



Design of a Web-based Correspondence System Using the Codeigniter 3 Framework (Case study: Battuta University)

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ABSTRACT

In the digital age, technology plays an important role in educational institutions such as Battuta University, helping in streamlining administrative processes and data management. The current reliance on Microsoft Excel for document management at the university proved to be inefficient, leading to issues such as misplaced documents, tracking difficulties, and difficulties in archivist management. To address these challenges, the development of a web-based document management system using the Codeigniter Framework is proposed. By utilizing this system, users can easily access and manage documents from various devices. So that the implementation of such a system is expected to improve the process of handling, tracking, and archiving documents, thus benefiting the university, especially in the field of correspondence.

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1. INTRODUCTION

Battuta University, as one of the new private educational institutions in Medan City, realizes how important the use of technology is, especially in optimizing administrative processes and data management so that it can improve the quality of education.

One aspect that has become a focal point of attention in system development at Battuta University is the field of correspondence. The process of filing and archiving correspondence is an important part of daily operations at Battuta University. Currently, the correspondence field at Battuta University still uses a Microsoft Excel-based correspondence system, but the use of this system is deemed ineffective in dealing with an increase in correspondence related to correspondence so that the correspondence field is quite vulnerable to problems such as lost letters, letter submissions, and difficulties in managing archivists.

To overcome these challenges, the development of a website-based correspondence system is expected to be the right solution. By utilizing website technology, users can easily access the system from various devices, including computers, tablets, and smartphones. In addition, the use of the Codeigniter Framework was chosen because it is lightweight and supports medium-scale application development with an

MVC (Model-View-Controller) structure, which separates business logic from the display, making it easier to maintain and develop the system (Firmansyah, 2022).

This research is also expected to contribute to the development of web-based correspondence systems in the educational environment, and is expected to be a reference for other institutions that have similar needs. Thus, the role of information technology in improving the quality of services in higher education can be further optimized.

2. METHOD

Researchers here use waterfall and qualitative methods, as for some of the stages, among others, In conducting this research, the researcher utilized several methods that could assist the research in terms of collecting the required data and information. The data collection is in the form of observations, interviews, and literature studies.

In designing a website-based correspondence system using the codeigniter 3 framework in this research. Researchers use the Waterfall method. The reason researchers use this method is because the system that will be created later has clearly defined what features will be made into a complete system so that in the future it can minimize changes to the features that will be made.

Then this waterfall development method has a structured, systematic, and sequential way of working for each stage of development, so that it can be analogized like a waterfall that goes down from top to bottom. The use of the codeigniter framework in this study can be combined with the waterfall method, so that it can make it easier for researchers to simplify the programming process.

3. RESULTS AND DISCUSSION

Based on the results of the analysis of the current correspondence system at Battuta University, several weaknesses and problems were found faced by users in handling letters and managing incoming and outgoing letters. The correspondence process that still uses Microsoft Office as the main data currently used tends to be time consuming, prone to errors, and difficult in terms of tracking and archiving documents.

Users often find it difficult to know the status of the letters they submit, because there is no integrated system to track letters in real-time. Therefore, a website-based correspondence system is needed that can provide convenience in managing letters, speed up the letter distribution process, and increase efficiency in tracking and archiving documents.

The implementation of this correspondence system includes all views of the incoming and outgoing mail management process at Battuta University. This system was built to automate the correspondence process, facilitate mail tracking, and increase transparency and efficiency of document management.

The home page of the carousel section of the web-based correspondence system is the initial landing display that welcomes users after they enter the website. There is a Navbar which will be the main navigation to various features in the correspondence system.



Figure 1. Carousel Home Display

On the homepage, the campus profile section briefly explains the history of the establishment of Battuta University. Where this is deemed necessary on every website in order to always remind users (Civitas) regarding the history of Battuta University.



Figure 2. Campus Profile Home display

Battuta University. Where this is deemed necessary on every website in order to always remind users (Civitas) regarding the history of Battuta University.

In the online letter submission menu there is a submission form consisting of NIDN / NMI, Name, Mobile Number, Choice of Letter Type to be submitted and file upload form according to what is submitted. This provides convenience to users and increases the efficiency of the correspondence process which benefits all parties involved in the correspondence workflow on campus.

Later, after the user has completed filling out the form and pressing the send request button, the user will get a letter token number which can be used to track the progress of the letter that has been.



Figure 3. Online Letter Submission Display

In this menu there is a letter tracking form that can be used by inputting the letter tracking token obtained when submitting. This menu is one of the features that is useful for those who use this web-based correspondence system so that they can monitor the letter process in real-time.



Figure 4. Online Mail Tracking Display

The login menu in this application functions as the main gateway to secure, manage and access various features in the application, and plays an important role in maintaining user security.



Figure 5. Admin Login Display

The admin dashboard serves as an effective and organized interface to manage, control and monitor all aspects of a system, and also ensures smooth and responsive usage.

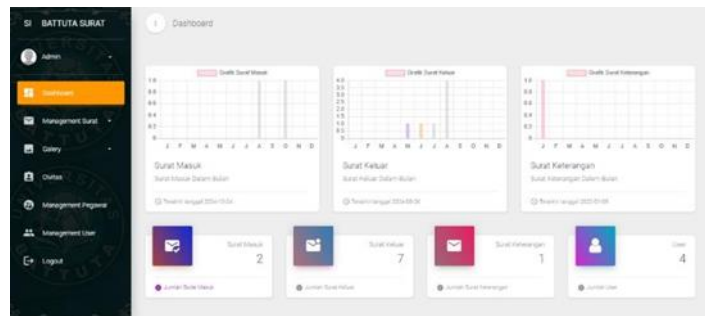


Figure 6. Admin Dashboard Display

In this menu the admin has the data needed according to what is submitted for the letter, and ensures that the letter to be processed is correct, accurate and also in accordance with the procedures that apply at Battuta University.

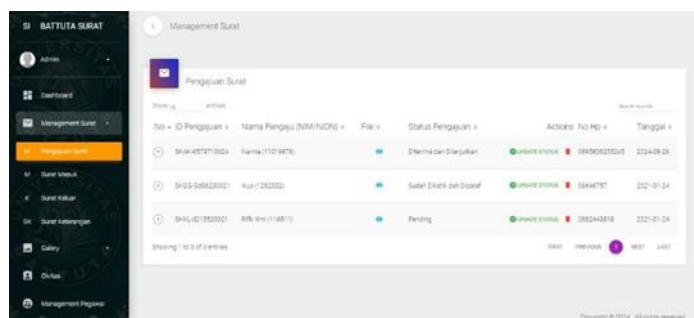


Figure 7. Letter Submission Display

On this menu there is an add button, later the admin can add incoming letters consisting of letter numbers, letter dates, subject matter and upload pdf files, which will become Battuta University archivists.

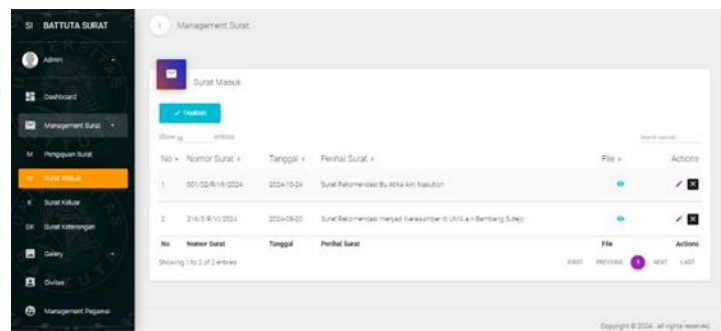


Figure 8. Incoming and Outgoing mail Management Display

In this menu there is an add button where admins can add new users to the system or delete users who no longer need access. This is important to ensure that each user only has access to features and data that are relevant to their duties or responsibilities.

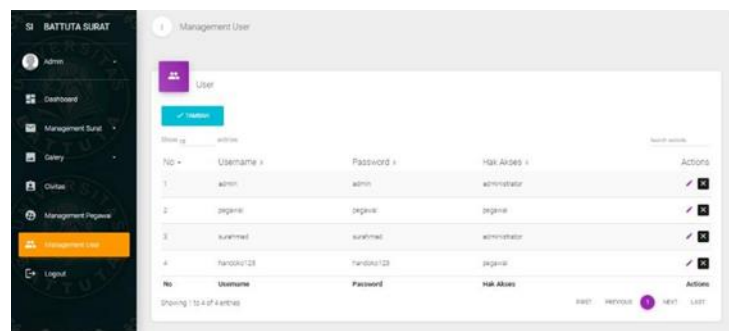


Figure 9. User Management Display

4. CONCLUSION

In using a website-based correspondence system, especially at Battuta University, it can increase efficiency and effectiveness in managing correspondence. By utilizing the codeigniter 3 framework, this system can provide features that support submission, tracking letters in real time and managing letters. And the implementation of this correspondence system also makes it easier for the correspondence department to monitor the correspondence process, resulting in neater and more organized management.

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