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Information System Design Of Web-Based Document Archives Management In The Office Bappeda Of North Sumatra Province

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ABSTRACT

Archives are important documents that are stored with the aim that if they are needed again the archive will be easy to find. Archives have an important role in the Regional Development Planning Agency (BAPPEDA) of North Sumatra Province, so it is hoped that the archive management process is good, fast, and easy. If the archives are not managed properly it will have an impact on the difficulty of finding information and this can hinder the next stage of work. Departing from these problems, a digitalized information system is needed to record these documents. Therefore, archives must be managed with a good and correct management system. This study discusses the design of a document archiving information system according to the needs of the Regional Development Planning Agency (BAPPEDA) of North Sumatra Province based on the system design that has been compiled including use case diagrams, activity diagrams and sequence diagrams. The Regional Development Planning Agency (BAPPEDA) of North Sumatra Province still uses the manual method in managing archives, so with the creation of this system, it is hoped that it can help the work of the Regional Development Planning Agency (BAPPEDA) of North Sumatra Province in terms of archive management. Searching data is also easier and faster because officers or employees do not need to look for archives in books or files listing items that have piled up because they can look at the archive database in the agency.

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1. INTRODUCTION

The Regional Development Planning Agency (BAPPEDA) of North Sumatra Province is a supporting element of the provincial government in the field of Regional Development Planning which is led by a head and is responsible to the Governor/Regent/Mayor through the Regional Secretary. The Regional Planning and Planning Agency (BAPPEDA) has a very important role. This is important in regional development planning, because this institution is responsible for implementing regional development in accordance with the authority it has. In archiving documents, agencies are still done manually by the Secretary[1]. The secretary stores documents in a filing cabinet or in a computer folder on the staff of the secretary, which is separated by type of document. Therefore, making and requiring a very large processing and storage room considering the large number of letters made and received by the BAPPEDA of North Sumatra Province, the search for documents will be inefficient in terms of time and effort. With the problems mentioned above, the BAPPEDA of North Sumatra Province felt the need to change the Document Archiving Management method that they currently use, namely the manual method into a computerized and automated Document Archiving Management method. Document Archive Management Information System is a web-based application.

2. RESEARCH METHOD

This discussion uses data analysis with a qualitative approach. The subject of this research is the observation of research results and discussion in journals research result. The data collection technique used is the observation technique in the form of comparing and concluding the results of research journals regarding archive management. Data collection is carried out in order to

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Archiving can be more effective and efficient. Discussion about interpretation of data regarding the discussion of archive management as a source of information for an organization through manual archives and digital archives in the era of globalization.[2]

a. Observation

Observation according to Morris is the activity of recording a symptom/event with the help of tools/instruments to record/record it for scientific purposes or other purposes (Amir Syamsudin, 2014). At this stage, the method of collecting data is through direct observation or careful and direct observation in the field or research location. In this case, the practitioner finds a habit in the agency that can cause a problem so that ideas and plans for a new breakthrough are needed to solve the problem. The practitioner observes various things or conditions that exist in the company where the Internship is located and asks for the necessary data as material for writing reports.

b. Interview

According to Newman (2013) interview is one of the most commonly used data collection methods in research to obtain information related to facts, beliefs, feelings, desires and so on that are needed to fulfill research objectives [3]. In this case, the interviewee was Mr. Arfian Azhar, S.E. as Staff in the General Head of Subsection at the Regional Development Planning Agency of North Sumatra Province.

c. Literature review

This stage is the stage of collecting data obtained from books in the library, journals related to research or other literature and the website page of the Regional Development Planning Agency of North Sumatra Province which can be used as a reference for making BAPPEDA archive systems. [4]

2.1 System Development Method

The method used in developing this system uses a waterfall model approach. According to Rosa and Salahuddin (2013:28) "The waterfall model provides a sequential or sequential software lifeflow approach starting from analysis, design, coding, testing, and support stages" [5]. Here is a picture of the waterfall model:

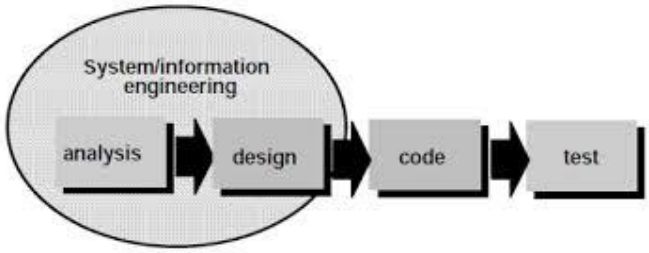

Figure 4. 1 Illustration of the Waterfall Model

Researchers use the waterfall method,This method describes a systematic approachand sequentially on software development, whichhas the following stages:

a. Design Stage

At this design stage, the researcher uses software Adobe XD to create an interface orSystem interfaces. This design stage refers to the resultsanalysis that has been carried out. In this stage, the authordoing the expected display design is easyfor use by any user. Starting frominitial view, display of buttons, to displayinput and output to be displayed.

b. Coding Stages

The coding stage is a related stagewith the design stage, this stage uses software. Sublime Text as a script editor, as well as storage database using MySQL.

c. Stages of Testing / Testing

After the coding stage is complete, it will enterat the stage of testing / testing. Before being used byUser System will be tested first whether the System running as expected or there are problems as well as problems that occur in the system. And see Are the functions of the system running properly and fluent.

d. Maintenance Stages

At this stage the completed software created and then executed and refers to repair and maintenance.included in fix error not found in previous stage. Also doing development on the features in the System. At this stage also done if there are criticisms and suggestions from System users.[6]

2.2 System Analysis

a. Archives and Archive System

Archiving is the process, method, or act of archiving. The term archiving in this case refers to the activity of storing various records or documents using certain systems and procedures so that, if needed at any time, the records or documents can easily be found again. In connection with this, the archive is something that is quite important because a good filing system can support the success of an organization, agency, or company concerned.

In general, there are 4 basic systems known in filing, as follows:

a) Alphabetic system, namely the filing system based on the alphabet or alphabetically.
b) Subject System, namely the filing system based on the subject matter.
c) Numbering system, namely a system that uses numbers and numbers.
d) Geographical system, namely a filing system based on geographic areas

Alphabetical filing systems usually use titles in the form of names of people or names of agencies, organizations, or companies, while subject systems usually use titles in the form of object names, such as product names, or categories of information, such as personnel policies or long-term plans. Meanwhile, the numbering system generally uses a title in the form of a number or number that refers to the name of a person, object, or subject. While the general geographic system uses a title in the form of the name of the city or the name of the region.

The four basic filing systems are not simultaneously used in a company, agency, or organization. However, the use of it is chosen only by the one that is deemed most appropriate or most suitable for the company, agency, or organization concerned.[7]

b. Website

The website is a collection of web pages that are related to other interrelated files. On a website there is a page known as the home page. The home page is the first page when someone visits a website. From the home page, visitors can click on hyperlinks to move to other pages on the website [8]. A home page is usually a file named index.htm or index.html.

c. Media View Controller (MVC)

It is a pattern that divides the application into 3 parts, namely the Model, View and Controller and separates the parts and makes the interaction arrangements between them. Design Pattern can be interpreted that each pattern describes a problem that occurs repeatedly, and explains the main way of solving problems with certain steps that can be used routinely. repeated.[9]

2.3 System Design

UML (Unified Modeling Language) is a "language" that has become the industry standard for visualizing, designing and documenting software systems. By using UML we can create models for all types of software applications, where these applications can run on any hardware, operating system and network and are written in any programming language. [10]

1. Use Case Diagrams

According to Sommerville (2001), the use case diagram presents the interaction between the use case and the actor. Where the actor can be a person, equipment or other system that interacts with the system being built, the use case describes the functional system or the requirements that the system must meet from the user's point of view. [11]

Use Case Diagram can also be called a depiction of user interaction with the system that shows the relationship between the user and the system. Use Cases are represented by a simple sequence of steps, making them easy to read.

There are several main functions of the Use Case, including:

a) Can show the sequence of process activities that exist in the system.
b) Describe the business processes and activities that exist in the system.

In the Use case diagram, the Website-Based Document Archiving Information System has admins and users who can login. Admins and users can access the menu page after logging in, but admins and users have different access rights, namely admins have access to menus that are used to edit data, input data, while users can only view and search for data such as documents and users.

The following is an image of a Use Case Diagram of a Document Archiving Information System.[12]

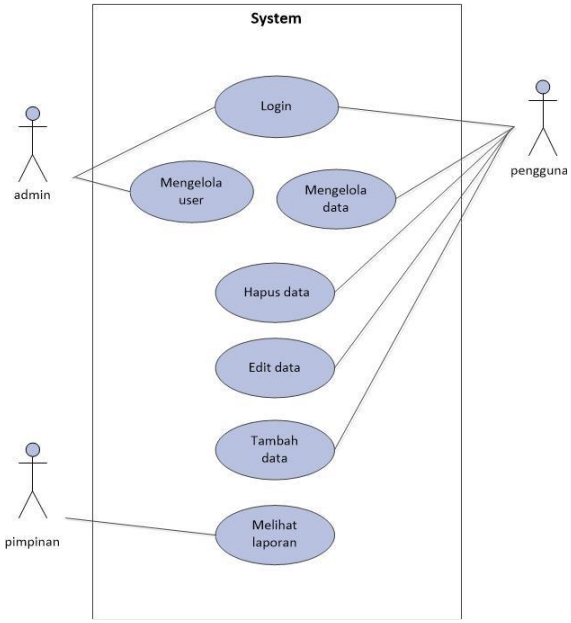

Figure 2. 1 Use Case Diagram

2. Activity Diagrams

a. Activity Diagram Login

The login activity diagram image below explains that the admin starts by opening the website first and then the system processes it by displaying the login page, after the login page is displayed, the admin/user can enter the data used to log in to enter, after that the system will check validation account, if the account is valid then the system displays the home page, if the account is not valid then the system will ask the admin / user to enter data again.

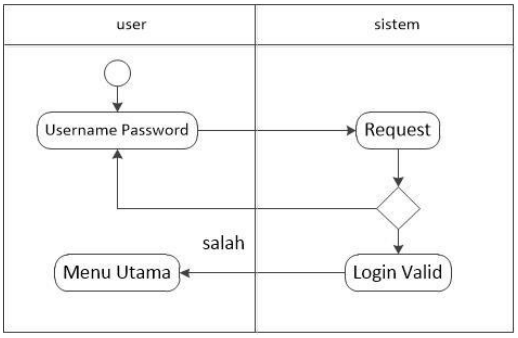

Figure 2. 2 Activity Diagram Login

b. Activity Diagram Add User

The following is an Activity Diagram image that shows how the process of adding users will be carried out by the admin.

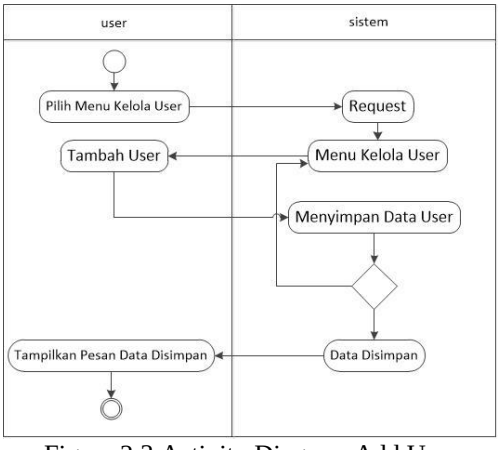

Figure 2.3 Activity Diagram Add User

c. Activity Diagram Add Archive

Here is the Add Archive Activity Diagram, in this Activity Diagram it explains the stages of the flow of adding archive documents.

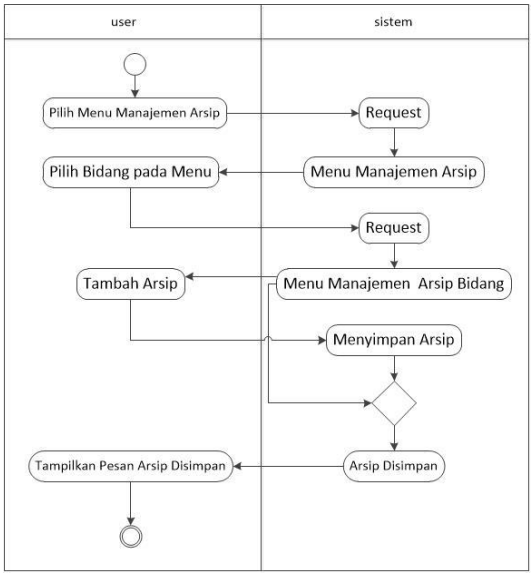

Figure 2. 4 Activity Diagram Add Archive

d. Activity Diagram View Report

Here is the Add Archive Activity Diagram, this Activity Diagram explains the stages of the flow of viewing archive document reports

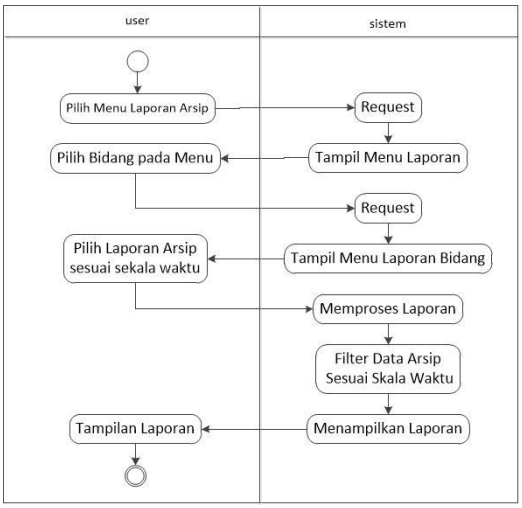

Figure 2.5 Activity Diagram View Report

e. Activity Diagram Edit Archive

Here is the Archive Editing Activity Diagram, in this Activity Diagram it explains the stages of the archive document editing flow. By entering the File Management menu, then selecting a field on the menu, and selecting the archive to be edited. After editing the user can save the edited data by pressing the "update" button.

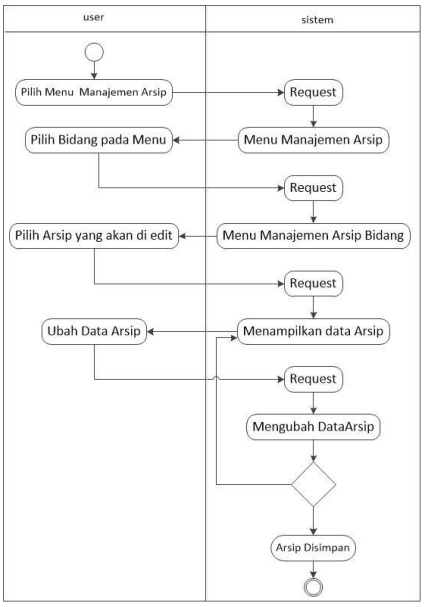

Figure 2.6 Activity Diagram Edit User

3. Sequence Diagram

Sequence diagram is a diagram that describes the interaction of objects and indicates the communication between these objects. This sequence diagram shows a series of messages exchanged by objects that perform a particular task or action. The objects are then ordered from left to right, the actor initiating the interaction is usually placed on the far left of the diagram.

The following is a Sequence Diagram of the Document Archiving Information System:

a. Sequence Diagram Login

The following sequence diagram describes the stages of the process flow from the login. The following is a picture of the Login Sequence Diagram:

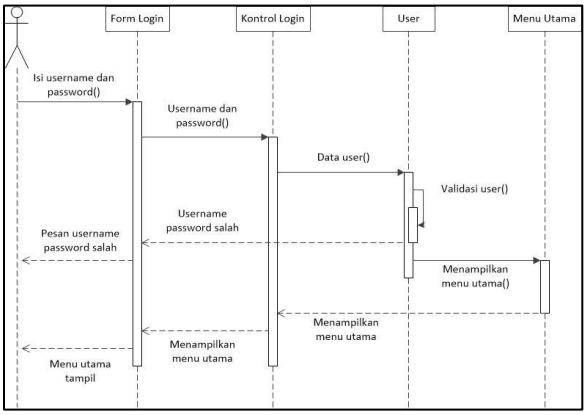

Figure 2.7 Sequence Diagram Login

b. Sequence Diagram Add Archive

The following sequence diagram illustrates the stages of the process flow if the user wants to add an archive. The following is an image of the Add Archive Sequence Diagram:

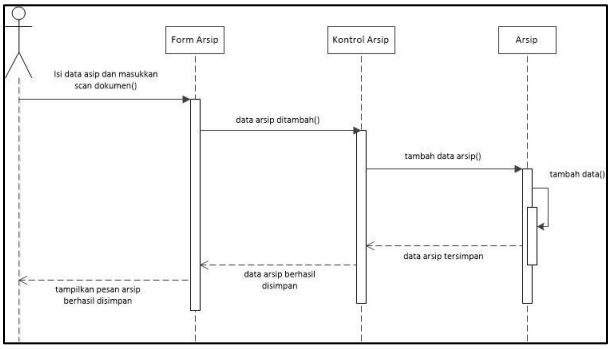

Figure 2.8 Sequence Diagram Add Archive

c. Sequence Diagram Edit Archive

The following sequence diagram illustrates the stages of the process flow if the user wants to edit the archive. Here's an image of the Archive Edit Sequence Diagram:

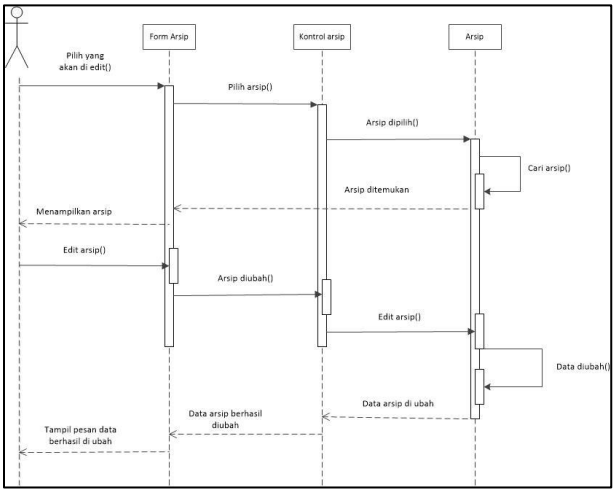

Figure 2.9 Sequence Diagram Edit Archive

d. Sequence Diagram Delete Archive Data

The following Sequence diagram illustrates the stages of the process flow if the user wants to delete the archive.

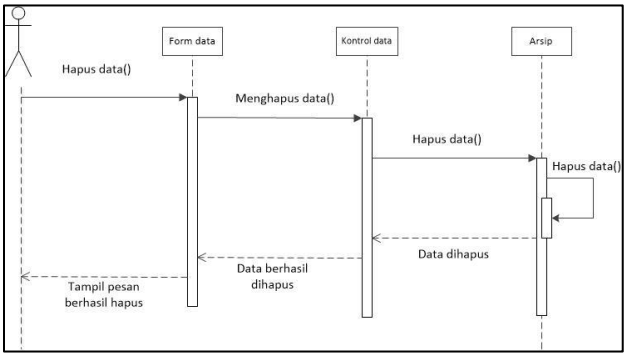

Figure 2.10 Sequence Diagram Delete Data

e. Sequence Diagram View Report

The picture above is a Sequence Diagram View Report. The following sequence diagram illustrates the stages of the process flow if the leader wants to view the archive report.[13]

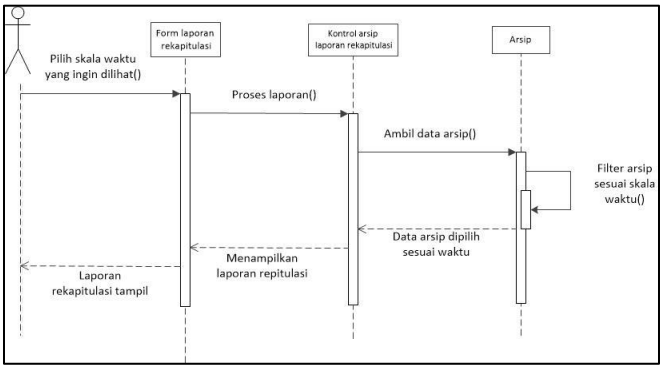

Figure 2.11 Sequence Diagram View Report

3. RESULTS AND DISCUSSION

After completing the design of Use Case Diagrams, Activity Diagrams, and Sequence Diagrams, the next stage is the design of the User Interface or user interface. In designing this User Interface, there are two activities, namely Display Design and prototype. The following is the result of the display that has been designed:

3.1 *Login*

The login page is used to distinguish the access rights of users who may enter and access the system are users who have usernames and passwords. Then the admin must login first when he wants to enter the system with the username and password that are already available. If the username and password are entered incorrectly, the admin will fail to login to the system

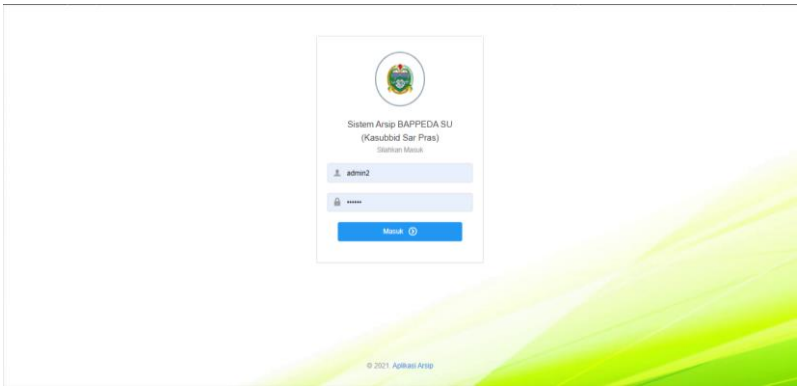

Figure 3.1 Login Page Display

3.2 Dashboard Pages

When successfully logged in, the admin will enter the system dashboard page. The following is a display of the Archive Application System Dashboard Page that will be run by the admin.

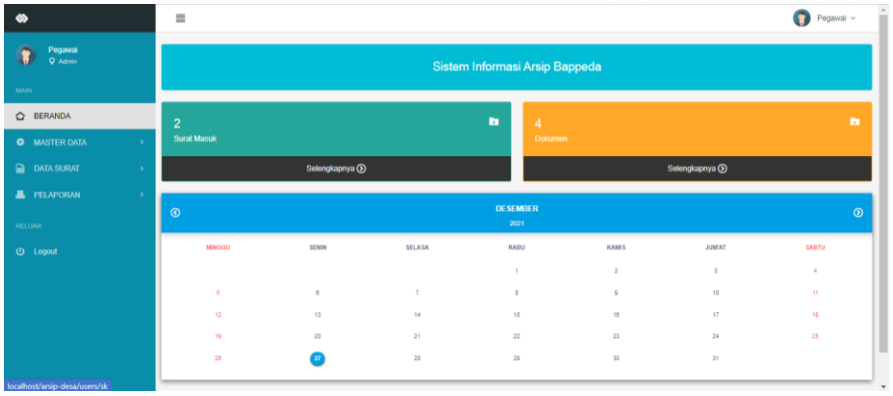

Figure 3.2 Dashboard Page Display

3.3 Section Data Pages

On this page the admin can add and edit the name of the Sub Division contained in the Facilities and Infrastructure Sub Division at the BAPPEDA SU Office. This name data will be used for grouping letters and documents to be added**.**

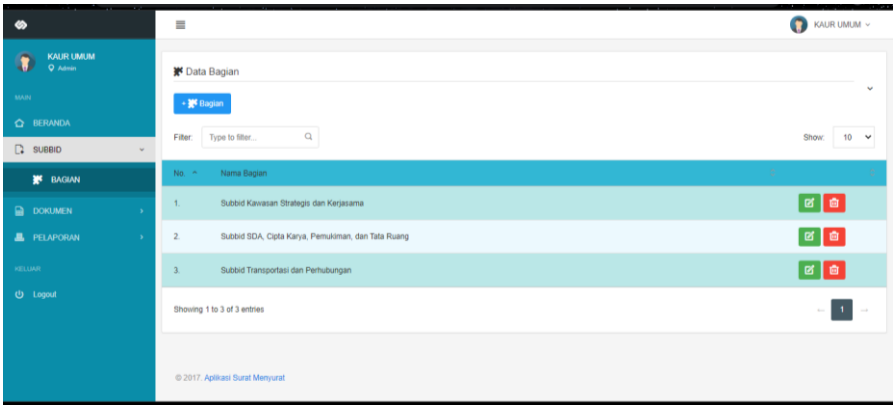

Figure 3.3 Section Data Page Display

3.4 Add Document Page

This is how the add document page looks like. In this page the admin has to fill in several tables for the sake of completeness of data archiving.

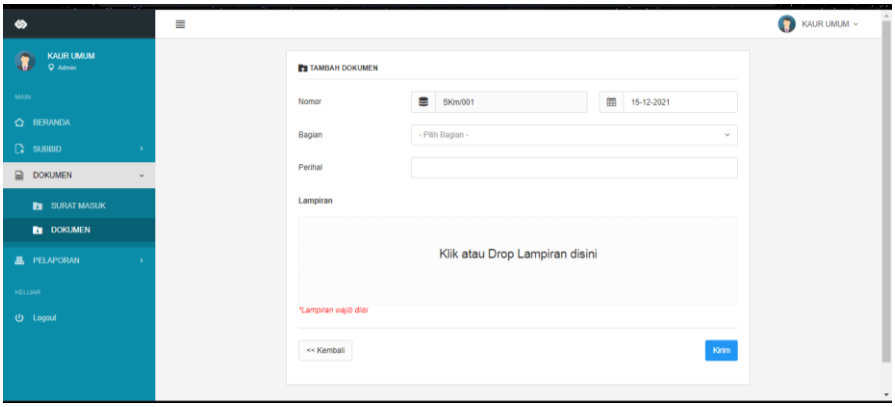

Figure 3.4 Add Dokunen Page Display

3.5 Document Edit Page

On this page the admin can edit the selected document by filling in several tables, then clicking the “update” button.

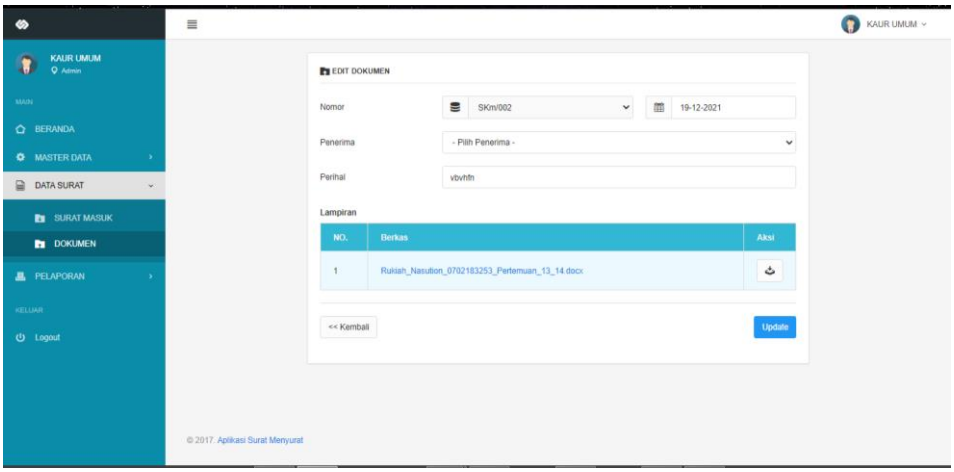

Figure 3.5 Edit Document Page View

3.6 Add New Inbox

The following is a screenshot of the Add Incoming Mail page. In this page the admin must fill in the table for the completeness of data archiving.

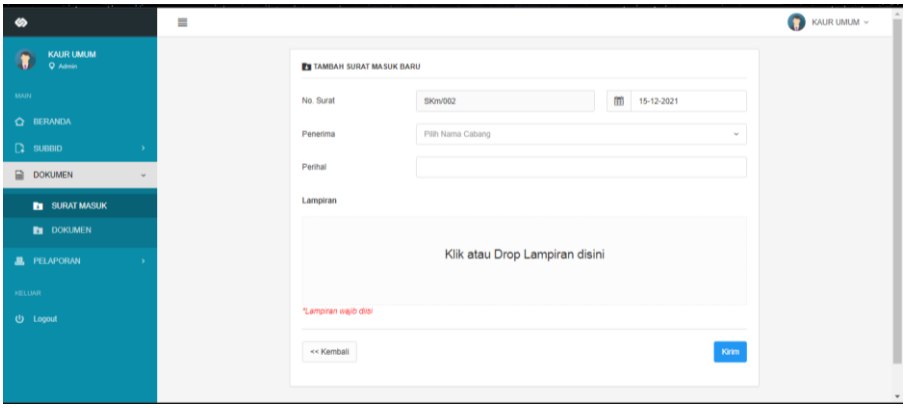

Figure 3.6 Page View Add Incoming Mail

3.7 Incoming Mail Edit Page

On this page the admin can edit the incoming mail that has been selected by filling in several tables, then clicking the “update” button. After that a message will appear that the letter has been saved, the message indicates that the letter has been entered and saved into the database.

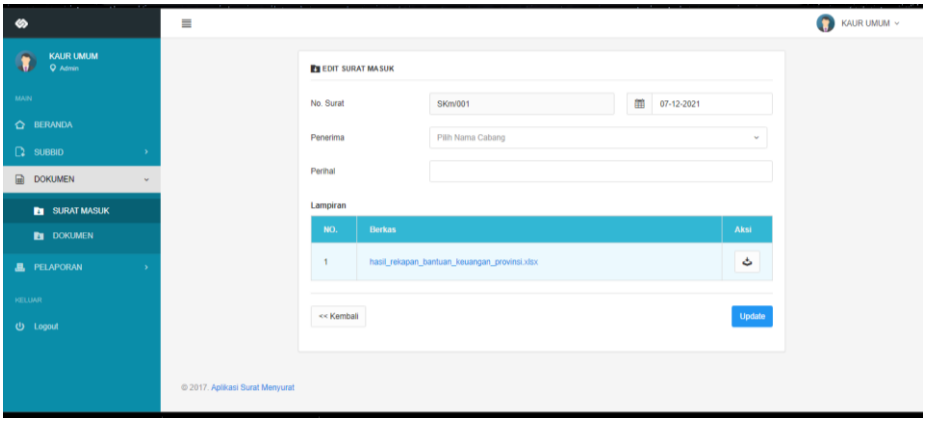

Figure 3.7 Incoming Mail Edit Page View

3.8 User Edit Page

The following is the page used to edit user data. This page will make it easier for users to change some of the personal data stored in the application.

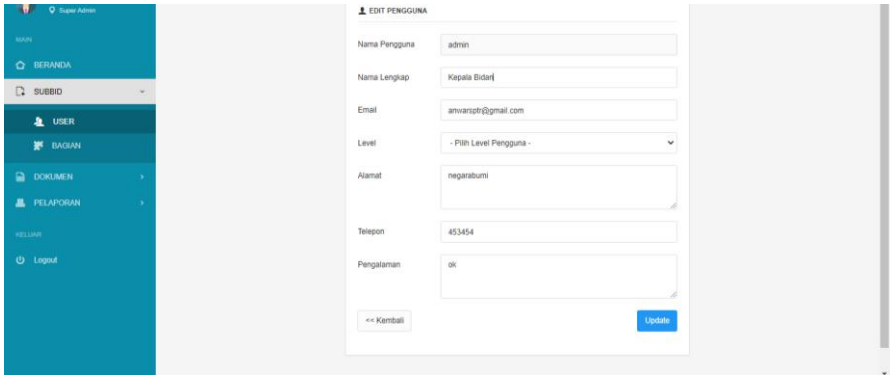

Figure 3.8 User Edit Page Display

3.9 Print Pages Document Report

On this page the admin can print a document report by opening the report page. Then the admin chooses the time scale for the report issuance, the time scale for the report issuance serves to make it easier for admins to find reports according to the date of publication. After selecting the date, the data will appear. Then the admin can click the "cetak laporan" button.

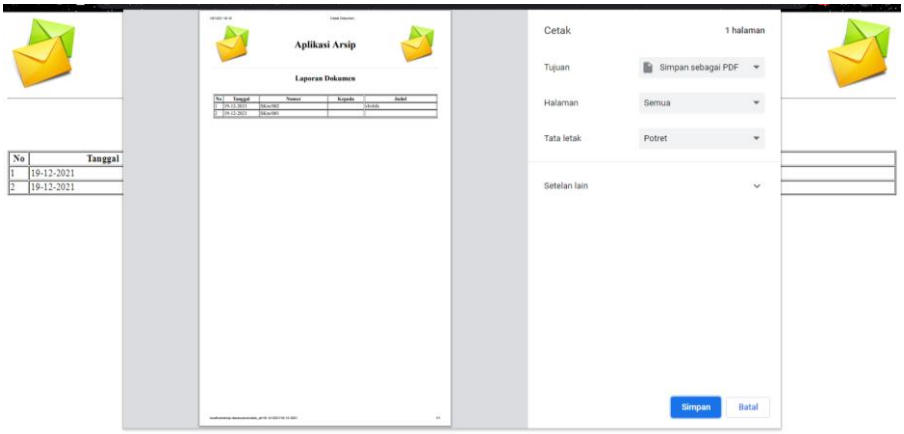

Figure 3.9 Display of Document Report Print Pages

3.10 Incoming Mail Report Print Page

On this page the admin can print the incoming mail report by opening the report page. Then the admin chooses the report time, after the data appears, the admin can click the "cetak laporan" button.

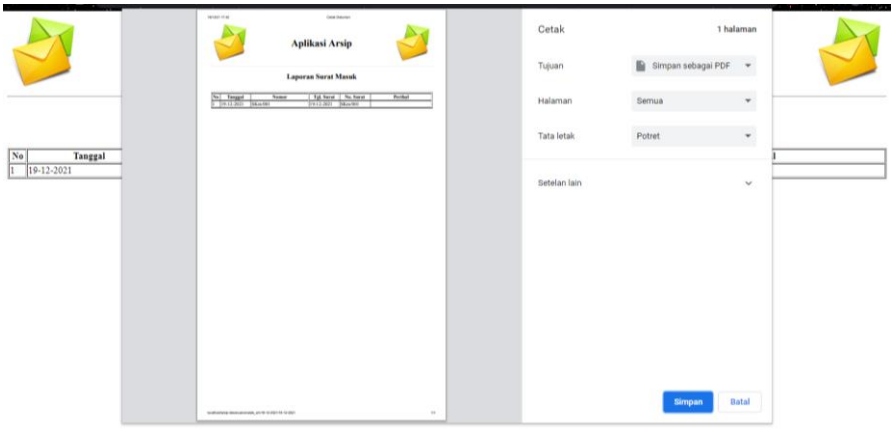

Figure 3.10 Display of Incoming Mail Report Print Pages

4. CONCLUSION

With a computerized system like this it will make it easier for admins to process archive data and work will be easier and more efficient. The benefits of this system are:

a. Able to apply the knowledge in lectures and add insight into the future work environment.

b. The design of this document archive information system aims to make it easier for employees to search and find a document archive by looking for a document number then the system will tell the shelf number in the document storage cabinet then employees find it easier to find the document on the company document rack

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