Development of Digital Archive System Using Website Based and Integrated Scanning in Course Tuition Center

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Abstract

This research aims to develop a website-based digital archiving system that is integrated with document scanning technology (Integrated Scanning) in a tutoring institution. The methods used include needs analysis, system design, implementation and evaluation. The needs analysis stage is carried out through literature studies and interviews with potential users to understand the needs and challenges faced. The system design involved creating an intuitive user interface, developing document search and indexing features, and integration with document scanning technology to enable users to scan and store documents digitally. System implementation is carried out using various web technologies and software to ensure optimal functionality. Evaluation is carried out through user trials and collecting feedback to evaluate the system's effectiveness in meeting user needs and improving the efficiency of document storage and retrieval. It is hoped that the results of this research will contribute to improving the quality of archiving and information management in tutoring institutions, as well as speeding up access to required documents.

Keywords: digital archiving system; website; integrated scanning; course tuition

1. Introduction

The massive use of digital technology in today's global era supports various aspects of life and is required to always be up to date with existing developments. Education needs to adapt to the development of the use of digital technology that can improve education and equitable distribution of technology coverage (Hidayatullah, et al., 2023). Digital technology also plays a major role in developing the world of education. Digital technology as a system that uses computer automation as a medium for storing, backing up, and processing data tends to provide ease of data management that is more effective and efficient. Increasingly sophisticated digital technology helps in the process of integrating data in a systematic and more structured manner so as to minimize misinterpretation and data loss.

Data processing as a process of entering data (input) into simpler information (output) with high accuracy so that decision making can be done optimally. Data processing can be done manually and digitally. Digital data processing provides convenience in the process of simplifying and presenting data in the field of education. Archive management in the process includes the process of processing data into information which includes classifying, organizing, and storing important documents of an educational institution. Archives act as an important evidence tool in supporting the course of education so that documents can be managed effectively and efficiently, especially using digital technology.

Digital archive management is widely used in educational institutions by utilizing various technologies that exist today. Cloud computing or cloud backup is a form of artificial intelligence that utilizes computers and internet-based networks. Various documents are backed up and stored so that they can be accessed and managed more easily and flexibly. In addition, the use of the website is generally used as a quick access to destination documents that lead to pages in the form of information that has been reserved. Information systems specifically designed for digital records management are expected to transform records management, including the process of storing, searching, and maintaining records (Tenawahang and Ikasari, 2023).

Archives tend to be neglected in the way they are managed, because they are considered unnecessary to be stored in a principle. When the office needs archival information for the needs of carrying out tasks, it takes a relatively longer time to find documents (Sumarsono, et al., 2023). Thus, tutoring institutions need to manage archives by utilizing digital technology so that they can run effectively and efficiently. Tutoring archives need to be managed as a form of accountability for the data owned by the school and maintain the preservation of institutional documents.

The development of archival digitization in tutoring institutions has not been fully implemented optimally. Documents tend to be traditional in paper form and have not been integrated with digital technology. Thus, it is necessary to digitize archival documents so that they can facilitate access and backup effectively and efficiently. Integrated scanning is needed where documents are scanned and can be read and automatically connected to the cloud which is integrated into a single digital web-based entity. So it was found that digitization of archives in particular tutoring institutions is needed by using a website in which it is connected to integrated scanning that can facilitate access and distribution of archive documents.

2. Method

This study used a descriptive approach to collect and analyze data. Qualitative research is conducted by conducting interviews, observations, or document analysis and then analyzing the data descriptively. The reason is because qualitative methods are more relevant in processing data. Meanwhile, to realize a good research picture, a series of systematic steps are needed. This research is a type of field research (Field Research) is research that uses observations or interviews and direct research by the Provincial Library as well as staff who contribute to collecting data from the location or field.

Needs analysis is to understand the needs and requirements of tutoring institutions related to website-based digital archival systems and integrated scanning. It is important to ensure that the system developed meets the needs and expectations of tutoring institutions. Using the Data Collection Measures, data collection includes (a). Interviews: Conduct interviews with tutoring agency staff from various levels, including administrative staff, teaching staff, and leaders of tutoring agencies. (b). Observation: Make direct observations of the manual archival process at the tutoring institution to get a clearer picture of how the system is running and how staff interact with documents. (c) Document Analysis: Collect and analyze documents related to archival systems, such as archival policies, archival procedures, and archival forms.

Digital website development is developed using XAMPP. XAMPP is an application that is used as a local server in editing, designing and making designs, as well as general application

development. The use of XAMPP is supported by the use of server components in the form of Apache, MySQL, FileZilla FTP Server, Mercury Mail Server, and Tomcat. In program languages in the form of PHP and Perl. As well as PHPMyAdmin, webalizer, and Fake Sendmail. The components in the digital archive application developed include homepage, users, incoming mail, outgoing mail, and settings.

3. Results and Discussion

3.1 Result

The existence of manual management causes several aspects of teaching letter administration such as recording archives that still use ledgers and archival storage that still uses giant shelves that take up a lot of space and are prone to damage or loss. Historical material, not completely controlled. That. If the community can find, maintain, and provide archive services in a timely and accurate manner, then records management is said to be good. Information technology makes it possible to replace manual data processing with computer-based data processing, thereby increasing the accuracy of data management. Given these problems and the importance of archives, the developer in this case proposed to build Felum, a web-based application, in Edu Talenta Tutoring to facilitate the import and maintenance of archives (Firdaus &; Irfan, 2020).

In an effort to improve the efficiency and accessibility of information, tutoring institutions are increasingly adopting digital technology. The development of a website-based digital archival system and integrated scanning is a much-appreciated solution in managing archives and important documents. Through the integration of this technology, tutoring institutions can easily store, search, and access various information quickly and efficiently, allowing users, both students and teachers, to obtain the necessary information more easily and quickly. Any form of mail received from another individual or organization is considered an incoming letter. Delivery can be made by courier using a delivery book (expedition) or received through a postal service (post office). While outgoing letters are letters sent by an organization or agency to other organizations that are not affiliated with the organization (Masykur &; Atmaja, 2015). Thus, the application of digital archival technology not only increases the productivity of the institution, but also provides a better experience for all stakeholders involved.

Here's a guide to using the Felum app:

1) User login

The user is prompted to enter a pre-registered identity on the system, which can be a username or email address associated with the user account. Next, the user is prompted to enter a pre-set password for the account. This password serves as a form of security verification to ensure that only authorized users can access the account. Once the username or email and password are entered correctly, the user is prompted to press a button or type "*Login*" to submit login information and access the application or platform.

2) Mail application components

The main page or dashboard of the application (*Home*) provides quick access and summary of information related to incoming mail, outgoing mail, users, and other settings. The Outgoing Mail section allows users to create, send, and track letters that have been sent to external or internal parties of the institution. The Users section provides information related to users who have access to the mail application, including a list of users, access rights, and profile information for each user. The Incoming Mail section contains a list of letters received by the institution, be it from external or internal parties, where users can view the details of the letters, group them, and take the necessary actions. Settings provides options to set application preferences and configuration, including notification settings, user management, and other general settings that affect the user experience in using mail applications.

3) Create a new letter

The first step is to access the outgoing mail feature by clicking on the corresponding icon on the application interface. After accessing the outgoing mail feature, users have to search for and press the button that says "Add New Outgoing Mail" to start the process of creating a new mail. After the button is pressed, the user will be asked to enter certain information related to the letter to be created, namely: Date of Letter (date of creation or date of delivery of the letter), Letter Number (sequence number or unique identification for the letter created), Destination of the Letter (recipient or institution to which the letter is made), Subject (brief description or title of the content of the letter to be sent), and Mail File (attachment in the form of a letter document to be sent).

The login menu is the interface used by users to access their account on a digital web application. This menu usually contains fields to enter redentials such as username or email address, as well as passwords.

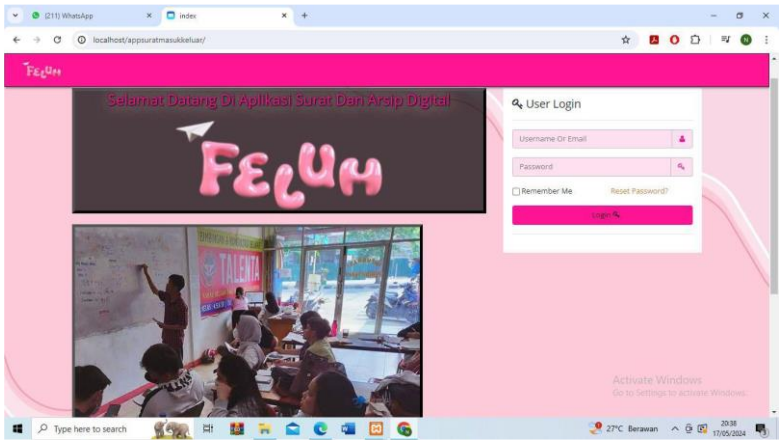

Figure 1. Login Page Display

The dashboard is the main interface that is displayed after a user has successfully logged into the digital archive web application. This menu serves as a control center where users can access various features and functions offered by the application. This dashboard displays several menu bars, namely: home, users, incoming mail, outgoing mail, settings.

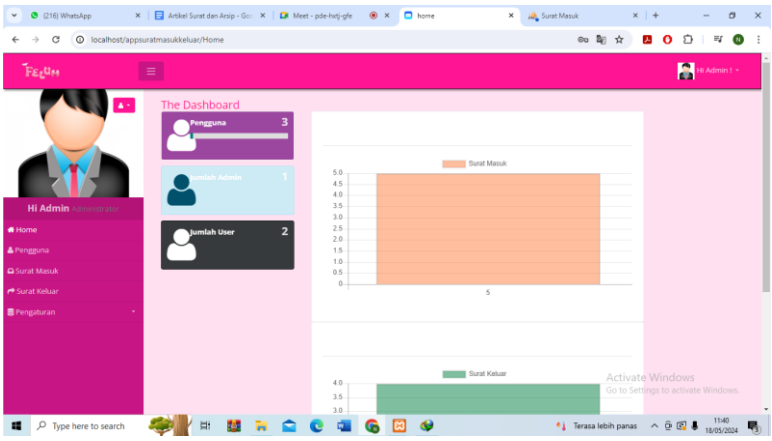

Figure 2. Dashboard Page View

The incoming mail menu is part of a digital archive application used to manage and monitor all mail received by an organization. This menu allows users to view, manage, and store incoming mail digitally, as well as ensure all mail is well recorded and can be accessed easily.

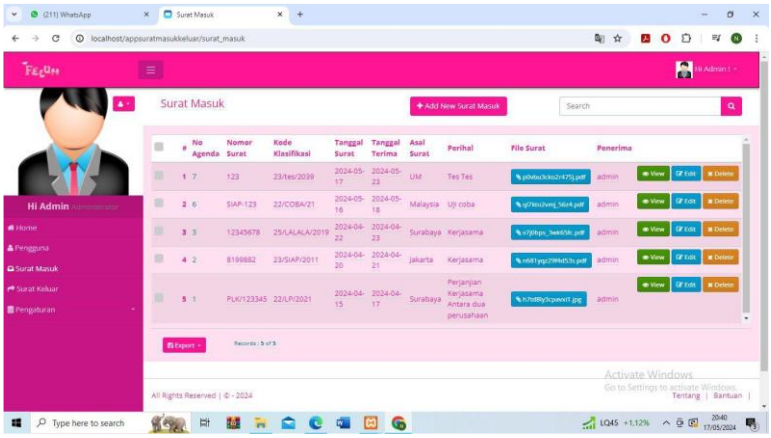

Figure 3. Incoming Mail Home Menu

The outgoing mail menu is part of a digital archive application used to manage and monitor all mail sent out of an organization. This menu allows users to create, store, track, and manage outgoing mail digitally, ensuring that all mail is well-documented and easily accessible.

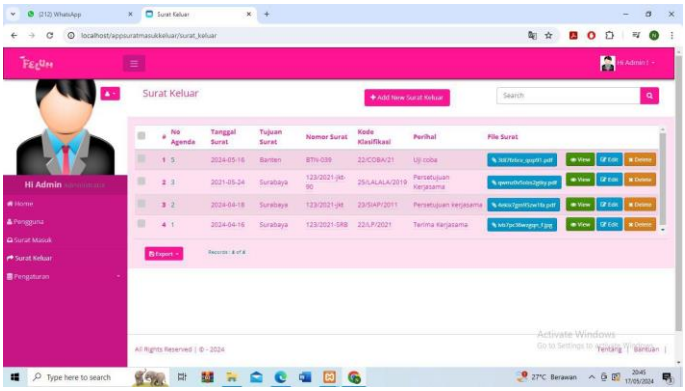

Figure 4. Outgoing Mail Home Menu

The results of the trial of the feasibility aspect of the Felum application conducted on 3 staff in Bimbel obtained product feasibility including quite decent at 11%, score 3 feasible 53%, and score 5 very feasible 35%. 1 person responden chose a score of 3 and 2 people chose a score of 4 on the aspect of ease of use of the application. 2 people chose a score of 4 and 1 person chose a score of 5 on the aspect of usefulness for users. 2 people chose a score of 4 and 1 person chose a score of 5 on the aspect of product display. 2 people chose a score of 4 and 1 person chose a score of 5 on the aspect of product recency. 3 people chose a score of 4 on the aspect of language clarity. 1 person chose a score of 3, 1 person chose a score of 4, 1 person chose a score of 5 on the aspect of content exposure. 2 people chose a score of 4 and 1 person chose a score of 1 on the aspect of product compatibility. 1 person chose a score of 4 and 2 people chose a score of 4 on the aspect of product completeness. 2 people chose a score of 4 and 1 person chose a score of 5 on the aspect of 6 depth of content. 2 people chose a score of 4 and 1 person chose a score of 5 on the aspect of product effectiveness. 1 person chose a score of 4 and 2 people chose a score of 5 on the aspect of product efficiency.

Table 1. Felum Feasibility Aspect Trials

No.	Criterion	Score					Score 1: Very less feasible
		1	2	3	4	5	Score 2: Less decent
1.	Ease of use			1	2		Score 3: Decent enough
2.	Usefulness for users				2	1	Score 4: Decent
3.	Product display			1	2		Score 5: Very decent
4.	Product up-to-date				2	1	
5.	Language clarity				3		
6.	Fill view			1	1	1	
7.	Compatibility				2	1	
8.	Equipment				1	2	
9.	Depth of contents				2	1	
10.	Effectiveness				2	1	
11.	Efficiency				1	2	

4. Conclusion

The use of digital technologies such as web and scanning integration helps tutoring agencies store, search, and access various data quickly and efficiently. In addition to improving organizational efficiency, the development of this digital archival system will improve the experience of students, teachers, and administrative staff. Needs analysis is done through observation, interviews, and document analysis during the development process of this system to ensure that the system developed truly meets the needs and expectations of tutoring institutions. Various components, including websites, users, incoming mail, outgoing mail, and settings, are the result of system development. Additionally, the user receives the System Usage Guide (Felum). Therefore, there is great potential to bring positive changes in the operations and services of tutoring institutions through the development of web-based digital archival systems and the integration of document scanning. This will strengthen the institution's position in facing challenges in today's digital age and improve the student experience as well as the quality of service they receive.

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