Mobile-Based Document and Salary Application
Case Study: Kemenag Labuhan Batu

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Abstract

The mobile-based document information system is an information system that provides secure document archiving, which is specially designed for android smartphone devices. The purpose and reason for the design of this mobile-based document archive application information system is to store important files safely from disasters that come suddenly, do not fill the room, avoid file loss, can facilitate the work of staff, employees and heads of affairs in needing files. suddenly when employees, staff and heads of affairs are carrying out tasks outside the city. In the design of this mobile-based document archive application information system, two methods are used, namely the data collection method and the Waterfall method in system development. The use of this system will be taken to the main page which directs the archivist and head of affairs to login first before archiving documents and downloading documents wherever they are. The application is made to provide safe storage of documents from disasters that result in document damage, does not fill the administrative room with documents and the main thing is to make it easier for employees, staff and heads of affairs when they need documents suddenly.

1.   Introduction

Manual data storage with paper document archives has many shortcomings and is vulnerable to risk. The risks that have the most impact on paper documents are damaged documents and even lost documents. Companies or organizations usually have large collections of data such as employee data, departments, products, sales and so on which are accessed jointly by several employees[1]. This is the basis for the need for a database that can manage data in the company. To make it easier for users to access the database, a user interface in the form of a system or application is needed[2], [3]. An information system is a system that combines human activities and the use of technology to support management and operational activities[4]–[6]. Mobile applications can be interpreted as applications that have been specifically designed for mobile platforms (eg iOS, Android, or Windows Mobile)[7]–[9].

The Ministry of Religion (Kemenag) Labuhanbatu in September 2021 experienced a flood disaster. The flood disaster had a fatal impact on their paper document archives. Many documents were damaged due to wet even some lost documents. Loss of this document causes the data to be incomplete and must be re-recorded. The design of a mobile-based document archive application is one of the solutions and needs of the Ministry of Religion of Labuhanbatu, especially the administration section which has a lot of important files or documents.

The design of this mobile-based document archive application is a system that can simplify and secure important files or documents at the office of the ministry of religion in the Labuhan Batu district. This document archive application system can be accessed by archiving officers and the head of each field who always needs files suddenly when carrying out office tasks outside the city.

System development is carried out using the waterfall method, which is a very old and simple system development method that is very suitable for researching software development with specifications that do not change[10], [11]. The stages used when using the waterfall method to develop this system are software analysis, system and software design, implementation and unit testing, integration and unit testing and the last is operating and maintenance.

2.   Methods
2.1   Method of collecting data
This data collection method is as the main step in conducting research, this data collection method can be done with the following techniques[12]:
1. Problem Identification is the initial stage of problem mastery where the object of research in a certain fabric can be recognized as a problem.
2. Observation or field study is an advanced stage in data collection by direct observation of the object under study to obtain data and descriptions related to research.
3. This interview is data collection by means of direct communication with staff and research center employees related to file or document storage.
4. Literature study is a theoretical study, references and other scientific literature related to the culture, values and norms that developed in the social situation under study.

2.2   System Development Method
System development method is a system development process that defines activities, methods and others. So that the development method in designing this mobile-based document archive application uses the waterfall method, this waterfall method is a very old and simple system development method so it is very suitable for researching software development with specifications that do not change[13]. The stages in using the waterfall method are as shown in Figure 1 below:
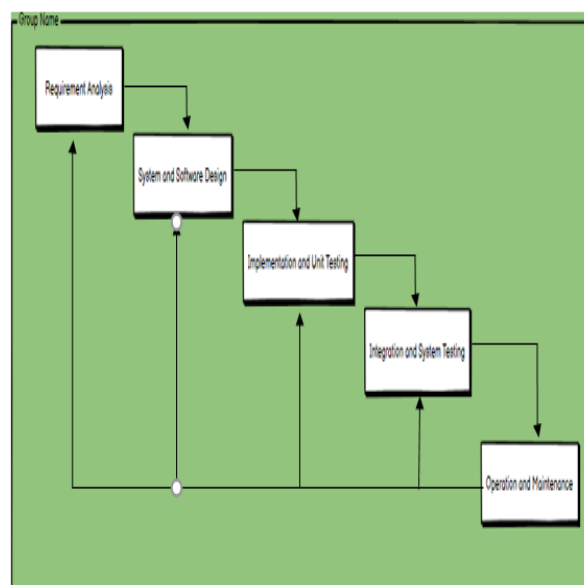

Figure. 1. Waterfall Diagram

1. Requirements Analysis

Software development must know and understand how the information needs of users of a software. Information collection can be done in several ways, namely discussions, observations, surveys, interviews and others. so that the information received can be processed and analyzed, complete information regarding the specifications of user needs for the software to be developed.

2. System and Software Design
   This design is done with the aim of helping to provide a complete picture of what must be done.
3. Implementation and Unit Testing
   Implementation is the stage of programming or software creation. Then carry out the implementation actions that have been designed or arranged carefully and in detail.
4. Integration and System Testing
   Testing and checking the functional software that has been made. So that developers can find out whether the software can meet the desired criteria or not.
5. Operation and Maintenance
   This maintenance is for developers to make repairs to software that has been in operation for undetected errors.

3. Results and Discussion

This section will discuss the process of developing the design of this mobile-based document archive system using the waterfall method, which is a very old and simple system development method that is very suitable for researching software development with specifications that do not change. The stages in using this waterfall method are:

3.1 Requirement Analysis

Software analysis can be carried out by collecting information in several ways, namely discussions, observations, surveys, interviews and others. So that the information received can be processed and analyzed, complete information regarding the specifications of user needs for the software to be developed, such as the design of an information system for this mobile-based document archive application is one of the results of processing the analysis of information obtained from staff and employees. The administrative room at the office of the ministry of religion in Labuhanbatu district is in trouble storing and retrieving important documents or files that are needed suddenly.

3.2 System and Software Design

This design draft is done with the aim of helping to provide a complete picture of what must be done. The design of this mobile-based document archive information system uses several ways, namely making Flowcharts, Usecase diagrams and system sketches. This flowchart is a diagram that displays the steps and decisions to carry out a process from a program. The function of the flowchart is to describe the processes that run using symbols. The path of this mobile-based document archive application information system can be seen in Figure 2 which illustrates the flowchart or system path that will be designed.
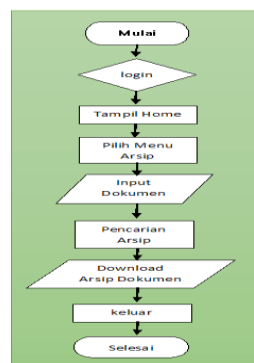

Figure 2. System Flowchart

After having made a diagram that displays the steps and decisions to carry out a process from a program. The next step is to make a use case diagram. Use case diagram is a model for the behavior (behavior) of the information system to be made, use case diagrams are used to find out what functions are in the system and who are entitled to use these functions. In Figure 3 we can see what functions are contained in the design of the document archive application information system.
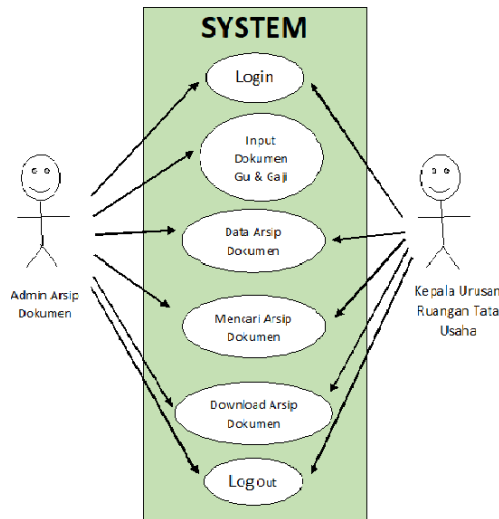

Figure 3. Usecase Diagram

After having made a diagram that displays the steps and decisions to carry out a process from a program. The next step is to make a use case diagram. Use case diagram is a model for the behavior (behavior) of the information system to be made, use case diagrams are used to find out what functions are in the system and who are entitled to use these functions. In Figure 4 we can see what functions are contained in the design of the document archive application information system.
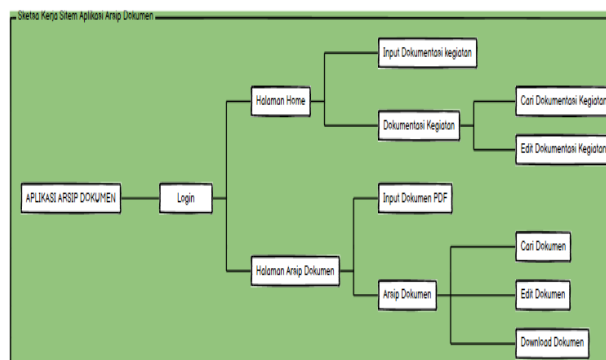
Figure 4. Document archive application system working sketch

3.3   Implementation and Unit Testing

Implementation is the stage of programming or software creation. Then carry out the implementation actions that have been designed or arranged carefully and in detail.

1.   Login Page

This login page is the main page before entering the application, doing the archiving and downloading the archived documents. This login page must be filled in by the officer and also the head of administrative affairs in order to enter the application.
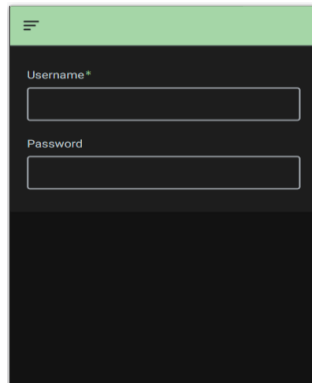
Figure 5. Login Page

2.   Home Page

This Home page only contains documentation and information explaining the activities that have been carried out by employees and administrative employees. The "+" sign is useful for inputting documentation along with information on employee and employee activities which will then appear on the home page.
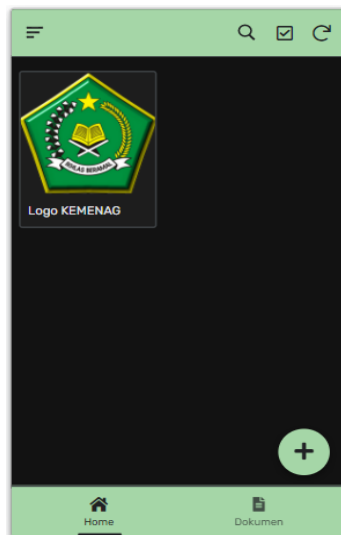

Figure 6. Home Page

3.   Scan Document Page

This Data Input page is used to input Document and Salary data which has been scanned and the document is in pdf form. Not only document input, officers also have to fill in the file name, description, upload date and category. This category contains sections at the Office of the Ministry of Religion of LabuhanBatu Regency, such as: Secretary General, Peny. Kristen, Pen. Islam. Pen. Catholicism, Islamic Education, ed. Hajj and Umrah.
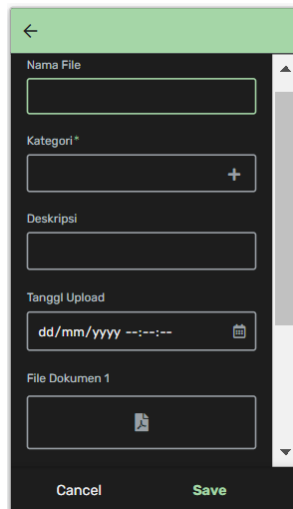
Figure 7. Scan Document Page

4.   Document Archive Page

This Document Archive page contains a collection of documents that have been successfully input or saved by the document archiver on the document scan input page. So that the document that has been inputted will automatically appear on the document archive page.
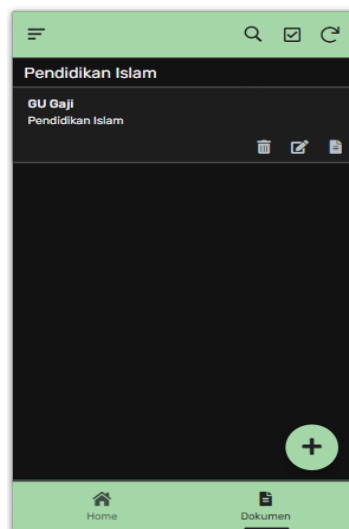

Figure 8. Document Archive Page

5.   Document Archive Edit Page

This Edit Document Archive page is for correcting the wrong Document in inputting both in filling out categories, file names, descriptions, upload dates or incorrectly uploaded files. Therefore, this application can also correct errors in inputting archived documents.
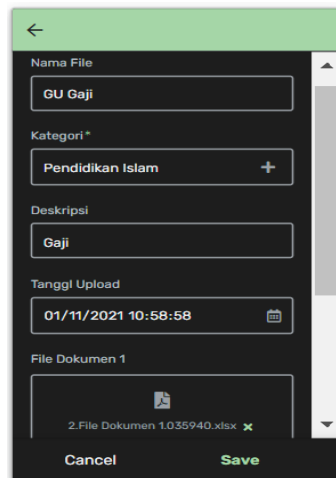
Figure 9. Document Archive Edit Page

6.   Document Archive Download Page

This Document Archive Download page is for checking, downloading and editing documents. Checking documents that have been archived can be seen when opening the document as shown below, after that if the head of room affairs wants to download the document, you can directly click on the document, then the document will automatically be downloaded. The main use of this page is that officers and heads of administrative affairs can easily find and download the Gu Documents and Salaries that are needed suddenly.
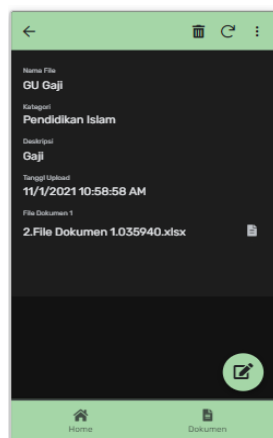

Figure 10. Document Archive Download Page

7.   Logout Page

This Logout page is for officers and heads of administrative room affairs to exit the account or application after completing input, downloads, checks and others. by clicking logout, the officer and head of the administrative room will automatically exit the document archive application.
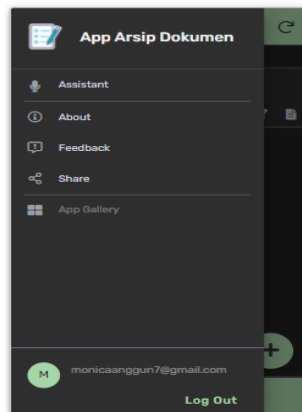
Figure 11. Logout Page

4.   Conclusion

Based on the results of the design of this mobile-based document archive application, the following conclusions can be drawn:

1. This mobile-based design and build application system for document archives for the ministry of religion in Labuhanbatu Regency can provide convenience for staff, employees and especially the head of administrative affairs in the process of tracing, searching, and downloading / retrieving documents that have been around for years.
2. Make it easier for staff, employees and heads of administrative affairs to get the documents needed suddenly when carrying out tasks outside the city.
3. Provide security for important files or documents, especially in the administrative section of an unexpected flood disaster.
4. Provide a safe place for important files or documents that have been filling the administrative room.

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