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Digitalisasi Layanan E-Legalisir Sebagai Upaya Peningkatan Pelayanan Legalisir Ijazah dan Transkip Nilai di Politeknik Negeri Sriwijaya

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Abstract: The legalization of diplomas and academic transcripts is a vital administrative service in higher education to ensure document authenticity for further study, employment, and other official purposes. However, manual legalization processes are often time-consuming, inefficient, and vulnerable to document loss and weak verification. Advances in information technology enable digital solutions such as electronic signatures, QR codes, and digital certificates, supported by Indonesia's legal framework on electronic documents. This study aims to design and develop a web-based E-Legalization system to improve service efficiency, enhance document security and authenticity, and ensure legal compliance. The proposed system is expected to provide a faster, more secure, and easily accessible digital legalization service, supporting the development of a sustainable digital campus ecosystem.

Keywords: E-Legalization, Digital, Ecosystem

Introduction

The legalization of diplomas and academic transcripts is one of the essential administrative services in higher education institutions, serving to ensure the authenticity of academic documents for various purposes, such as pursuing further studies, applying for employment, or fulfilling other administrative requirements. However, the legalization process, which is still largely conducted manually, often faces a number of challenges. Based on preliminary observations and reports from academic service units at several public universities, the manual legalization process takes an average of 5 to 7 working days to complete a single legalization request. This duration may increase when high service demand, limited staff availability, or multi-level document verification is required. Such conditions frequently result in long physical queues, service delays, and inconvenience for students and alumni, particularly those residing outside the city.

In addition to time-related issues, manual processes also pose risks of physical document loss or damage and leave room for document forgery, as authenticity verification is often limited to visual inspection without support from a digital system integrated with academic archives. Previous studies conducted at several educational institutions have also emphasized that manual legalization services hinder work efficiency and reduce user satisfaction levels.

Along with the rapid development of information technology, various digital solutions have emerged to address these issues. Several universities in Indonesia and abroad have piloted the use of QR codes and digital certificates for validating diplomas and academic transcripts, enabling external parties to verify documents without directly accessing physical archives. Moreover, international literature has explored the use of blockchain technology for storing digital diplomas to ensure data integrity and maintain electronic document audit trails. From a regulatory perspective, the implementation of electronic signatures in Indonesia is supported by a strong legal framework through Law Number 11 of 2008 on Information and Electronic Transactions (ITE Law) and its implementing regulations. These regulations provide legal certainty for the use of electronic certificates (e-signatures) in digital documents, allowing the development of E-Legalization systems in higher education institutions that comply with legal validity, data security, and process reliability requirements.

Furthermore, government-initiated digital transformation programs in the public sector and higher education further reinforce the urgency of developing technology-based administrative services. The modernization of academic services, including the legalization process, is a crucial component in improving efficiency, transparency, and accessibility. Online services such as E-Legalization systems are expected to facilitate access for students and alumni located across different regions, while also supporting the development of a sustainable digital campus ecosystem.

Therefore, this research is directed toward designing and developing an E-Legalization system capable of accelerating service processes, ensuring document security and authenticity through digital technologies, and complying with applicable legal regulations. The implementation of this system is expected to serve as a model for digital-based academic services that support the digital transformation of higher education institutions and enhance the quality of administrative services.

Methodology

This study employs the Research and Development (R&D) method because the primary objective of the research is to produce a product in the form of an E-Legalization system that can improve the quality of diploma and academic transcript legalization services at Sriwijaya State Polytechnic (Politeknik Negeri Sriwijaya). The R&D method is selected as it not only focuses on theoretical analysis but also emphasizes the development of a tangible product whose effectiveness and feasibility can be tested in practice.

In the R&D process, the research begins with a needs analysis to identify problems in the manual legalization service, both from the perspective of students/alumni as service users and administrative staff as service providers. This stage is followed by system design, which defines system features, workflows, and interface designs based on the identified needs.

The next stage involves prototype development as an initial version of the system that can be tested. The prototype then undergoes expert validation, involving assessments from experts in information technology, academic administration, and other relevant fields

to ensure functional suitability and regulatory compliance. After validation, the system is tested through limited trials with a small group of users to evaluate initial performance and collect feedback. Based on the results of these limited trials, system revisions are carried out before proceeding to large-scale field testing involving a broader group of users. The results of field testing are analyzed to assess the system's effectiveness in improving service speed, user satisfaction, and document security. The final stage is product finalization, which includes preparing complete documentation, user manuals, and implementation recommendations at the institutional level. An overview of the R&D development stages is as follows:

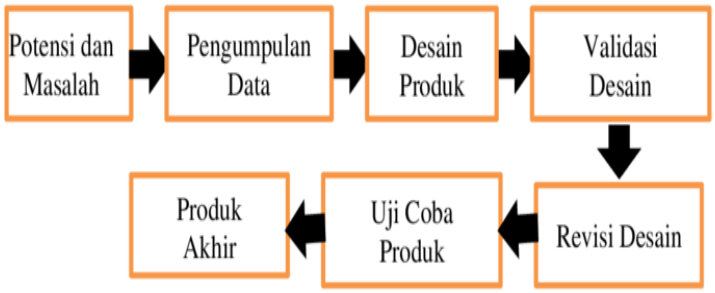

Figure 1. Stages of the R&D Method

a. Needs Analysis
1. Identifying problems in manual legalization services through observation, interviews, and questionnaires.
2. Producing functional and non-functional system requirement documents.

b. System Design
1. Designing system architecture, databases, and e-legalization workflow processes.
2. Designing user interfaces (UI/UX) to ensure ease of use for students and staff.

c. Prototype Development
1. Building an initial system version (MVP) that includes core features: submission, verification, electronic signatures, and digital document issuance.

d. Expert Validation
1. Involving experts in technology, academic administration, and law to assess system suitability.
2. Using validation instruments to evaluate functional aspects, security, and regulatory compliance.

e. Limited Trial
1. Involving a small group of users (students/alumni and administrative staff).
2. Measuring usability, processing time, and initial user satisfaction.

f. Product Revision
1. Refining the system based on feedback from experts and users during the limited trial stage.

g. Field Trial

1. Implementing the system on a broader scale involving users from various departments.
2. Measuring system effectiveness in reducing physical queues, accelerating services, and improving user satisfaction.

h. Product Finalization

1. Refining the system into its final version.
2. Preparing documentation, user manuals, standard operating procedures (SOPs), and implementation recommendations for Polsri.

Result and Discussion

a. Landing Page

Figure 2. E-Legalization Landing Page

The display in the figure shows the main page of the Online Legalization System of Sriwijaya State Polytechnic (Polsri). This system is a digital-based academic service innovation designed to facilitate the legalization process of diplomas and academic transcripts for students and alumni in a fast, secure, and accessible manner at any time. At the top of the page, there is a header featuring the official logo of Sriwijaya State Polytechnic, emphasizing the institution's identity. To the right of the logo, the main navigation menu includes several options—About, Process Flow, and Contact—making it easier for users to explore information related to the system. In addition, a blue "Login to System" button is located in the top-right corner, serving as the main entry point for users to sign in and access the digital legalization services.

The central section of the page displays the main title, "Polsri Online Legalization," using a modern typography design that attracts attention. Directly below the title are three key features that highlight the system's advantages, namely:

1. 24/7 Access – indicating that the service can be used at any time without time restrictions,
2. Fast Verification – showing that document validation is carried out digitally and instantly, and

3. Digital Download – allowing users to download legally valid digital legalization documents.

Further down, a brief description explains the purpose of the system: "Sriwijaya State Polytechnic service for the digital, fast, and secure legalization of academic documents for students and alumni."
Below this description are two main action buttons: "Start Legalization" and "View Process." The "Start Legalization" button directs users to the online legalization application page, while the "View Process" button displays a step-by-step guide to the digital legalization procedure.

B. Login or Registration Form

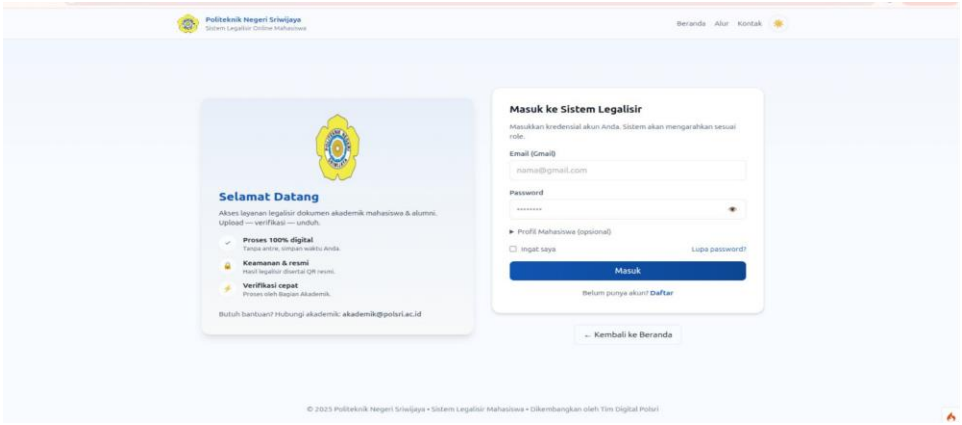

Figure 3. Login or Registration Form

The login page of the Online Legalization System for Students at Sriwijaya State Polytechnic is designed as the main gateway for students and alumni to access digital academic document legalization services. The interface adopts a simple, professional, and user-friendly design. At the top of the page, the institutional identity is displayed through the Sriwijaya State Polytechnic logo and the system title, "Online Student Legalization System," which clearly conveys the application's primary purpose.

On the left side of the page, there is an information panel that provides an overview of the system's benefits and key features. The highlighted points include a fully digital legalization process, enabling users to complete all stages without having to visit the campus in person. In addition, the system ensures document security and authenticity by embedding an official QR Code in the legalized documents. The verification process is also fast, as it is handled directly by the academic administration through an integrated system.

Meanwhile, the right side of the page presents the login form, where users can enter their account credentials in the form of a Gmail email address and password. Additional options include a Student Profile (optional) and a "Remember me" checkbox, which helps users access the system more easily on subsequent visits. For new users, the system provides a "Register" link, while users who forget their password can use the "Forgot Password"

feature to recover their account. The "Login" button is displayed in a contrasting blue color, providing clear visual emphasis on the primary action users need to take.

In terms of appearance, the system's interface design emphasizes simplicity and professionalism, with a dominant blue and white color scheme that reflects the identity of a higher education institution and conveys a clean, modern impression. The interface elements are arranged proportionally and responsively, ensuring user comfort whether the system is accessed via a desktop computer or mobile device.

Conclusion

Based on the results of the analysis and system design, it can be concluded that the manual legalization process for diplomas and academic transcripts still practiced in many higher education institutions leads to various challenges, including long service times, lengthy queues, and risks of document loss and forgery, highlighting the need for a more efficient, secure, and transparent digital transformation. This study proposes an E-Legalization system that digitalizes the legalization process by integrating information technology with electronic signatures and QR codes to ensure document authenticity, enabling online legalization without requiring users to visit the campus. The implementation of this system supports the government's higher education digital transformation agenda by improving the efficiency and effectiveness of academic services, strengthening data integrity, and providing added institutional value through the development of a sustainable digital campus ecosystem.

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