini didasari oleh pentingnya sistem informasi dalam meningkatkan kualitas informasi dan pengambilan keputusan di perusahaan, serta kebutuhan akan otomatisasi dan efisiensi dalam proses bisnis, khususnya penomoran dan pembukuan data akta. Penelitian ini akan mengatasi masalah seperti pembukuan akta yang masih bersifat manual, penomoran akta yang ganda dan juga terlewat. Metode yang digunakan adalah Waterfall dengan tujuan utama menciptakan sistem yang mampu menginput data akta dengan cepat dan juga membuat sistem penomoran akta yang otomatis. Hasil penelitian diharapkan dapat membantu PPAT Yunita Elysabeth

Nainggolan, SH., M.Kn dalam membuat laporan bulanan dan juga mendapatkan nomor akta dengan benar dan tepat.

Kata kunci: Sistem Informasi; Akta; Web; PPAT Yunita Elysabeth Nainggolan

INTRODUCTION

Land is a very valuable asset and has an important role in human life. Along with development, economic growth, and increasing population, the community's need for land use and management continues to increase. This condition is also followed by an increasing need for legal certainty guarantees in the land sector (Nahak & Kelen, 2024). Based on Article 1 Paragraph 1 of Government Regulation Number 37 of 1998 concerning the Regulation of the Position of Land Deed Making Officials, PPAT is a public official who is authorized to make authentic deeds related to certain legal actions regarding land rights and property rights to flats (Priatna et al., 2021).

In the era of globalization, the development of information technology and information systems is increasingly rapid and has become an integral part of various human activities (Suarantalla et al., 2021). Web-based information systems are one of the important needs for business people, academics, companies, and government agencies. Kriyantono stated that websites are the main means of communication used by the public to obtain information about an organization; Therefore, every modern institution needs to provide a website as an official communication medium (Kriyantono, 2008; Maulana et al., 2024).

However, based on the existing conditions at the PPAT office of Yunita Elysabeth Nainggolan, SH., M.Kn., the numbering and bookkeeping process of deeds is still carried out manually. Employees record the deed number and related data in the ledger, so accuracy depends entirely on the accuracy of the officer. This practice poses potential problems such as double numbering, loss of deed numbers, and difficulties in tracing documents. In addition, the process of preparing monthly PPAT reports becomes less effective and efficient because it must be done by manually checking the data. This condition shows the need to design a web-based information system that is able to facilitate automatic deed recording, prevent duplication of numbering, ensure that no deed number is missed, and speed up the reporting process so as to support the improvement of employee performance.

Several previous studies have discussed problems related to deeds and their management. Trisnasari (2019) examined the responsibility of notaries in cases of double numbering, and concluded that incorrect numbering of deeds can have legal consequences in the form of civil liability to the notary concerned. Meanwhile, Isnaini et al. (2022) developed a digital archive management information system at the Faculty of Notary and PPAT using a quantitative approach and waterfall software development methods. The study focused on the management of 2,643 digital archival documents and showed that digitization can improve the efficiency and regularity of document storage.

However, research related to the deed numbering information system and bookkeeping based on the waterfall method in the PPAT environment, especially in Bekasi City, has not been found. Based on the background and results of previous research, this study aims to develop a Web-Based Deed Information System (Case Study: PPAT Yunita Elysabeth Nainggolan, SH., M.Kn.). This system is designed to produce accurate deed numbering, reduce the potential for recording errors, and speed up the process of making deed reports automatically so that the administrative performance of PPAT can be more effective and efficient.

PROBLEM STATEMENT

Based on the introduction above, the formulation of the problem taken is as follows:

1. How to avoid double act numbering and missing?
2. How to make monthly reports at the PPAT office of Yunita Elysabeth Nainggolan, SH., M.Kn to be more effective and efficient?

LITERATURE REVIEWS

Information Systems

Information systems are procedures for the collection of interconnected and structured sub-systems through a combination of users, hardware, software, and databases which are then carried out the process of adding, processing, updating, and distributing information through telecommunication systems in daily transactions to achieve common goals in an organization or company.

Information systems have the goal of processing data into useful information for users. To be useful information, it is not enough to rely solely on data. Useful information must be supported by the following three foundations: the right to the person (relevance), timeliness (timeliness), and accurate (accurate) value. Outputs that are not supported by these three cornerstones cannot be said to be useful information.

Action

The definition of a deed is a letter that contains writing about a certain thing that a certain party wants to explain or explain and can be used as evidence if needed. So, a deed is deliberately made by a certain party for a certain purpose and contains certain things. Deed is one of the evidence regulated in Article 1866 of the Civil Code.

Website

A website is a collection of digital pages that contain information in the form of text, animations, images, sounds and videos or a combination of everything connected to the internet, so that it can be viewed by anyone connected to the internet network.

Land Deed Making Office (PPAT)

A Land Deed Making Official, hereinafter referred to as PPAT, is a public official who is given the authority to make authentic deeds regarding certain legal actions regarding land rights or Property Rights to Flats. PPAT consists of: PPAT, Temporary PPAT and Special PPAT. Temporary PPAT is a government official appointed because of his position to carry out PPAT duties by making PPAT deeds in areas where PPAT is not enough. Meanwhile, the Special PPAT is an official of the National Land Agency who is appointed because of his position to carry out the duties of the PPAT by making a specific PPAT deed specifically in the context of the implementation of certain government programs or tasks. The working area of PPAT is one provincial area, while PPAT is domiciled in a city/district in the province that is part of its work area.

Database

Database or database, comes from the words database and database. A base can be interpreted as a headquarters or warehouse, a gathering place, data is a real-world form that represents an object such as a human being (student, student, employee, customer), goods, animals, events, concepts, circumstances, and so on expressed in the form of numbers, letters, symbols, text, images, sounds, or combinations thereof. So it can be concluded that a database is a collection of information that is stored in a computer systematically so that it can be checked using a computer program to obtain information from the database. The software used to manage and call database queries is called a database management system. A database is a collection of interconnected files that are usually indicated by the key of each existing file. A database shows the set of data used in a single scope of information. In a single file there are records of the same type, the same size, the same shape, which are a uniform set of entities. Records consist of fields that are interconnected to show that they are in a complete sense and recorded in a single record. A database management system contains a set of interconnected data and a set of programs to access that data. So a database management system and a set of management programs that function to read data, add data, delete data and retrieve data.

Flowchart

Computers are used to help humans solve complex problems. In order for computers to solve these complex problems, a method is needed that is able to describe the chronology of a process of events so that it can create the needed solutions. Flowchart is a flowchart that is presented systematically with a graphical view that describes the process and logic of information handling activities that contain

sequences or procedural steps in a program that are used in problem solving to be studied and further evaluated (Arief et al., 2019). Flowcharts are very helpful for analysts and programmers in solving problems in building or developing applications into smaller segments. In much of the literature on software development, flowcharts serve as system design documents in which system analysts, programmers, and users communicate, negotiate, and represent complexity. But the meaning of a particular flowchart is often highly debated, and the obvious specificity of such a design document rarely reflects reality.

Unified Modelling Language (UML)

Unified Modelling Language (UML) is a language used to define, visualize, build, and document software system artifacts, as well as to model business and non-software systems. UML has emerged in the form of standard "de facto and de jure" diagram notation for Object-Oriented Modelling (PBO).

PBO diagrams are divided into two main categories, namely to model (1) system structure and (2) system behaviour. Structure diagrams provide a way to present data and static relationships in information systems. Meanwhile, behaviour diagrams give analysts a way to depict the dynamic relationships between objects individually throughout their life cycles. The image represents the UML chart and its categories and components.

Use Case Diagram

The use case diagram describes all the use cases that the system will develop, i.e. about what functions the system can/should perform, but does not discuss the detailed aspects of the implementation. Details will be covered in another diagram, such as a class diagram or an interaction/sequence diagram. The use case diagram reveals who the users will actually be working with the system to be built.

Use cases are a basic concept of many object-oriented development methods and can be applied to the analysis and design process. The use case is a representation of the customer's needs for the system to be built.

Activity Diagram

An activity diagram is a visualization of user behaviour in the form of activities when interacting with the system. Behaviour / activity visualization is an operational/implementation overview of one or more use cases. At the conceptual level, an activity diagram can model the function of a system's business processes, both between business partners and internal processes of the Company/organization to achieve its goals. Meanwhile, at the detail/operational level, activity diagrams can depict operational behaviour in the form of individual instructions. Thus, the behaviour of user interaction with the system, can be defined at different levels of granularity. Activities can be assigned to class operations but can also be autonomous.

Sequence Diagram

A sequence diagram is a form of interaction diagram that models the interaction between objects in a use case. They describe how different parts of the system interact with each other to execute functions and sequences when a particular use case is executed. In other words, a sequence diagram is a detailed aspect of the system's behaviour.

Class Diagram

Diagram classes are implemented in various phases of the software development process. The level of abstract/detailed class diagrams differs in each phase (analysis, design, and implementation). In the early stages/phases of the development project, the class diagram is seen as a conceptual model of the system and to define the vocabulary/terms/attributes used. Furthermore, this vocabulary can be upgraded into a programming language to the implementation stage.

Waterfall Method

SDLC (Software Development Lifecycle) or System Lifecycle, in systems engineering and software engineering, is the process of creating and modifying systems as well as the models and methodologies used to develop these systems. This concept generally refers to a computer or information system. One of the methods in SDCL that is often encountered is Waterfall. Conceptually, this SDLC

develops systematically from one stage to another like a waterfall. This method is a method in software development where work must be carried out sequentially starting from the concept planning stage, modelling, implementation, testing and maintenance.

Classical waterfall is the oldest systematic and sequential method of software development. The name of this model is actually "Linear Sequential Model". This model is often referred to as the "classic life cycle" or waterfall method. This model can be used when the need for a problem is well understood, and work can flow linearly from the communication process to implementation.

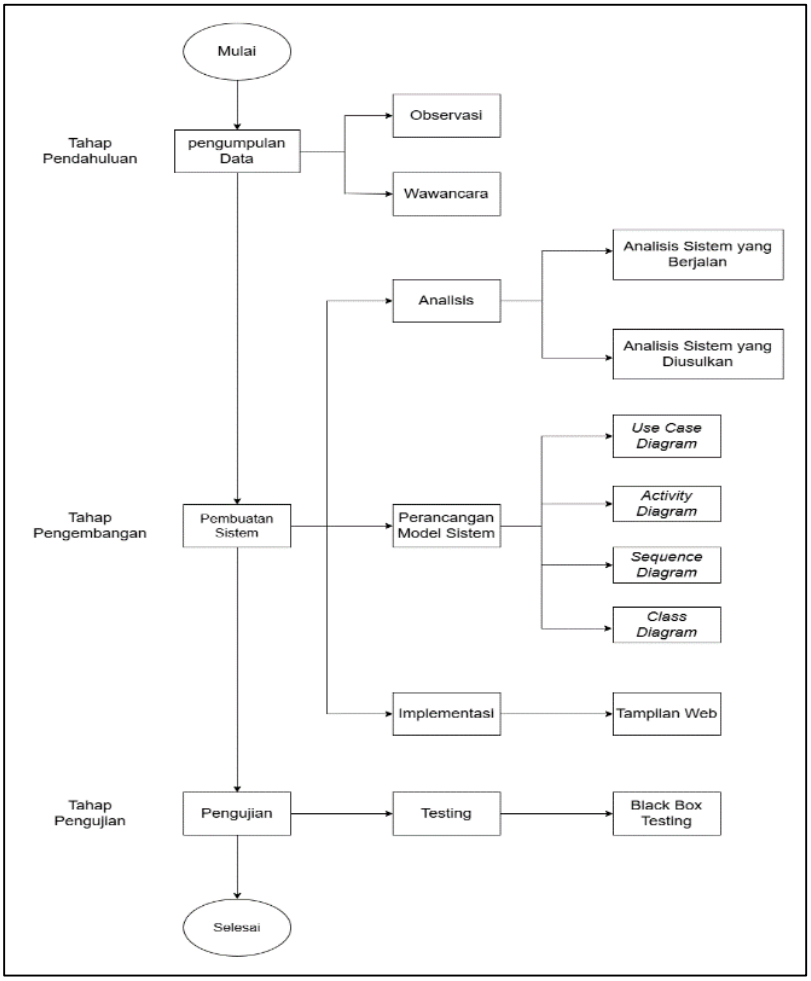
This situation is encountered when the adaptation or expansion of the existing system is well defined. This model can also be used in situations where limited effort is required for software development, but software needs are well-defined and tend to be stable. However, in software development, this model tends to be one of the less iterative and flexible approaches, as the process flows one-way ("downward" like a waterfall).

METHODOLOGY

Research Methods

The time and place of the research took place from July 2024 to August 2024 at the PPAT Office of Yunita Elysabeth Nainggolan, S.H, M.kn located on Jl. Raya Karang Congok No.08, Karang Satria District, North Tambun Regency, Bekasi Regency, West Java, data collected in Figure 1.

Figure 1: Research Methods



A. Introductory Stages

The preliminary study stage was carried out by conducting a needs analysis. The analysis of the needs in question was carried out by means of observation and interviews.

B. Development Stages

At the system development stage, analyze, design and implement a numbering information system and deed bookkeeping. This method has three stages, namely Analysis, Design and Implementation.

C. Stages of Testing

At this stage, the process of testing all functions is carried out using the black box method to test the functionality of each feature created and determine the system's shortcomings and weaknesses.

FINDINGS AND DISCUSSION

Analysis

In analyzing and designing systems, data and information that are appropriate and in accordance with the needs of the system are needed. This can be obtained by analyzing existing or running systems.

Problem Analysis

Based on the problems that occurred at the PPAT Office Yunita Elysabeth Nainggolan, SH., M.Kn. the process of making and managing deeds is still carried out manually, so that the time needed becomes inefficient. In addition, in determining the number of deeds that must be processed and the management of related data, there are often obstacles that can cause errors and inaccuracies in the preparation of legal documents. The following system is currently running which is shown in Figure 2.

Figure 1: Running systems

Data Collection

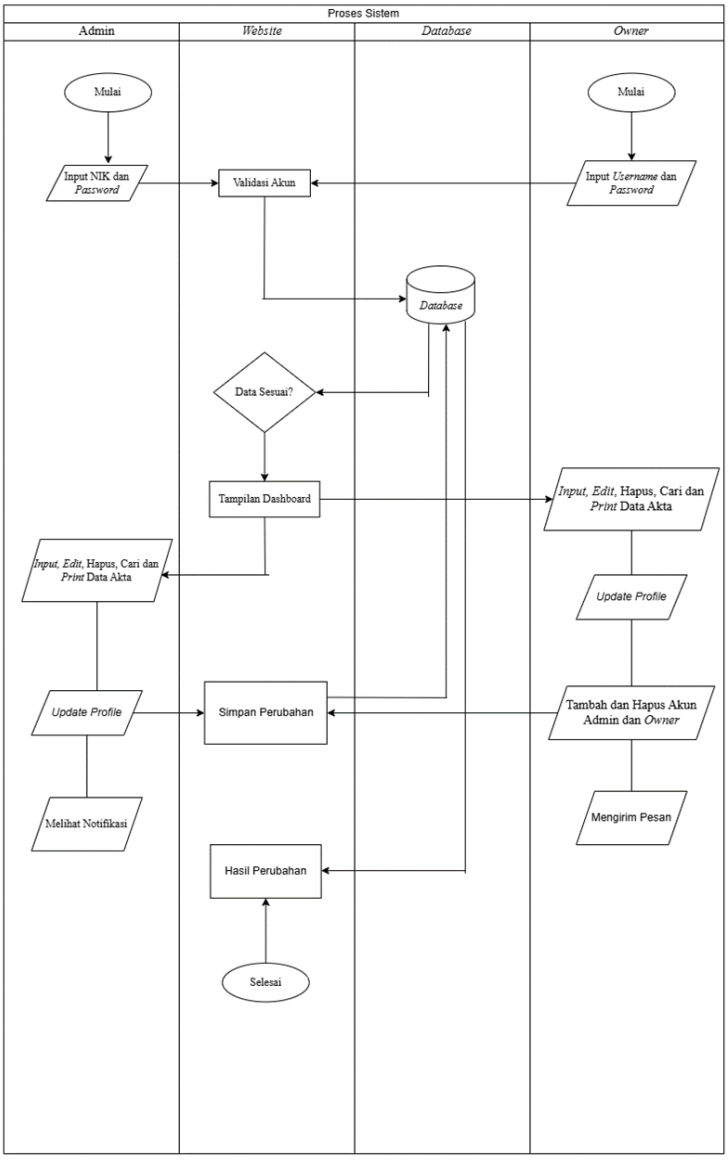
Data collection is carried out by dividing 2 data, namely primary and secondary data. Primary data was obtained through observation and interviews conducted by visiting the PPAT Office of Yunita Elysabeth

Nainggolan, S.H, M.kn which became a case study in the research. Secondary data is data obtained from sources that are already available and related to research through literature, related journals.

Troubleshooting

Designing and building a deed management and administrative information system at the Notary Office of Yunita Elysabeth Nainggolan, SH., M.Kn. to help plan, draft, and manage legal documents and other administrative needs. The following flowchart of the proposed system as a solution to the problem is shown in Figure 3.

Figure 2: Proposed system



Planning

In this sub-chapter discussion, it will be explained about designing using the Unified Modelling Language (UML) which consists of Use Case Diagram, Activity Diagram, Sequence Diagram and Class Diagram.

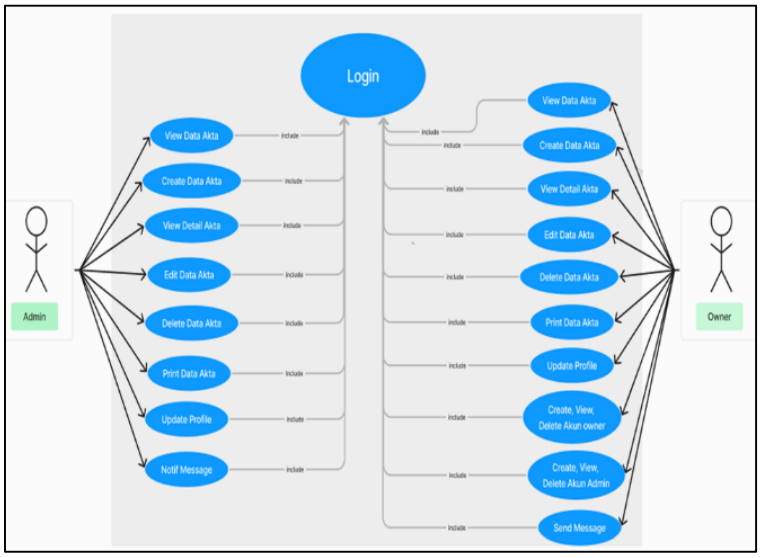
Use Case Diagram

A use case diagram is a description or representation of the interaction of activities performed by actors on the system. The actors consist of two of them: admin and owner.

1. Use the Case Chart owner

The admin and owner use case diagram is a brief overview of the relationship between admin and owner and the system and its functions. The use case is shown in Figure 4.

Figure 3: Use Admin and Owner Case Diagrams



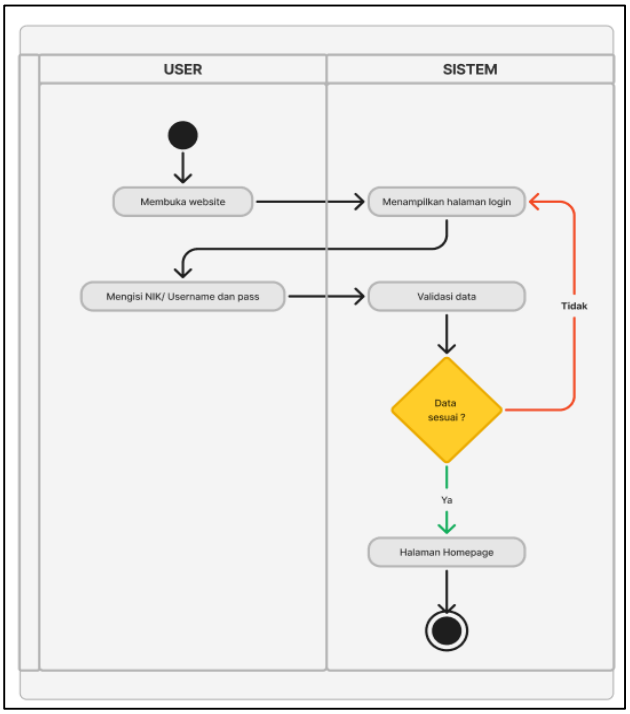
Activity Diagram

The activity diagram describes the flow of activities available in the system being created.

1. Admin and Owner Login Activity Diagram

The login activity diagram is the flow of admin and owner activities Notary Yunita Elysabeth Nainggolan, SH., M.Kn. to enter the deed-based information system at the Notary Office of Yunita Elysabeth Nainggolan, SH., M.Kn. The login diagram of Activiy admin and owner is shown in Figure 5.

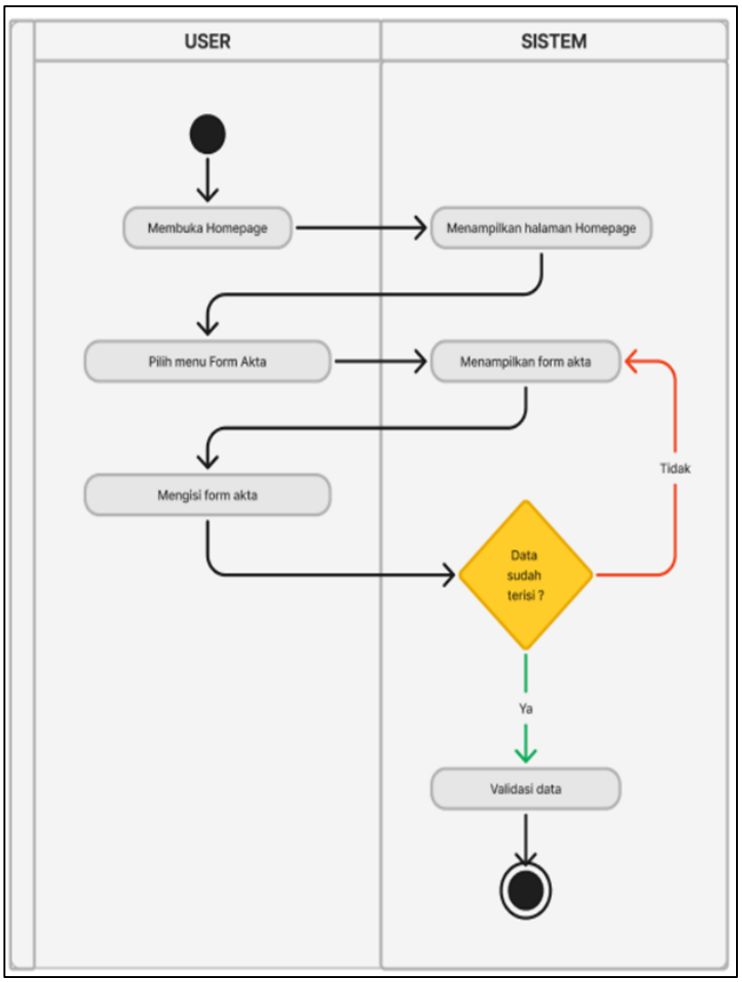
Figure 4: Admin and Owner Login Activity Chart



2. Deed Data Add Activity Diagram

This activity diagram shows how the flow of activities from admin & owner in adding deed data. A diagram of the activity of adding deed data can be seen in Figure 6.

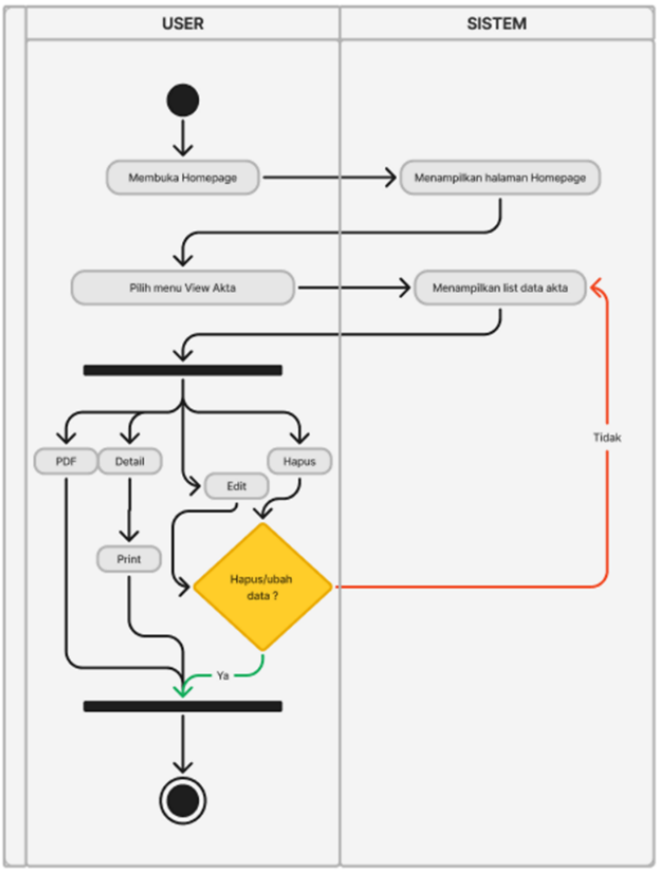
Figure 5: Deed Data Add Activity Diagram



3. Activity Diagram View PDF, Print Deed, and Delete Deed

This activity diagram shows how the admin and owner activity flows in viewing PDFs, Print, Edit, and Delete Deeds. A diagram of the PDF, Print, Edit and Delete Deed activity can be seen in Figure 7.

Figure 6: Print and Deed Delete Activity Diagram



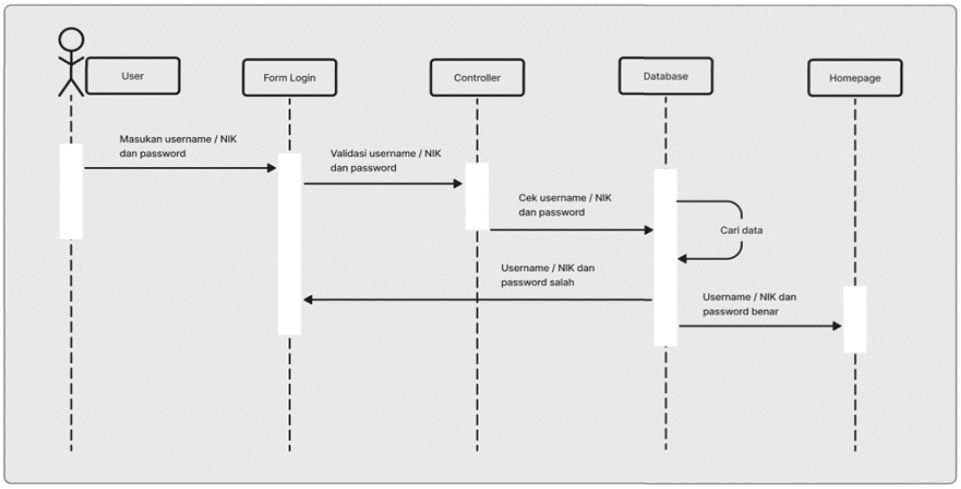
Sequence Diagram

A sequence diagram is a diagram that displays the interaction relationships between objects in a system arranged in a time order. The sequence diagram in this study is explained as follows;

1. Login Sequence Diagram

This sequence diagram shows the interaction relationships between objects in the system in login. The login sequence diagram can be seen in Figure 8.

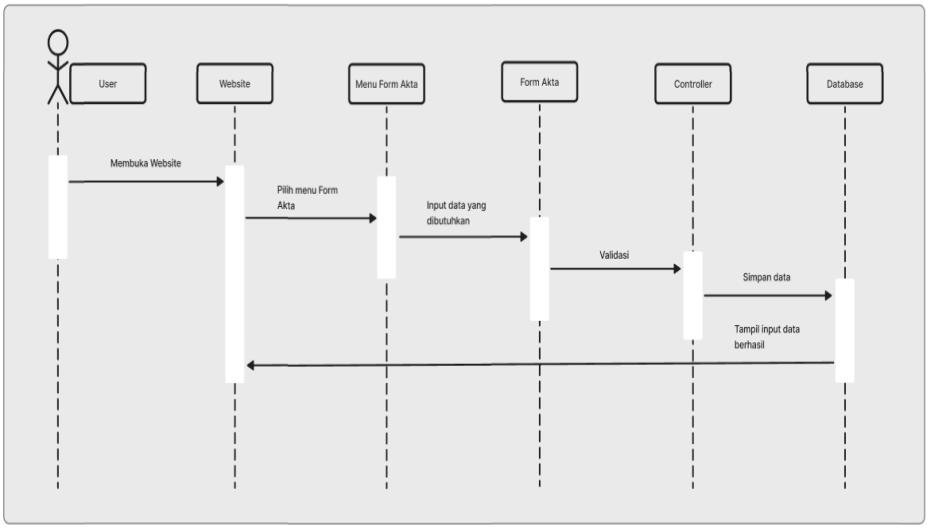
Figure 7: Login Sequence Diagram



2. Deed Data Add Sequence Diagram

This sequence diagram shows the interaction relationships between objects in the system in the addition of deed data. A diagram of the sequence of actual data additions can be seen in Figure 9.

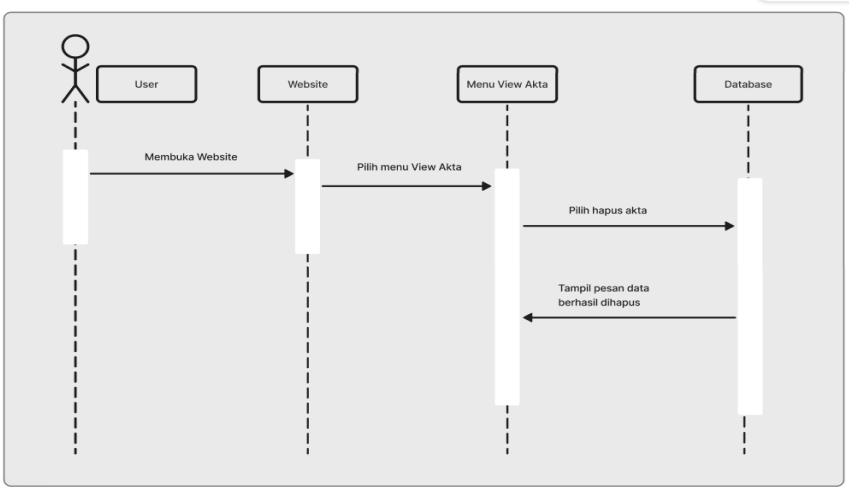
Figure 8: Deed Data Add Sequence Diagram



3. Deed Delete Order Diagram

This sequence diagram shows the interaction relationship between objects in the system in deleting the deed. A diagram of the deed deletion order can be seen in Figure 10.

Figure 9: Deed Data Delete Order Diagram



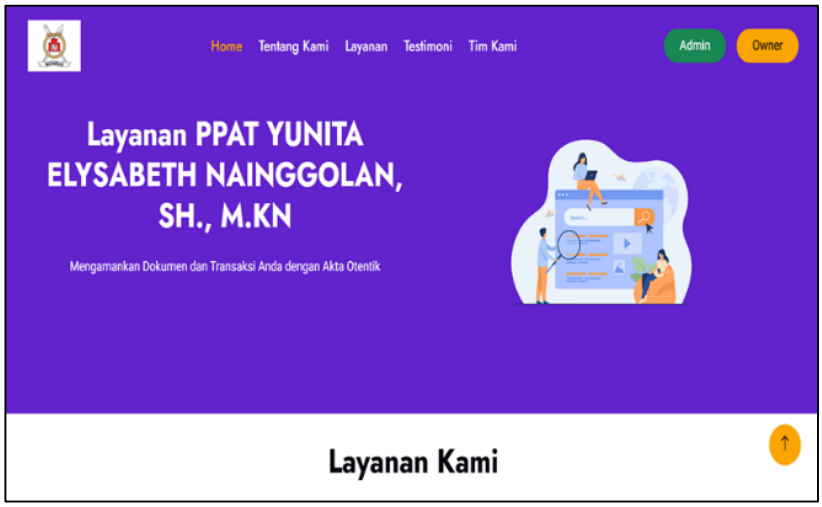
Implementation

The implementation of the deed information system at the Office of Yunita Elysabeth Nainggolan, SH., M.Kn as follows:

Home Implementation

The following Home page view is shown in Figure 11.

Figure 10: Home Page

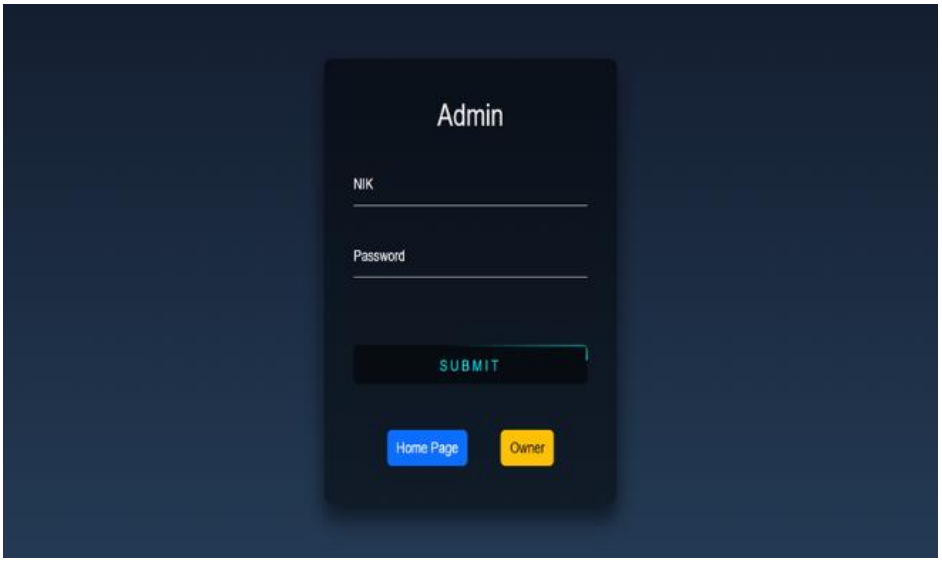


Login Page Implementation

In the implementation of the login page where there are two users, namely admin and owner who can log in to the system, they must first log in by entering the NIK/username and password.

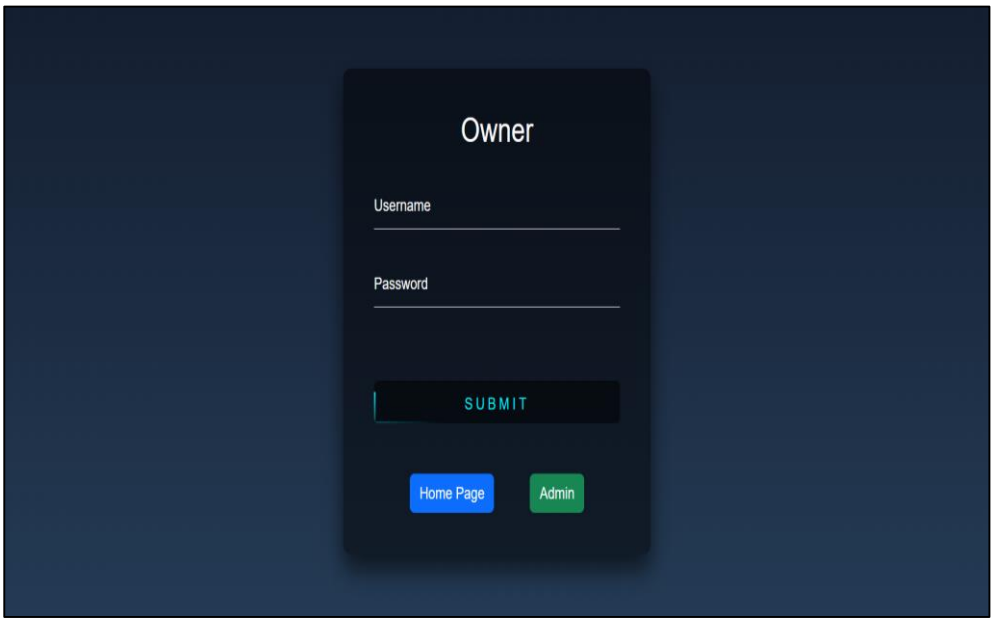
1. Admin Login Page
   The following admin login page is shown in Figure 12.

Figure 11: Admin Login Page



2. Owner Login Page
   The following admin login page is shown in Figure 13.

Figure 12: Owner Login Page



Dashboard Page Implementation

The dashboard page implementation contains the main view after the admin and owner successfully log into the system. The design of the Admin and Owner dashboard pages can be seen in figures 14 and 15.

Figure 13: Admin Dashboard Page

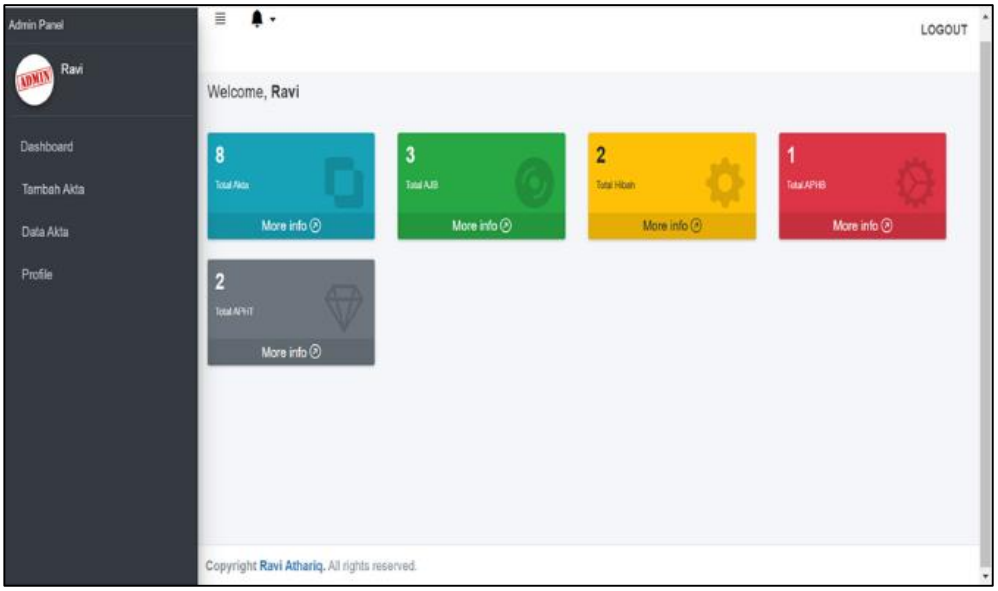
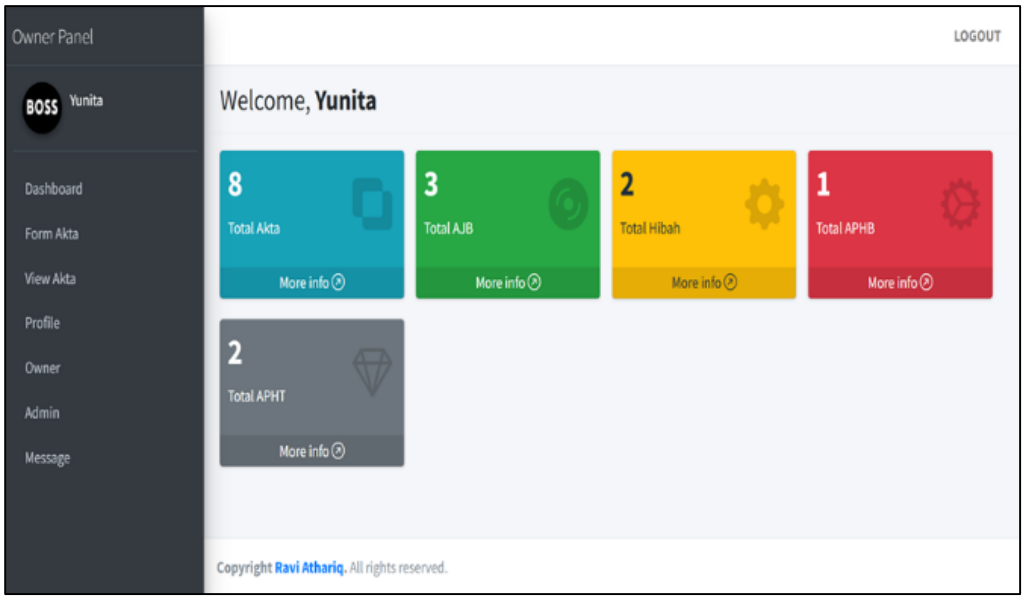


Figure 14: Owner Login Page



Add and Remove Data Page Implementation

The admin and owner page interface design contains pages for adding and removing admin and owner accounts. The owner's page design can be seen in Figures 16 and 17.

Figure 15: Add and remove Admin Data Pages

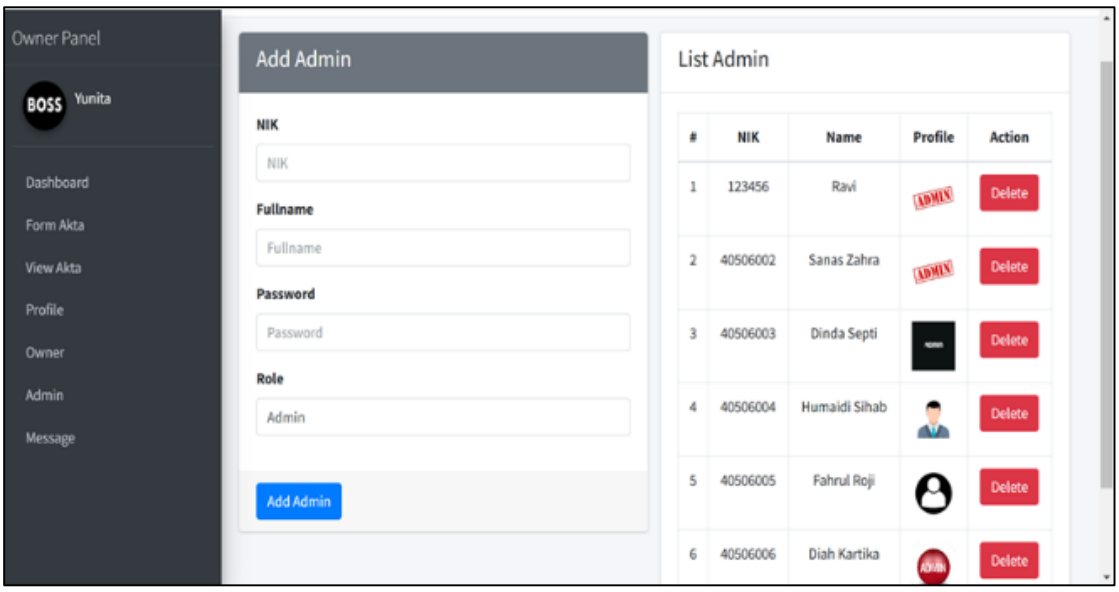
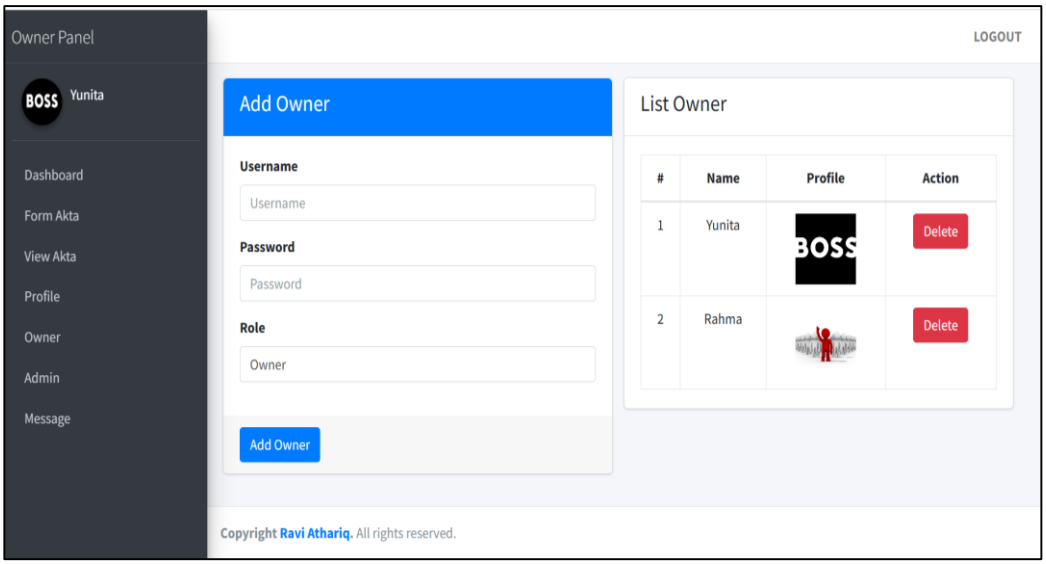


Figure 16: Add and remove owner data pages



Testing

The test was carried out using the black box method. Black-box testing is done by validating the results issued by the system when a command is given to the system and the test is done by the admin and owner. The black box test can be seen in Table 1.

Table 1: Black Box Testing

No.	Page	Function Test	Condition
1	Admin & Owner Login Page	Verify login with NIK and password which is correct. Verify login with username and password which is wrong.	Appropriate
2	Deed Display Page	Displays a list of deed data. View, edit and also Delete deed data. Print the date of the action.	Appropriate
3	Edit Deed Data	Edit deed data	Appropriate
4	Delete Data Files	Delete deed data	Appropriate

Quantitative Evidence of System Effectiveness

Prior to the implementation of the system, the process of searching deed archives required an average of 15–25 minutes per document and there were often recording errors (error rate ±12%). Once the system is implemented, the search time decreases drastically to 10–30 seconds with a decrease in the error rate to 1.2%. In addition, the deed data input process that previously required 10–15 minutes can be completed in 2–3 minutes through the auto-fill and input validation features. A user satisfaction survey of PPAT staff showed a satisfaction rate of 92%, up from 68% before the implementation of the system. These findings suggest that the system provides a significant improvement in operational performance.

Table 2: Comparison

Indicator	Before System	After System	Change
Archive search time	15–25 minutes	10–30 seconds	↓ 96%
Data input time	10–15 minutes	2–3 minutes	↓ 80%
Administrative error rate	12%	1.2%	↓ 90%
User satisfaction	68%	92%	↑ 24%

CONCLUSION

Based on the results of the discussion and implementation in this study, it can be concluded that the development of a Web-Based Deed Information System at PPAT Yunita Elysabeth Nainggolan, SH., M.Kn has been successfully carried out and met the research objectives. The system built is able to produce deed numbering automatically, accurately, and consistently, thereby minimizing the potential for recording errors that previously often occurred in manual processes.

In addition, this system has been proven to improve the operational efficiency of PPAT. Based on the effectiveness test, the processing time for the creation of deeds was reduced from an average of 25–35 minutes to only 8–12 minutes after the system was implemented, or there was an increase in efficiency of ±65%. The data input error rate also showed a significant decrease, from 8.3% to 1.2%, so that the system was considered more reliable in maintaining data accuracy. The results of the usage survey also show a user satisfaction rate of 92%, which reflects the ease of use of the interface and the increased convenience of the workflow.

This system is not only capable of generating PPAT reports automatically, but also improving the quality of documentation and deed archive tracking. Thus, this web-based deed information system has been proven to have a positive impact on the work effectiveness and accountability of PPAT services. In the future, this system still has the potential to be further developed. One of the development recommendations is to expand the function of the system to not only serve the creation of PPAT deeds, but also support the processing of Notary deeds, including deeds of incorporation of legal entities, agreements, and other types of deeds. Integration with certified electronic signatures, automatic document validation features, and synchronization with government agency databases (such as BPN and the Ministry of Law and Human Rights) are also important development directions to improve the reliability and implementation level of the system in the future.

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in humans, therefore I am well aware that this is not yet perfect and I hope for constructive criticism and suggestions from readers for future improvements. I sincerely hope that this will provide benefits and broaden readers' horizons.

REFERENCES

A. Maulana, N. Ayni, and S. Herry, "OKTAL: Journal of Computer Science and Science for Information System Design for Web-Based Notary Deed Making Services at PT. Sariko Alam Nusantara Tangerang City Using Extreme Programming Methods", [Online]. Available: https://journal.mediapublikasi.id/index.php/oktal

A. Priatna, A. Maulana Yusuf, and S. Rosma Karawang, "Analysis and Design of Web-Based Notary Deed Data Management Information System," J. RESPONSIVE, vol. 3, no. 2, pp. 166–173, 2021, [Online]. Available: http://ejurnal.ars.ac.id/index.php/jti

G. Nahak and Y. P. Kelen, "Registration and Monitoring Information System for Website-Based PPAT Services (Case Study: PPAT Office Cornelis Nahak S.Ip)," J. Nas. Computing and Technology. Inf., vol. 7, no. 4, 2024.

I. G. A. Oka Trisnasari, "Notary Responsibility for Double Numbering on Different Deeds," Acta Com., vol. 4, no. 1, p. 99, April 2019, doi: 10.24843/ac.2019.v04.i01.p09.

Jamaluddin et al., BUKU (Book Chapter)-Database System (Elmi Devia) okay. 2022.

K. Jasmine, Algorithms and Data Structures. 2022.

L. Purnawati, W. N., Arsana, A. N. I, Arfyanti, I., Mukhlis, R. I., Sulistyowati, Prasetya, D. F., Bowo, T. I., Abdillah, R., Tonyjanto, C., Putri, A., Judijanto, Information Systems. 2024.

M. Prabowo, Information System Development Methodology, vol. 3. 2018.

M. Rusli and E. Triandini, "Object-Oriented Information Systems Modeling: Basic Concepts, Procedures, and Implementation," 2022.

M. S. Ummah, Ppat Acts and Procedures for Their Making, Vol. 11, No. 1. 2023.

P. Notary, D. A. N. Ppat, S. Isnaini, M. Kn, K. Magelang, and M. L. Ma, "Digital Archive Management Information System," vol. 18, no. 2, pp. 35–44, 2022.

P.S. Ganney, Web1 Programming. 2022. doi: 10.1201/9781003316244-11.

R. Suarantalla, M. Taufan Asri Zaen, and H. Priabdul Aziz, "Design and Construction of Application for Registration of Notary Deeds and PPAT I Wayan Pastika," J. Ris. Computer), vol. 8, no. 4, pp. 2407–389, 2021, doi: 10.30865/jurikom.v8i4.3561.