



Developing a Service Monitoring Application to Enhance Document Tracking and Client Communication in Notary Practices

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Abstract

Notary offices play a crucial role in ensuring the legality of legal documents, yet many still rely on manual and undocumented service workflows. This study aims to develop a web-based application that enables systematic and transparent monitoring of notarial service processes. A case study was conducted at the office of notary in Surabaya, which faced issues such as the lack of documented services procedures, difficulties in tracking document priorities, and low transparency of service status for clients. The application was developed using the system development life cycle (SDLC) with a waterfall model. Key features include management of service components (steps, requirements, roles, questions), real-time submission tracking, and progress updates accessible to clients. Functional testing using the black box method confirmed that all features performed according to specifications. The developed system successfully improves documentation, enhances operational efficiency, and strengthens client relations by offering transparent information access. This research demonstrates that digitalizing notarial service workflows contributes not only to internal performance improvements but also to user satisfaction. Future development is recommended to include features such as cost estimation and appointment scheduling to further automate the service process.

Key words: Digitalization, Information System, Notary, SDLC, Service Monitoring, Transparency

1. Introduction

Notaries are legal professionals appointed by the government to assist and serve the public in ensuring the legality of legal documents, such as agreements, business establishments, property transactions, wills, and grants [1]. In line with this role, notary offices hold an essential position in guaranteeing the legality of documents in various legal transactions, as every deed issued by a notary has legally binding evidentiary power [2]. However, many notary offices still rely on



manual and undocumented workflows, which often result in inefficiencies, lack of transparency, and difficulties in monitoring service processes. This condition highlights the need for a systematic solution that can improve service management and strengthen client trust.

Previous studies on digital notarial services have been carried out with various approaches. Dede Sumarsono and Arief Tri A developed an Android-based registration and document monitoring application at the Notary Office of Nilakandi Januarti, S.H., M.Kn., focusing on document progress, service submissions, and user accounts [3]. Meanwhile, Adha Apriliosusworo et al. developed a web-based information system for document management and monitoring at the Notary and PPAT Office of Ade Suryatini, S.H., M.Kn., to support employees in managing documents and notaries in supervising deed preparation [4]. Another study by Muhammad Noval R. and Mei Andayani designed a document management monitoring system using the Best First Search method at the Notary–PPAT Office of Kusdwiono Hardian Santoso, S.H., M.Kn., with a focus on recording, searching, and tracking documents [5].

One aspect that has received little attention in previous research is the integration of notarial service monitoring that covers all essential components, including service steps, requirements, roles, and related questions, combined with real-time submission tracking and client progress updates. This indicates the absence of a comprehensive digital solution capable of supporting notarial operations while simultaneously providing transparency for clients.

To address this gap, this research was conducted at a notary office located in Surabaya, proposing the development of a web-based service monitoring application specifically designed for notarial practices. The application was developed using the System Development Life Cycle (SDLC) with a waterfall model to ensure a structured development process. The aim of this study is to produce a system that improves documentation, enhances operational efficiency, and strengthens communication with clients by providing transparent access to information.

2. Method

This research was conducted using the System Development Life Cycle (SDLC) with the waterfall model, which provides a structured and sequential approach to system development [6]. The stages carried out include requirements analysis, system design, implementation, testing, and deployment. Each stage was carried out in sequence to ensure the application was developed according to user needs and functional specifications. As shown in Figure 1, the waterfall model

illustrates the linear progression of these stages, starting from requirements analysis and continuing through to deployment.

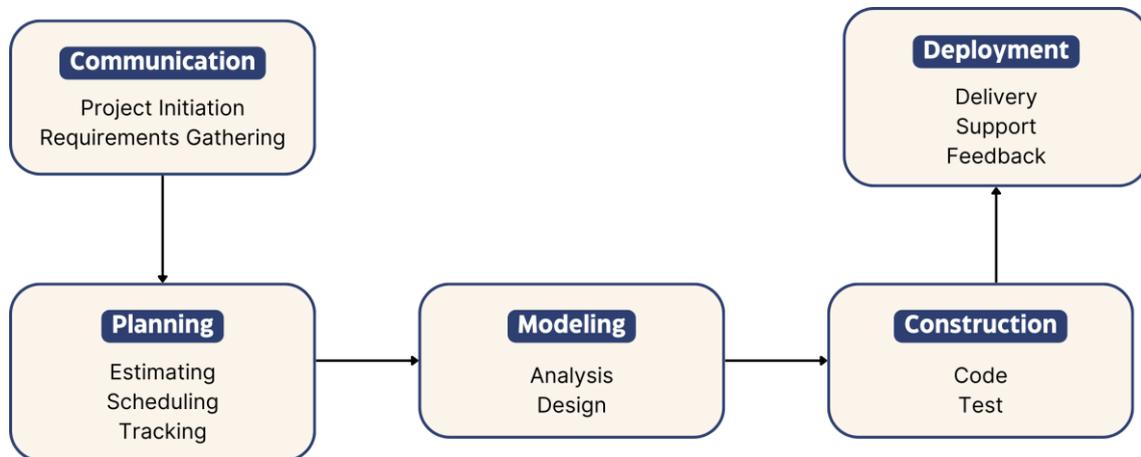


Figure 1. Waterfall Model

Materials and Tools

The main tools used in this research were:

1. A web server and database server (MySQL) for data storage and management.
2. A programming environment (PHP, JavaScript, HTML, CSS) for system development.
3. Supporting frameworks and libraries to facilitate UI/UX design and functional features.

Data Collection

Data was obtained through observation and interviews at a notary office in Surabaya. The collected data included types of services, service stages, required documents, roles involved, and client interaction flows. This data served as the basis for identifying system requirements.

Development Procedure

1. Requirements Analysis: Identifying problems in current manual workflows and translating them into system requirements.
2. System Design: Designing use case diagrams, activity diagrams, database structures, and user interfaces.
3. Implementation: Developing the application modules, including service management, requirements, roles, questions, submission tracking, and client progress monitoring.
4. Testing: Conducting functional testing using the black box method to ensure each feature works according to the specifications.

5. Deployment: Deploying the web application for testing and demonstration purposes in the notary office environment.

3. Result and Discussion

3.1. Presenting the Results

This study produced a web-based notarial service monitoring application developed using the System Development Life Cycle (SDLC) with the waterfall model. The application provides several key features, including:

1. **Service Management** – to manage detailed information about available notarial services. As shown in Figure 2.

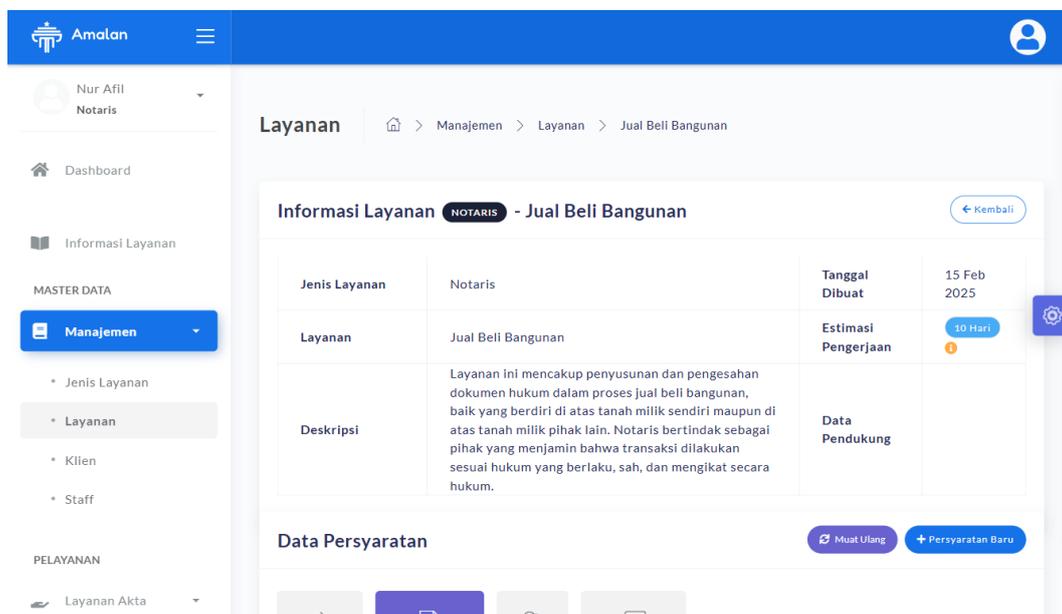


Figure 2. Service Management Page

2. **Service Component Management** – covering the configuration of steps, requirements, roles, and questions. As shown in Figure 3.

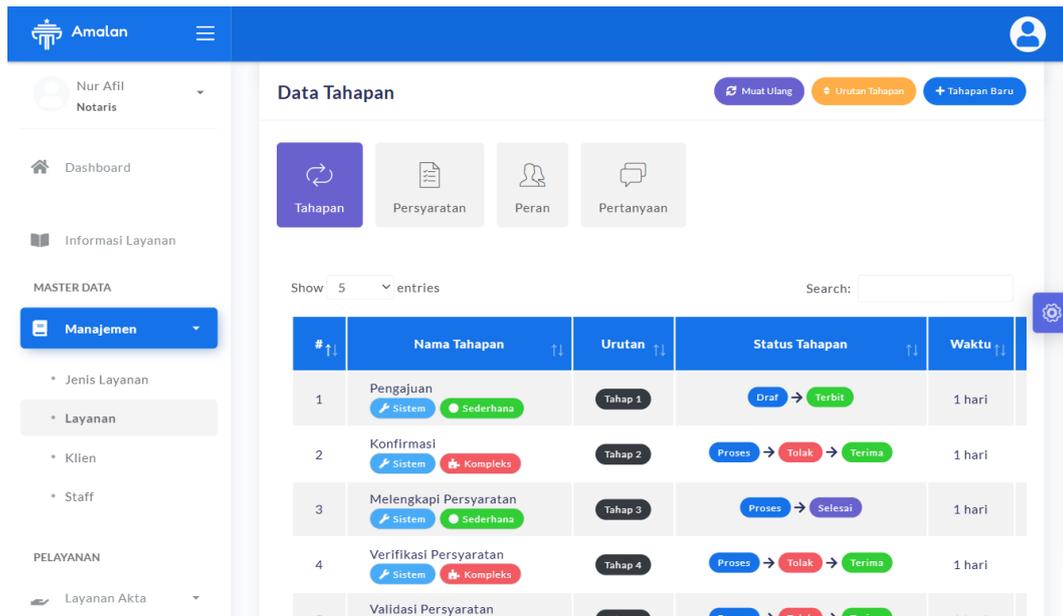


Figure 3. Service Component Management Page

3. **Service Submission** – allowing clients to submit services and monitor their status. As shown in Figure 4.

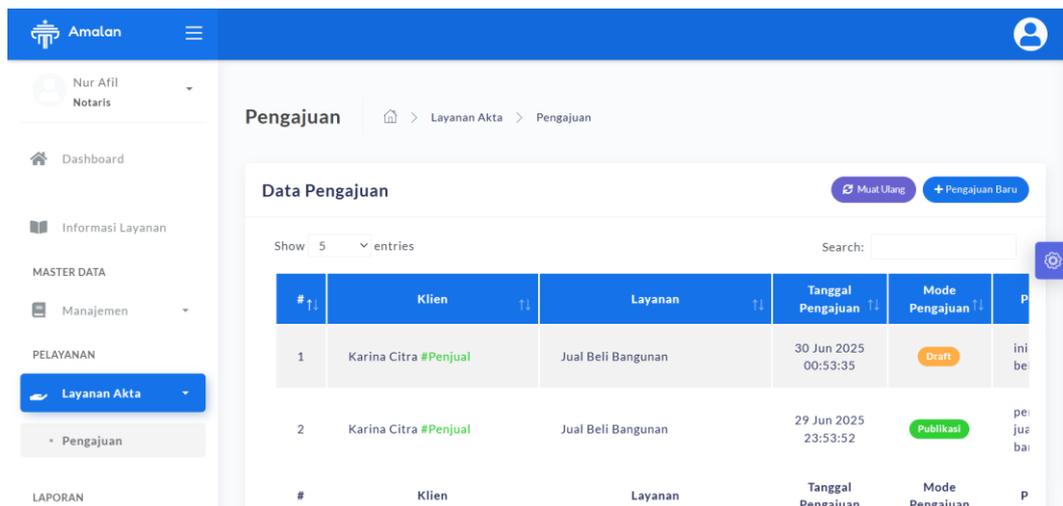


Figure 4. Service Submission Page

4. **Submission Progress Monitoring** – providing transparent access for clients to track their submission progress. As shown in Figure 5.

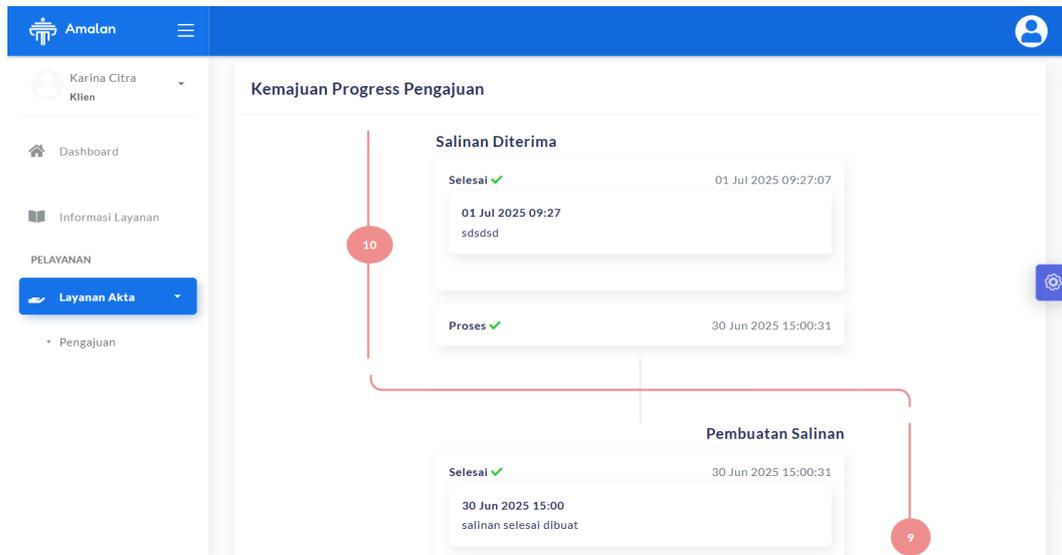


Figure 5. Submission Progress Monitoring Page

5. **Reports** – generating summaries of submissions to assist notaries in evaluating services. As shown in Figure 6.

The implemented interfaces are presented in several main pages, such as the service detail page, service component management page, and the submission progress monitoring page. Functional testing using the black box testing method confirmed that all features performed according to the analyzed requirements.

3.2. Create a Discussion

The findings indicate that the developed application successfully addresses several problems faced by the notary office, including:

- Lack of service documentation

The application provides digital records of all requirements, steps, and roles related to each service.

- Staff difficulties in handling documents

The system assists staff in identifying required documents without constantly waiting for direct instructions from the notary.

- Limited transparency for clients

Clients can directly monitor their submission progress, increasing trust and satisfaction.



Compared to previous studies that mainly focused on document management or registration systems, this research offers a more comprehensive solution, as it integrates the monitoring of notarial services as a whole and involves notaries, staff, and clients.

Therefore, the system not only improves internal operational efficiency but also strengthens client relations by providing transparent access to service information.

4. Conclusion

This study concludes that the development of a web-based service monitoring application for notarial practices successfully meets the research objectives stated in the introduction. The system provides structured features for managing service components (stages, requirements, roles, and questions), enables real-time submission tracking, and delivers progress updates that are directly accessible to clients.

Overall, this research contributes by offering a digital solution that improves documentation, enhances operational efficiency, strengthens communication with clients, and builds trust through transparent information access. Furthermore, this work highlights opportunities for future development, such as integrating cost estimation and appointment scheduling features to further automate and streamline notarial service processes.

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