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LIMSYS: Enhancing Organizational Efficiency Through a Smart Document Management Platform

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ABSTRACT: The study introduced LIMSys, a smart document management platform designed to optimize organizational workflows in Madrid's legislative office. By transitioning from error-prone manual methods to a structured digital approach, the system facilitates rapid retrieval, secure access, and automated categorization of ordinances and resolutions. Developed using a PHP and MySQL framework, LIMSys was evaluated against ISO 25010 standards, where it demonstrated significant advancements in operational efficiency, data accuracy, and transparency. Ultimately, the platform serves as a modern solution for legislative record-keeping and administrative accessibility.

KEYWORDS: Document Management System; LIMSys; Legislative Records Management; Workflow Optimization; ISO 25010

I. INTRODUCTION

In modern governance, the shift from paper-based record keeping to digital systems has become essential for improving transparency and operational efficiency. Document Management Systems (DMS) support this transition by reducing



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reliance on physical documents, streamlining workflows, and strengthening data security [1]. Despite these advantages, many local government units (LGUs), particularly in smaller municipalities, continue to depend on manual filing practices that expose legislative records to risks such as misplacement, physical deterioration, and delayed retrieval. This situation is evident in the legislative office of Madrid, Surigao del Sur, where documents are stored in physical drawers, resulting in labor-intensive processes that slow administrative operations. Web-based document management platforms provide a practical response to these limitations by offering centralized repositories with structured storage, controlled access, and faster document retrieval [3]. When combined with intelligent automation, such systems further enhance efficiency by reducing human error in tasks such as document classification and routing [4]. Guided by these principles, LIMSys: A Smart Document Management Platform is designed to automate document organization, secure access, and retrieval of legislative records, allowing staff to focus on higher-value administrative responsibilities rather than manual document handling. The adoption of DMS in the public sector has been shown to improve transparency and service delivery. Bayona-Oré and Reyes emphasize that effective documentation reduces administrative complexity and supports citizen-centered governance through faster access to information [2]. However, existing studies largely focus on large institutions or urban settings, with limited attention given to small municipal legislative offices. This study addresses that gap by evaluating the usability and effectiveness of LIMSys in a small-scale government environment, examining how digital document management can promote accountability and improve legislative services in Madrid, Surigao del Sur.

II. LITERATURE SURVEY

The global move toward digital governance has reinforced the role of Document Management Systems as key enablers of organizational agility and digital transformation. DMS minimizes paper dependency, improves workflow efficiency, and enhances data security, positioning it as a strategic asset rather than a simple storage solution [1]. These systems support structured communication and sustainable information management within increasingly digital administrative environments. In the public sector, effective documentation is fundamental to efficient governance. Bayona-Oré and Reyes report that government institutions implementing DMS benefit from reduced operational costs, lower administrative complexity, and improved transparency, ultimately contributing to citizen-centered service delivery [2]. These findings underscore the importance of reliable document management in maintaining public trust and service quality. Web-based DMS platforms specifically address the weaknesses of traditional manual filing systems, which are prone to record loss and slow retrieval. Alade highlights that centralized and secure digital repositories improve accountability and support integrated workflows, reflecting a broader shift toward reliable and efficient data management practices [3]. Additionally, advancements in intelligent automation have expanded DMS capabilities by reducing human error and accelerating routine processes such as document classification and routing [4]. The successful implementation of DMS also depends on the development approach used. Anifa et al. emphasize that Agile methodologies support adaptability through iterative development and continuous user feedback, enabling systems to evolve alongside organizational needs [5]. While challenges such as resistance to change may arise, an agile framework is essential for ensuring long-term system sustainability and effective digital transformation.

Table 1. Summary of Relevant Literatures

No.	Paper Title	Author Name	Key Points	Remarks
1	Document Management System – A Way to Digital Transformation	Jordan et al., (2022)	DMS supports digital transformation by reducing paper use, improving workflows, and enhancing data security. [1]	This supports LIMSys as a digital-first platform for efficient legislative document management.
2	Challenges in the Technological Adoption of Document Management Systems	Bayona-Oré et al., (2025)	Effective documentation systems reduce costs, increase transparency, and improve public service delivery. [2]	This justifies implementing version tracking, audit logs, and access control in LIMSys.



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3	Design and Implementation of a Web-based Document Management System	Alade, (2023)	Web-based DMS improves document storage through centralized and accessible repositories. [3]	This emphasizes the need for usability and staff training in LIMSys adoption.
4	Intelligent Automation for Document Management Systems: Enhancing Workflow Efficiency and Compliance.	Al-Khazraji et al., (2023)	Intelligent automation reduces human error and speeds up document processing. [4]	This supports real-time access, automated categorization, and monitoring features in LIMSys.
5	Systematic Review of Literature on Agile Approach - Government Frameworks	Anifa et al., (2024)	Agile methodologies enable continuous improvement and alignment of DMS with evolving government operational requirements. [5]	This supports the centralized MySQL-based and modular design of LMSys, ensuring scalability, compliance, and long-term sustainability for legislative use.

The literature confirms that transitioning from manual filing to a web-based Electronic Document Management System (EDMS) is vital for modern, transparent governance. While global research emphasizes that Agile development and user-centered design are key to overcoming adoption barriers, Philippine studies highlight the necessity of aligning with DILG digital mandates to improve local service delivery.

III. METHODOLOGY

Research Design

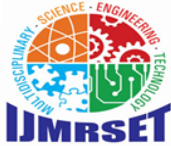
This study utilized a Descriptive-Developmental Research Design to bridge the gap between problem identification and solution implementation. The descriptive component focused on analyzing the current "as-is" state of record-keeping in Madrid, Surigao del Sur, allowing the researchers to pinpoint specific inefficiencies and security risks. Following this, the developmental component involved the actual creation of the LIMSys platform. This process integrated user-centric design with rigorous technical development and testing. To validate the system's effectiveness, the researchers conducted a stakeholder evaluation based on the ISO 25010 standards, focusing on core quality attributes such as functionality and reliability. This methodology ensured that LIMSys serves as a high-performance solution for the legislative office's digital transformation.

Instrument

The evaluation of LIMSys was guided by the ISO 25010 Software Quality Model, ensuring that the platform meets global standards for software excellence. Assessment focused on functionality, reliability, usability, efficiency, and security. Data was gathered through a 30-item Likert-scale survey, which quantified user feedback on the system's performance and ease of use. This structured evaluation provided measurable evidence of the prototype's readiness for implementation and its ability to address the operational needs of the Madrid legislative office.

Data Collection and Participants

The procedure commenced with securing formal institutional clearance and approval from North Eastern Mindanao State University (NEMSU) – Cantilan Campus. Upon approval, the researchers identified and recruited fifty (50) participants, comprising IT professionals, legislative staff, and residents of Madrid, Surigao del Sur. A formal orientation was conducted to introduce LIMSys, during which the researchers clearly explained the study's objectives and the system's core functions. This ensured that all respondents possessed a foundational understanding of the platform before the evaluation phase.



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Data Analysis

The data collected from surveys, interviews, and system evaluations were processed using statistical and analytical methods, with the following treatments applied:

1. Weighted Mean: Calculated to determine overall scores for software quality attributes based on the ISO/IEC 25010 model, including functional suitability, performance efficiency, compatibility, usability, reliability, and security.
2. Scale Interpretation: Respondents' ratings were translated into a five-point descriptive scale (4.21–5.00 = Excellent, 3.41–4.20 = Very Good, 2.61–3.40 = Good, 1.81–2.60 = Fair, 1.00–1.80 = Poor).
3. Qualitative Data Analysis: Responses from interviews and open-ended survey questions were categorized and summarized to identify patterns, trends, and insights relevant to system usage and operational needs.
4. Triangulation: Data from different sources (surveys, interviews, and observations) were cross-checked to validate findings and ensure consistency

IV. RESULTS & DISCUSSION

System Features

LIMSys is a secure, web-based platform designed to digitize and automate the legislative record-keeping of Madrid, Surigao del Sur. Utilizing a MySQL database and role-based access control, the system provides authorized staff with tools for paperless document uploading and retrieval, while giving administrators full oversight through approval workflows and activity monitoring. By replacing manual filing with this structured digital framework, LIMSys ensures that ordinances and resolutions are secure, searchable, and managed with greater operational efficiency.

Performance Evaluation

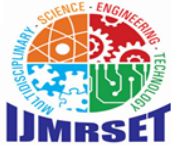
This section presents the evaluation of the system based on the ISO 25010 software quality standards, specifically focusing on Functionality, Reliability, Usability, Efficiency, and Security. Using a 5-point Likert scale, the performance of the system was measured through weighted means and verbal interpretations to determine how effectively it met its design objectives.

Table 2. Performance Evaluation System Tabulation

Table	Quality Characteristics	Mean	Verbal Interpretation
1	Functional Suitability	4.27	Strongly Agree
2	Performance Efficiency	4.24	Strongly Agree
3	Compatability	4.34	Strongly Agree
4	Usability	4.26	Strongly Agree
5	Reliability	4.18	Strongly Agree
6	Security	4.27	Strongly Agree
Over-All Mean		4.26	Strongly Agree

V. CONCLUSION

In conclusion, LIMSys enhances legislative document archiving and management at the Legislative Office of Madrid, Surigao del Sur, by addressing the inefficiencies, disorganization, and errors of the manual paper-based system. It provides a digitized, structured approach for storing, organizing, tracking, approving, and retrieving official documents such as ordinances, resolutions, and meeting minutes. Authorized users (staff and administrators) appreciate the system's user-friendliness, security, and reliability. LIMSys enables prompt, accurate, and secure document management through automated filing, retrieval, and role-based dashboards for users and admins. The system achieves its objectives by boosting operational efficiency, transparency, and organized recordkeeping for the LGU while supporting legislative operations.



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