

Design and Usability Evaluation of the "EL-Nyurat" Website-Based Automatic Letter Generation System Using the Prototyping Method

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ABSTRACT

The digitalization of administration has become a necessity to improve the efficiency of correspondence management within student organizations. However, the letter creation process is still largely carried out manually using Microsoft Word by modifying existing documents, which has the potential to cause writing errors, inconsistent formatting, and less optimal archive management. This study aims to develop a prototype of a web-based automatic letter generation system without writing any program code, namely EL-Nyurat, to support a faster, more consistent, and more efficient correspondence administration process. The system was designed using the Prototype method, which consists of the stages of requirement gathering, prototype design, prototype evaluation, development, testing, and implementation. System evaluation was conducted through Black Box Testing to examine system functionality and the System Usability Scale to measure the level of usability. The testing results indicate that all major system features function according to the specified functional requirements. Furthermore, the usability evaluation achieved an average SUS score of 92, which falls into the Excellent, Acceptable, and Grade A categories. The functional and empirical testing results demonstrate that EL-Nyurat possesses good functionality and a high level of usability, thereby showing the potential to support the digitalization of correspondence administration in student organizations, outperforming previous manual correspondence methods while offering a faster, more adaptive, and less error-prone administrative experience for end users.

Keywords—Correspondence Administration; Document Automation; Prototype; System Usability Scale; Letter Template

1. INTRODUCTION

The digitalization of administration has become a necessity in supporting more effective document management, including correspondence administration in student organizations as a medium of official communication. Letters are not only used as a means of communication but also serve as reminders, written legal evidence with legal validity, sources of information, guarantees, representatives, and promotional tools. Letters play an important role in facilitating various organizational activities so that organizational objectives can be achieved. There are not many activities that an organization or office can carry out without the use of letters in its operations [1]. However, the letter creation process is still generally performed manually using Microsoft Word by modifying existing documents. This process has the potential to cause data entry errors, inconsistent letter formatting, repeated document revisions and printing that lead to paper waste, and longer processing times, especially when creating various types of letters. In

addition, the lack of an integrated letter archive management system further reduces administrative effectiveness. Based on these issues, this study designs a prototype of a web-based system called EL-Nyurat that automates letter generation using standardized templates to improve the efficiency, consistency, and ease of correspondence administration management in student organizations.

An attractive User Interface (UI) also plays an important role in enhancing user comfort in understanding the system and improving the overall user experience. User Interface (UI) design is essential for creating an intuitive digital experience. Inspirational search enables designers to explore existing designs and generate ideas for new creations. Focusing on functionality, problem domains, and visual styles helps designers understand and fulfill user needs through innovative and effective interfaces. These aspects guide UI design choices and help fulfill user needs and expectations effectively [2]. Figma was used to develop the UI prototype of the EL-Nyurat system so that its interface would be visually appealing and its prototype workflow would be easy to understand. Figma is a design tool for creating mobile, desktop, and web applications, compatible with Windows, Linux, and Mac, and is widely utilized by professionals in the UI/UX and web design fields [3]. The use of Figma ensures that the user experience can be evaluated before the system proceeds to the next stage of development. Our approach surpasses existing UI retrieval methods, enhancing UI designers' search experience with enriched, relevant results [2].

The digitalization of correspondence administration has been widely implemented to improve document management efficiency, accelerate administrative processes, and minimize the risk of archive loss. Research on web-based correspondence systems using the Prototype method has shown that this approach is capable of producing systems that meet user requirements through an iterative development process [4]. In addition, studies on digital correspondence information systems have demonstrated that digitalization can improve the effectiveness of document management and accelerate the document retrieval process compared to manual methods [5]. Recent research on web-based correspondence and document management systems has also integrated approval workflows, document tracking, and digital archiving to support organizational administrative transformation [6]. Nevertheless, previous studies have primarily focused on general correspondence or document management, with limited support for flexible document template management. To address this gap, this study proposes EL-Nyurat, a web-based automatic letter generation system that integrates standardized templates, letter categories, letter preview, letter history, and user management while enabling administrators to manage and customize document templates through a web interface. This approach improves template management flexibility and is empirically validated through usability testing.

This study aims to develop a prototype of the web-based EL-Nyurat system as a digital solution for the administrative processes of student organizations. The proposed system is expected to automate the letter creation process through the use of standardized templates, thereby reducing writing errors, improving the consistency of letter formatting, and accelerating administrative processes. Furthermore, this study also aims to evaluate the system's functionality and usability as the basis for assessing the feasibility of the prototype before its wider implementation.

The main contribution of this study is the design of a prototype of a web-based automatic letter generation system intended to support the administrative activities of student organizations through the integration of standardized letter templates, letter category management, document preview before downloading, letter history storage, and user management based on access privileges. In addition to producing the prototype, this study also evaluates the system quality through Black Box Testing to assess functionality and the System Usability Scale (SUS) to measure usability, thereby providing an empirical basis for developing a correspondence administration system that is more effective, efficient, and user-friendly.

2. LITERATURE REVIEW

In the university environment, student organizations play an important role in developing discipline and leadership skills. Formal organizational activities require proper management of incoming and outgoing correspondence, as letters serve not only as official communication media but also as legally recognized documentary evidence. The implementation of a web-based system can provide an effective solution to these challenges. A web-based system enables users to automate document generation quickly and accurately. In addition, it facilitates systematic data management, improves information accessibility, and can be integrated with an appropriate database system [7].

The design of this system adopts the Prototype development methodology. The Prototype method is an approach for creating an initial version of a website or system that provides a simplified representation of the application being developed [8]. Its primary objective is to establish an early model of the system that can be evaluated and refined throughout the development process. This method consists of several stages, including communication, quick planning, quick design, prototype development, delivery and user evaluation, and refinement based on feedback. These stages are carried out iteratively, allowing the development process to remain flexible and adaptable to changing user requirements [9]. The Prototype method was selected because it facilitates continuous refinement throughout development while supporting close collaboration between developers and users (organization secretaries/administrators), ensuring that the resulting system aligns with evolving administrative needs.

The system was evaluated using interactive prototype testing (adopting a Black Box approach) and the System Usability Scale (SUS). Functional testing was conducted to verify that the system's interactive features operated according to specified requirements, focusing on the behavioral validation of user workflows, navigation logic, and user interface states on the high-fidelity prototype without backend code execution [10]. Meanwhile, SUS was employed to assess the system's usability through a standardized questionnaire and task-based evaluation. Usability refers to the extent to which a product can be used by specific users to achieve their goals effectively, efficiently, and satisfactorily within a particular context of use [9]. Five key factors influence usability: 1) Usefulness; 2) Efficiency; 3) Effectiveness; 4) Satisfaction, and 5) Accessibility. As one of the essential software quality attributes, usability determines how easily users can interact with and operate a system through its user interface [11]. Scenario-Based Design (SBD) illustrates a human-centered approach that encourages new methods in Human-Computer Interaction (HCI). It suggests that stakeholders can create and analyze user stories to explore design concepts, ensuring the focus remains on human experiences rather than rigid functional specifications [12].

2.1 Information System for Administrative Letter Services

A correspondence administration information system is the application of information technology to manage the entire correspondence administration process in an integrated manner, including user management, document generation, archive storage, and real-time information delivery [13]. The implementation of a web-based system enables administrative processes to be carried out more quickly, accurately, and systematically compared to conventional methods that still rely on manual record-keeping.

In addition, a study conducted by Londa *et al.* developed a web-based prototype system for monitoring incoming and outgoing correspondence at the Regional Development Planning Agency (Bappeda) of Ende Regency, which also employed the System Usability Scale (SUS) and achieved an average score of 82.1 [14]. Another study designed a correspondence archiving system that utilized Black Box Testing to support archive management at the Faculty of Science and Technology, Universitas Islam Raden Rahmat Malang [15].

In this study, these concepts are implemented in EL-Nyurat through the integration of user authentication, student data management, letter template management, automatic letter

generation, and digital archive storage within a single database. This integration supports more efficient administrative processes while facilitating document management and retrieval whenever needed.

2.2 Template Generator

The template generator feature lets users make different kinds of letters fast and the same way every time by automatically updating important details like the date, numbers, and the main topic or subject [16]. This approach improves time efficiency, maintains formatting consistency, reduces writing errors, and minimizes repetitive tasks.

Previous studies have extensively explored the digitalization and automation of correspondence administration. For example, Puput et al. Create and set up a web-based system for public administrative services in Bumi Subur Village to make the process of requesting and issuing documents online more efficient [17]. These systems help manage mail data more easily, improve service efficiency, and reduce reliance on manual processes. Usability testing shows an average value of 81.16, which falls into the Acceptable category and shows excellent system usability, excellent, user-friendly, and provides a positive usage experience [17].

In the EL-Nyurat system, the document automation concept is implemented by integrating user-inputted data with predefined letter templates, allowing document content to be generated automatically according to the selected letter category. This implementation accelerates the letter generation process while ensuring that every document follows a standardized format in accordance with the institution's administrative standards.

2.3 Administrative Digitalization

Administrative digitalization is the process of transforming administrative activities from conventional methods into information technology-based systems to improve the efficiency and accuracy of data and document management [18]. One of its implementations is a web-based letter generation system that utilizes document templates and electronic forms to automatically generate letters based on user-provided data. Such a system enables flexible access across various devices while maintaining document format consistency, minimizing writing errors, accelerating the letter creation process, and supporting centralized document archiving.

Previous research [15] identified that manual correspondence archiving was inefficient and ineffective. This finding highlights the importance of administrative digitalization in improving administrative services, particularly in monitoring the processing of incoming and outgoing correspondence more effectively and efficiently [14]. By leveraging document automation, such systems are capable of transforming narrative text into structured correspondence documents, thereby enhancing the overall efficiency and reliability of administrative processes [17].

2.4. Research Novelty

The novelty of this study lies in its attractive UI/UX design, system customization flexibility, and evaluation approach compared with previous studies. In the studies conducted by [14] and [15], the developed correspondence systems primarily focused on a one-way submission workflow and employed rigid template structures. Meanwhile, the studies in [17] implemented document automation but had limitations in that non-technical users could not independently modify placeholder variables without editing the program source code.

The EL-Nyurat system addresses these limitations by providing a more flexible solution through the dynamic placeholder injection feature. This feature enables student organization administrators to modify, add, or remove letter template components directly through the web interface without requiring any changes to the program source code. Furthermore, unlike previous studies that mainly evaluated system functionality, this research contributes by providing

empirical and quantitative usability validation using the System Usability Scale (SUS) with measurable results.

Through the Prototyping methodology adapted from the interaction principles in [9], combined with standardized quantitative SUS evaluation as presented in [12], this study successfully developed a system prototype with a very high level of user acceptance. In the study reported in [15], although Black Box Testing was employed, no testing table or significant evidence of the system testing results was found. The implementation of EL-Nyurat achieved an average SUS score of 92, which falls into the Excellent/Best Imaginable category. This score significantly outperforms the user satisfaction levels reported in previous correspondence automation studies, which achieved an average SUS score of 82.1 [14] and 79 [17], demonstrating that the proposed system offers a substantially higher level of usability and readiness for adoption by end users in student organization environments. The EL-Nyurat score is higher because it removes the complexity of repeated forms and minimizes the cognitive load of users through automated variable processing on the client/server side, which enables administrators to customize document templates directly through the web interface. This capability improves template flexibility and supports more adaptable correspondence management in response to changing organizational requirements.

3. METHODOLOGY

3.1. Data Collection Method

The data collection techniques employed in this study included interviews, observations, and a literature review. Interviews were conducted with student organization administrative personnel to identify the existing workflow and system requirements. In addition, observations were carried out to examine the current correspondence administration process. A literature review was also performed by examining books, scientific journals, and previous studies related to information systems, correspondence administration, Unified Modeling Language (UML), the Prototype development method, Interactive Prototype Testing (Black Box Approach), and the System Usability Scale (SUS). The collected data served as the foundation for the system requirements analysis, design, implementation, and evaluation processes.

3.2. System Development Method

This study employed the Prototype development method because it enables active user involvement through continuous feedback at each stage of development, ensuring that the resulting system better meets user requirements. The method consists of six stages: requirement gathering to identify system requirements, prototype design to develop the initial system design, prototype evaluation to collect user feedback, development to implement the approved design into a functional system, testing to verify system functionality, and implementation to deploy the system for supporting correspondence administration in student organizations.

Although the interface was initially designed in Figma, the approved prototype was implemented as a functional web-based application. This implementation enabled functional evaluation prior to wider deployment.

3.3. System Requirements Analysis

System requirements analysis was conducted to identify the functions and characteristics that the system must fulfill to meet user needs. The results of this analysis served as the foundation for the system design and were classified into functional and non-functional requirements.

3.3.1 Functional Requirements

Functional requirements describe the services and features that the system must provide to support the correspondence administration process. The identified core functionalities include user authentication, user management, automatic letter generation based on predefined templates,

letter preview and download, letter history management, and data management according to user access privileges.

3.3.2 Non-Functional Requirements

Non-functional requirements describe the quality attributes that the system must satisfy to operate effectively. These include ease of use through an intuitive user interface, secure user authentication and access control, responsive system performance, and compatibility across various devices to ensure accessibility and reliability.

3.4. System Design

The system design was developed using Unified Modeling Language (UML) to visualize the system requirements, workflows, and interactions before the implementation stage. UML modeling served as a blueprint for designing the system in a structured manner, ensuring that each function and interaction was clearly defined. In addition, a database design was developed to support integrated data storage and management, enabling efficient handling of user information, correspondence data, and other system-related records.

3.4.1 Use Case Diagram

The Use Case Diagram illustrates the interactions between the system actors and the functionalities provided by the EL-Nyurat application. It defines the roles of each actor and the system features that can be accessed according to their respective permissions.

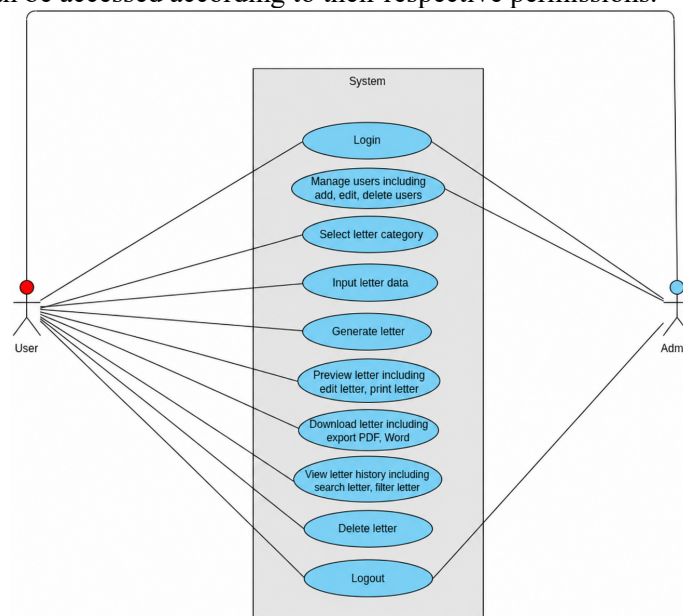


Figure 1. Use Case Diagram of EL-Nyurat

As shown in Figure 1, the system involves two actors, namely User and Admin. The User is authorized to perform the correspondence process, including selecting a letter category, generating letters, previewing documents, downloading letters, and viewing letter history. Meanwhile, the Admin has additional privileges to manage user accounts and maintain system data. The diagram clearly illustrates the distribution of responsibilities and access rights for each actor within the EL-Nyurat system.

3.4.2 Activity Diagram

The Activity Diagram illustrates the workflow between the user and the EL-Nyurat system during the letter generation process. It describes the sequence of activities from user authentication to the successful creation and download of a letter.

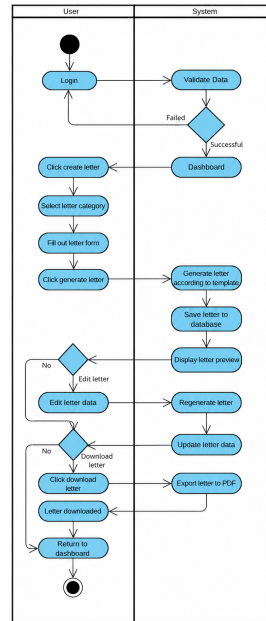


Figure 2. Activity Diagram of EL-Nyurat

As shown in Figure 2, the process begins with the user logging into the system, after which the credentials are validated. Once authenticated, the user selects a letter category, enters the required information, and submits the data for processing. The system then generates the letter based on the selected template, stores the correspondence data, displays a preview of the generated document, and provides options to edit or download the letter. After completing the process, the user may return to the dashboard to perform other administrative tasks. This diagram presents the overall workflow of the letter generation process in a structured and sequential manner.

3.4.3 Class Diagram

The Class Diagram models the static structure of the EL-Nyurat system by defining its classes, attributes, methods, and the relationships among them. It serves as the foundation for system implementation by describing the core components that make up the application.

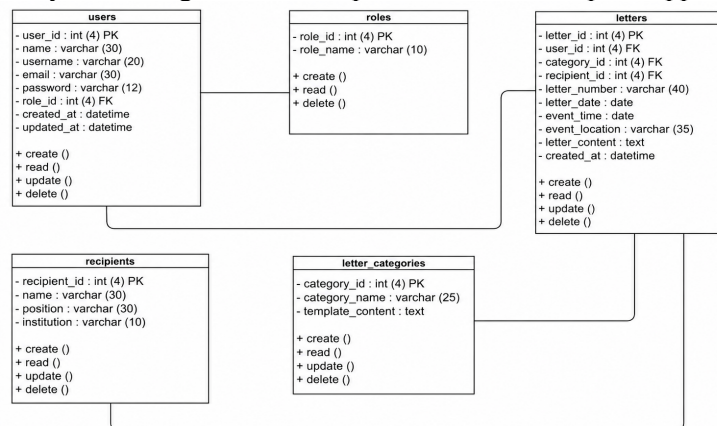


Figure 3. Class Diagram of EL-Nyurat

As shown in Figure 3, the system consists of five main classes: Users, Roles, Letters, Recipients, and Letter_Categories, which are interconnected through defined relationships. These classes collectively support user management, role-based access control, recipient information management, letter categorization, and automatic letter generation, providing a structured architecture for the EL-Nyurat system.

3.4.3 Database Design

The database was designed to support structured data storage and management, ensuring that all information processed by the system is stored consistently and efficiently. The database schema was developed based on the system's functional requirements while maintaining proper relationships among entities to support reliable data processing.

The database consists of five main tables: Users, Roles, Letters, Recipients, and Letter_Categories. The Users table stores user account information and is linked to the Roles table to manage access privileges. The Letters table stores correspondence records and is associated with the Users, Recipients, and Letter_Categories tables, allowing each letter to be linked to its creator, recipient, and category. This database structure supports user authentication, automatic letter generation based on predefined templates, letter history management, and integrated data management throughout the EL-Nyurat system.

3.5. Testing Method

3.5.1 Prototype Functional Testing (Black Box Approach)

Functional testing in this study adopted the principles of Black Box Testing applied to an interactive high-fidelity prototype to verify that all designed functions operate according to the specified requirements. Rather than testing executed back-end source code, the Black Box approach was utilized to validate the input-output interaction logic, frame navigation, and UI state changes within the Figma environment based on predefined test scenarios.

The applied testing techniques include:

- **State Transition Testing:** Assessing the accuracy of interaction and navigation between frames triggered by user actions, such as clicking, swiping, or hovering [19].
- **User Interface Testing:** Verifying layout consistency, visual element readability, and the accessibility of navigation components. The test results show Figma's design is easy to understand and consistent, but it needs improvement in navigation and feature search [20].

This approach detects navigation logic errors and user experience (UX) bottlenecks early, thereby reducing the risk of high-cost fixes during the coding phase [21].

3.5.2 System Usability Scale

The System Usability Scale (SUS) was used to evaluate the usability of the prototype based on users' perceptions. The evaluation was conducted using a questionnaire consisting of 10 statements rated on a five-point Likert scale. The list of SUS statements used in this study is presented in Table 1.

Table 1. SUS Questionnaire

Code	Statement
Q1	I think that I would like to use this system frequently.
Q2	I found the system unnecessarily complex.
Q3	I thought the system was easy to use.
Q4	I think that I would need the support of a technical person to be able to

	use this system.
Q5	I found the various functions in this system were well integrated.
Q6	I thought there was too much inconsistency in this system.
Q7	I would imagine that most people would learn to use this system very quickly.
Q8	I found the system very cumbersome to use.
Q9	I felt very confident using the system.
Q10	I needed to learn a lot of things before I could get going with this system.

The SUS score for each respondent was calculated using the standard System Usability Scale scoring procedure to obtain a usability score ranging from 0 to 100, which was then used to interpret the overall usability level of the proposed system.

4. RESULTS AND DISCUSSION

4.1 System Implementation

This section presents the implementation of the main interfaces of the EL-Nyurat system. To maintain the conciseness of the journal article, only the interfaces representing the core functionalities of the system, namely Create Letter and Letter Preview, are presented.

4.1.1 Create Letter

The **Create Letter** page serves as the entry point for the letter generation process. Users begin by selecting the type of letter to be created from the available categories provided by the system.

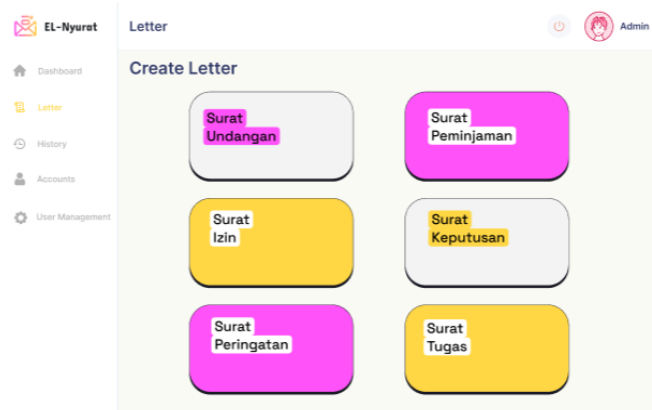


Figure 4. Create Letter Interface

As shown in Figure 4, the system presents several predefined letter categories, allowing users to select the document type according to their administrative needs. Once a category is selected, the corresponding input form is displayed to collect the information required for generating the selected letter.

4.1.2 Letter Input Form

After selecting a letter category, users complete the required information through a structured input form. Once all required fields have been filled, the system processes the submitted data to generate the selected letter using a dynamic placeholder injection mechanism.

[illegible]

Figure 5. Letter Generation Using Dynamic Placeholder Injection

As shown in Figure 5, the system automatically generates the selected letter by applying a dynamic placeholder injection mechanism. The data entered through the Create Letter interface are mapped to predefined placeholders within the selected template and automatically replaced with the corresponding values during the generation process. This mechanism enables standardized document generation without manual template editing, thereby improving consistency and reducing formatting errors.

4.1.3 Letter Preview

The Letter Preview page allows users to review the generated letter before downloading it. This step enables users to verify the document content and ensure its accuracy prior to saving or downloading.

The screenshot displays the 'Letter' section of the EL-Nyurat application. On the left, a sidebar contains navigation links: 'Dashboard' (home icon), 'Letter' (envelope icon, highlighted in orange), 'History' (clock icon), and 'Accounts' (user icon). The main content area features a large heading 'Surat Izin' with a left-pointing arrow. Below this, a preview of a letter is shown within a white box. The letter is from HIMABIKOM (Himpunan Mahasiswa Islam Bina Kencana) to the President of the Republic of Indonesia, dated 2023. At the bottom of the preview box, there are three buttons: 'Edit' (purple outline with a pencil icon), 'Preview' (blue outline with an eye icon), and 'Download' (green outline with a checkmark icon).

Figure 6. Letter Preview Interface

As shown in Figure 6, the system displays the generated letter based on the information entered by the user. This feature helps verify the correctness of the document content and minimizes potential errors before the letter is downloaded.

4.2 Interactive Prototype Testing Results (Black Box Approach)

Functional testing was conducted using a scenario-based Black Box approach to verify that each core feature of the EL-Nyurat interactive prototype operated according to the specified design requirements. This evaluation was performed to determine the extent to which the prototype's interaction logic and user workflows are acceptable to target users prior to full-scale system development. The results of the functional scenario testing for the main prototype features are presented in Table 2, where each interaction was validated by comparing the expected visual response with the actual prototype behavior in Figma.

Table 2. Figma Prototype Test Results

ID	Feature Tested	Test Scenario	Expected Result	Status
IPT-01	Login Navigation	Clicking the "Login" button with sample credentials	The prototype navigates and successfully displays the dashboard frame	Passed
IPT-02	Login Validation	Clicking the "Login" button with invalid credentials	The prototype triggers a component change displaying an error state	Passed
IPT-03	Create Letter	Selecting a letter category and clicking "Create"	The prototype navigates to the specific form frame or displays the letter creation layout	Passed
IPT-04	Preview Letter	Clicking the "Preview" button	The prototype displays the generated letter layout preview via overlay or frame transition	Passed
IPT-05	Edit Letter	Modifying interactive input mock-ups	The prototype correctly updates the visual state of the letter fields	Passed
IPT-06	Download Simulation	Clicking the "Download" icon/button	The prototype displays a visual success pop-up/toast message simulating a download	Passed
IPT-07	Letter History	Accessing the "History" menu from the navigation bar	The prototype successfully navigates to the list frame displaying saved letters	Passed

Based on Table 2, all core features of the EL-Nyurat system, including login, letter generation, letter preview, letter editing, document download, and letter history, successfully produced the expected results. Every test scenario achieved a Passed status, indicating that the prototype satisfies the intended interaction logic. In this study, Black Box testing principles were specifically adapted as behavioral interface testing to validate the functional interactivity of the Figma prototype, rather than evaluating executed backend software code. This early-stage validation ensures that design flaws and user experience bottlenecks are resolved effectively before entering the formal software implementation phase.

4.3 SUS Evaluation

The usability of the EL-Nyurat system was evaluated using the SUS to measure its ease of use based on user experience. The evaluation involved 10 respondents, all of whom were university students who had used the core features of the system. The SUS instrument consisted of 10 statements rated on a five-point Likert scale. The responses were scored using the standard SUS calculation method to obtain individual usability scores and the overall average score.

The SUS evaluation involved 10 respondents because this number is generally considered sufficient for prototype usability evaluation. Since EL-Nyurat is intended for student organization administrators, students actively involved in organizational activities were selected as representative users. Nevertheless, the relatively small sample size remains a limitation of this study.

The evaluation results indicate that the system achieved an average SUS score of 92. According to the SUS interpretation guidelines, this score falls into the Excellent category, has an Acceptable level of acceptability, and is classified as Grade A. These results indicate that the proposed system demonstrates a high level of usability and can be used easily by its intended users.

Table 3. SUS Results

Evaluation Item	Result
Number of Respondents	10
Average SUS Score	92
Grade	A
Acceptability	Acceptable
Adjective Rating	Excellent

In addition to the overall SUS score, a descriptive analysis was conducted on the average response for each questionnaire item to identify the system's strengths and areas for improvement. The average scores for each SUS question are presented in Figure 5. The results show that Q1 and Q5 achieved the highest average score of 4.8, followed by Q3 and Q9 with an average score of 4.7. These findings indicate that respondents perceived the system as easy to use, with well-integrated features that provided a positive user experience.

Average Response Score for Each SUS Question

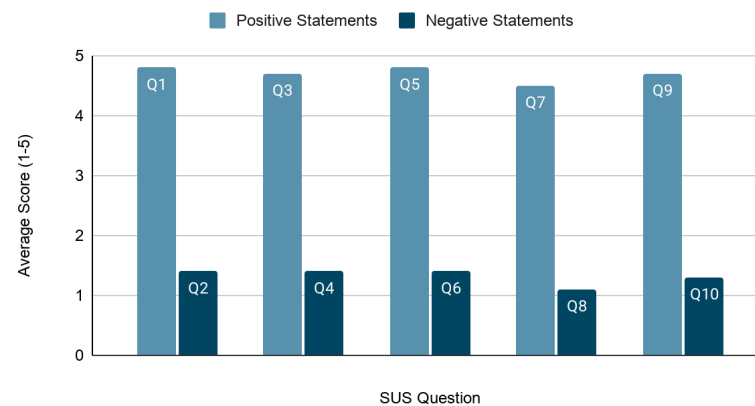


Figure 6. Average Score for Each SUS Question

Meanwhile, Q7 obtained an average score of 4.5, suggesting that some first-time users may require a brief familiarization period before becoming fully comfortable with the system. For the negatively worded statements (Q2, Q4, Q6, Q8, and Q10), the average scores ranged from 1.1 to 1.4, which, according to the SUS methodology, indicates that respondents generally did not perceive the system as complex, inconsistent, or difficult to use. Overall, these findings support the average SUS score of 92, confirming that EL-Nyurat provides excellent usability through an intuitive user interface, a consistent workflow, and a user-friendly experience.

Through both functional testing (prototype scenario walkthrough) and direct user evaluation (human evaluation using SUS) [2], this study demonstrates that the EL-Nyurat approach significantly outperforms conventional correspondence administration methods, providing a more efficient, user-friendly, and practical correspondence management experience for student organization administrators. The author acknowledges that this sample size is limited to broad-scale generalizations, so testing with a larger scope of participants is recommended for future research.

4.4 Discussion

The results demonstrate that the EL-Nyurat system successfully achieved the objective of providing a digital solution for correspondence administration in student organizations. Compared with the conventional manual process, the system improves administrative efficiency through template-based automatic letter generation, reduces human error, and ensures document format consistency. In addition, the Letter History feature simplifies document storage, retrieval, and archive management, resulting in a more organized and efficient administrative workflow.

The usability evaluation, which achieved an SUS score of 92, further confirms that the system offers excellent ease of use and a positive user experience. These findings are consistent with previous studies reporting that web-based administrative systems can improve efficiency, reduce administrative errors, and facilitate document management. Therefore, EL-Nyurat demonstrates strong potential for adoption by various student organizations with similar correspondence administration requirements. The high usability of EL-Nyurat is supported by the integration of the dynamic placeholder injection feature, which enables administrators to customize document templates directly through the web interface. This capability improves template flexibility and supports more adaptable correspondence management in response to changing organizational requirements.

5. CONCLUSION

This study successfully developed EL-Nyurat, a web-based automatic letter generation system prototype designed to support correspondence administration in student organizations through the integration of standardized letter templates, letter category management, document preview, letter history, and user management. The evaluation results demonstrate that all system functionalities satisfied the specified functional requirements based on interactive prototype testing (adopting a Black Box approach), while the System Usability Scale (SUS) evaluation achieved an average score of 92, corresponding to the Excellent, Acceptable, and Grade A categories. These findings indicate that the proposed prototype provides reliable functionality and a high level of usability, demonstrating its potential to support more effective and efficient digital correspondence administration within student organizations.

Future research is recommended to further develop EL-Nyurat into a fully deployable system by incorporating additional features such as digital signatures, WhatsApp or email notification integration, and more comprehensive security mechanisms, including database encryption and fine-grained access control. Furthermore, system evaluation should involve a larger number of respondents and include participants from different student organizations or institutions to obtain more representative usability results and to assess the system's effectiveness across broader application contexts.

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