



Design of a web-based information system for notary service management and legal document archiving at the Alex Edwar Notary Office

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ARTICLE INFO	ABSTRACT
<i>Article history:</i> Received Jul 20, 2026 Revised Aug 05, 2026 Received Aug 12, 2026 <i>Keywords:</i> Information System; Notary Service; Legal Document Archive; Web-Based System; Waterfall Model.	Administrative activities at Alex Edwar Notary Office were still performed using semi-manual procedures, causing difficulties in document tracking, service status monitoring, and legal document archiving. This study aimed to develop a web-based information system to support the management of notary services and legal document archives. The system was developed using the Waterfall method, with PHP and MySQL for implementation. The developed system integrates user authentication, client management, notary service management, service submission, document status monitoring, legal document archiving, and report generation. Black Box Testing was conducted using eight functional test scenarios, and all scenarios passed, resulting in a 100% test pass rate. The developed system provides centralized management of notary services and legal document archives and supports document status monitoring for administrators, notaries, and clients. <i>This is an open access article under the CC BY-NC license.</i> 

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1. INTRODUCTION

Information technology has become an essential component in supporting organizational performance by improving administrative efficiency, enhancing data accuracy, and facilitating faster access to information. The adoption of information systems enables organizations to integrate business processes within a centralized platform, thereby reducing data redundancy, improving information consistency, and supporting more effective operational management (Anggraeni & Fatah, 2025; Indriani Ibrahim et al., 2026; Wiguna et al., 2024)

As organizations continue to adopt digital transformation initiatives, web-based information systems have been increasingly implemented because they facilitate centralized data management, improve information accessibility, and support secure multi-user access through role-based authorization mechanisms (Febriantama et al., 2026; Mohamed et al., 2024; Sampath et al., 2023). Therefore, web-based information systems play an important role in improving administrative efficiency while ensuring the

integrity, accessibility, and traceability of legal documents (Haug, N.; Dan, S.; Mergel, 2024; Wiguna, I. W. A.; Sukihana, 2024).

Alex Edwar Notary Office was selected as the research object because it provides various legal services, including company establishment (PT and CV), foundation establishment, association establishment, issuance of Business Identification Numbers (NIB), extension of Building Use Rights Certificates (SHGB), inheritance administration, and other legal services according to client requirements. Based on observations conducted during this study, the most critical operational problem was the separate management of client records, service requests, and legal document archives through semi-manual procedures. Furthermore, clients were required to contact administrative staff directly to obtain information regarding the progress of their service requests because no integrated monitoring facility was available. Therefore, an integrated web-based information system is needed to connect notary service management, legal document archiving, and client-accessible service status monitoring within a single platform.

Oktiviani (2021) developed a web-based notarial deed management information system to support structured data management and document retrieval (STEVl., 2025). Malfiany and Lestari (2023) developed a web-based information system for managing land certificate and deed services to support data processing, cost calculation, and client information services (Malfiany & Lestari, 2023). Syahfitri and Harahap (2024) developed a web-based document management information system to support document management and administrative processes in notary offices (Syahfitri, W., & Harahap, n.d.). Setiawati et al. (2024) developed a web-based archival data processing system for a notary and PPAT office to support archive organization and document retrieval (Dessy Setiawati et al., 2024). Stevi (2025) developed a web-based monitoring system for client document schedules and processing status, while Arnita et al. (2025) developed a web-based legal deed archive information system focusing on document accessibility, security, and archive management (Gusti Ayu Komang Anom Arnita et al., 2025; Mega Irma Oktiviani, 2021).

Although previous studies have demonstrated the use of web-based information systems in notary offices, they generally focus on separate functions such as service management, legal document archiving, or document monitoring. The integration of these processes with client-accessible service status monitoring remains limited, indicating a gap in the development of an integrated multi-user web-based platform.

The novelty of this study lies in connecting internal notary service administration with client-accessible service status monitoring through a role-based multi-user web platform. The proposed system connects client data and service requests with service processing, legal document archiving, status updates, and client access to service progress within a single platform. This integrated workflow distinguishes the proposed system from previous studies that primarily address individual notary administrative functions.

Therefore, this study aims to develop a web-based Notary Service Management Information System and Legal Document Archive for Alex Edwar Notary Office that integrates client data management, service management, legal document archiving, and service status monitoring within a single platform.

2. RESEARCH METHOD

This research employed the Waterfall model as the system development method for developing a web-based information system for notary service management and legal document archiving at Alex Edwar Notary Office. The Waterfall model was selected because it provides a systematic and sequential software development process in which each stage is completed before proceeding to the next stage (Saravanos & Curinga, 2023;

Wahid, 2020). The model consists of five main stages: requirements analysis, system design, implementation, testing, and maintenance (Supiyandi et al., 2022). Each stage is carried out sequentially to ensure that the development process follows the identified system requirements (Fachri & Surbakti, 2021). The stages of the Waterfall model used in this research are illustrated in Figure 1.

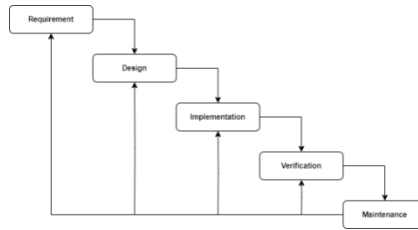


Figure 1. Waterfall Model (Pratiwi et al., 2023).

As illustrated in Figure 1, the Waterfall model consists of five sequential stages:

a. Requirements Analysis

Data were collected through direct observation, interviews with the notary and relevant staff, and documentation of the existing service and document management processes. The analysis identified problems related to semi-manual management of client data, service requests, legal document archives, and document status monitoring. Based on the identified problems and user needs, the functional requirements were defined for three user roles: admin, notary, and client. The requirements include user authentication, client data management, notary service management, service submission, document status monitoring, legal document archiving, user account management, and report generation. The non-functional requirements include usability and flexibility to support ease of use and adaptable management of notary services and legal document archives.

b. System Design

The system design stage transformed the identified requirements into the proposed system design, including business processes, database structures, and user interfaces. Flowcharts were used to describe the system workflow and process sequence, while the database structure was designed to support client data management, notary service management, document status monitoring, legal document archiving, and reporting. The system design also defined interactions between the three user roles: admin, notary, and client. The resulting design served as the reference for system implementation.

c. Implementation

The proposed system design was implemented as a web-based application using PHP and MySQL. The implementation included modules for user authentication, client data management, notary service management, service submission, document status monitoring, legal document archiving, user account management, and report generation. The implemented modules were developed according to the functional requirements defined during the requirements analysis stage.

d. Testing

System testing employed the Black Box Testing method to evaluate whether the developed system fulfilled the specified functional requirements. The testing was performed by executing functional scenarios and comparing the actual system outputs with the expected outputs for each function. The tested functions covered user

The implementation results are presented according to the main functional modules of the developed system.

a. Authentication Module



Figure 3. Login Page

The login page authenticates administrators, notaries, and clients before granting access to the system. After successful authentication, users are redirected to the dashboard according to their respective roles. Role-based access restricts users to the functions assigned to their respective roles.

b. Client and Notary Service Management

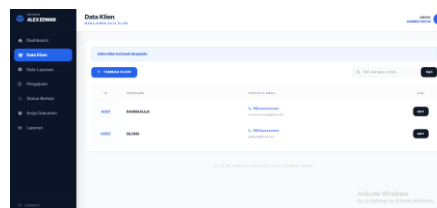


Figure 4. Client Data Page

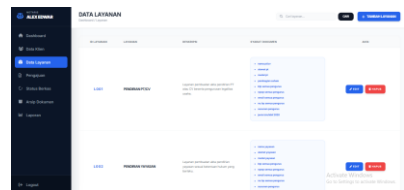


Figure 5. Notary Service Data Page

The client and notary service management modules centralize client records and legal service administration within a single database. The implementation provides a centralized structure for managing client and service data, allowing authorized users to add, update, search, and manage records through the system.

c. Service Submission and Document Status Monitoring

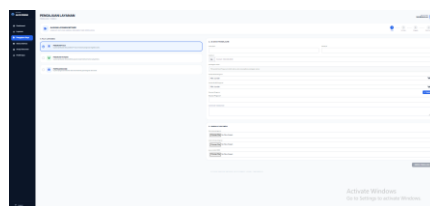


Figure 6. Service Submission Page

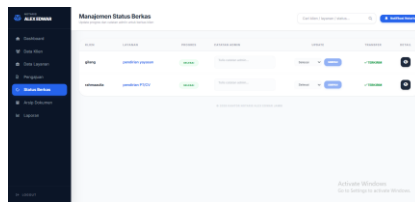


Figure 7. Document Status Page

Through the service submission module, clients can submit applications and upload the required supporting documents electronically. The document status module enables clients to view the progress of their applications through the system without contacting administrative staff for each status update. This functionality provides clients with direct access to information regarding the progress of their legal service requests.

d. Legal Document Archive and Reporting.

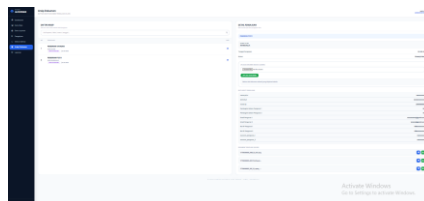


Figure 8. Legal Document Archive Page

The legal document archive module stores completed legal documents in a centralized repository, allowing authorized users to search and access archived documents through the system. The reporting module allows users to generate reports on completed services and archived legal documents to support operational monitoring and administrative evaluation. The integration of digital archiving and reporting provides a centralized structure for managing service and document information.

3.4 System Testing

The system testing stage was conducted to verify that the developed web-based information system operated according to the functional requirements identified during the system analysis phase. Software testing is an important stage in software development because it is used to verify whether the implemented functions operate as expected and meet specified (Rosmiati, 2021). In this study, Black Box Testing was employed to evaluate the functionality of the developed application by examining its inputs and outputs (Ayuningtyas et al., 2023; Melo et al., 2021). Functional testing was conducted to verify whether each tested function operated according to the specified requirements (Vos et al., 2021).

The testing was performed manually using the Google Chrome web browser in a local server environment with XAMPP, PHP, and MySQL. Eight functional test scenarios were executed, covering user authentication, client data management, notary service management, service submission, document status monitoring, legal document archiving, and report generation. The observed outputs were compared with the expected results to verify the functionality of each tested module. The detailed testing results are presented in Table 2.

Table 2. System Testing

Tested Module	Test Procedure	Input	Expected Result	Actual Result	Conclusion
Login Page	Enter username and password	Valid username and password	User is redirected to the dashboard according to the assigned role	User is successfully redirected to the dashboard	Passed
Login Page	Enter invalid username and password	Invalid username and password	User remains on the login page and an error message is displayed	Login failed and error message displayed	Passed
Client Data Page	Enter client data	Valid client information	Data are successfully saved	Client data successfully displayed	Passed
Notary Service Data Page	Enter service data	Service information	Data are successfully saved	Service data successfully displayed	Passed
Service Submission Page	Submit service request and upload documents	Service request data and supporting documents	Submission data are successfully saved	Service submission is successfully saved	Passed
Document Status Page	View document status	Submission data	Status information is displayed	Status displayed successfully	Passed
Legal Document Archive Page	View archived documents	Archived document data	Archive information is displayed	Archive displayed successfully	Passed
Report Page	Generate report	Report period	Report is generated successfully	Report displayed successfully	Passed

Based on the Black Box Testing results presented in Table 2, all eight functional test scenarios produced actual outputs that matched the expected results, resulting in a 100% test pass rate. These results indicate that the tested functions operated according to their specified functional requirements.

The testing results indicate that the evaluated functions operated according to their specified requirements. The developed system integrates notary service management, client management, service submission, document status monitoring, legal document archiving, and reporting within a multi-user web-based platform. Compared with previous studies, the proposed system combines these functions within a single platform supporting administrators, notaries, and clients.

4. CONCLUSION

This study developed a web-based Notary Service Management Information System and Legal Document Archive for Alex Edwar Notary Office using the Waterfall development model. The system integrates client management, notary service management, service submission, document status monitoring, legal document archiving, and reporting within a centralized multi-user platform for administrators, notaries, and clients. Black Box Testing showed that all eight tested functional scenarios passed, resulting in a 100% test pass rate and indicating that the tested functions operated according to their specified requirements. The developed system addresses the identified need for centralized management of notary services and legal document archives. However, this study was limited to functional testing and did not include quantitative performance evaluation, usability testing, or dedicated security testing. Future research may evaluate these aspects and extend the system through digital signatures, cloud-based document

storage, automated notification services, and integration with external government information systems.

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