DESIGNED AN INACTIVE ARCHIVES MANAGEMENT INFORMATION SYSTEM USING VISUAL BASIC 2010 AT THE DEPARTMENT OF COMMUNITY EMPOWERMENT AND VILLAGE WEST JAVA PROVINCE

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ABSTRACT

In the field of archive depots, the West Java Province Village and Community Empowerment Service offers inactive archive management as one of its services. The West Java Province Village and Community Empowerment Service is responsible for keeping, organizing, and safeguarding archives that have been in the processing unit for more than two years. The goal of this research is to help archivists manage inactive archives more effectively and efficiently. Material gathering tactics included interviews and the addition of inactive archive data based on data collected in each field. Software is designed using the waterfall process. According to the findings, there are a number of issues that impede the archive management system that still employs the manual method. As a result, in this study, an inactive records management information system was designed using the Unified Modeling Language (UML) and implemented using the Visual Basic programming language with the.NET framework 4.0 and Ms. Access as the database. An approach for testing applications is called black box testing. The goal of this application is to make archive administration more effective and efficient.

Keywords: Archive Management, Information Systems, UML, Visual Basic 6.0

1. Introduction

DPMD West Java Province is a government agency that distributes cash to meet the needs and interests of many people in West Java Province. An archive is a collection of documents created as a result of an organization's operations and used as a source of information and documentation. The archive is also utilized as a document of accountability for the West Java Village's actions. Inactive Archives Management is a service provided by the DPMD of West Java Province in the realm of archive depots.

There are several issues with managing archives, including the fact that archives are still manually typed into Microsoft Word, which is prone to errors, the process takes a long time, and the computer frequently shuts down due to an unstable electric current, requiring every file input to be saved every minute. As a result, the goal of this research is to design an inactive archive management information system using Visual Basic 2010 at the West Java Provincial DPMD, using Unified Modeling Language (UML) modeling and implemented in Visual Basic programming language with.NET framework 4.0 and Ms. Access as a database, which should make managing inactive archive data easier(Oberhauser, R., 2021; Nurfi, et al., 2021; Parusheva & Pencheva, 2022; Tiwari, et al., 2021).

2. Literature Review

2.1 Understanding Information Systems

Jogiyanto said that "Information systems are a collection of people, facilities, technology, media, procedures, and controls that work to get critical communication lines that give an information basis for decision making" in 1999 (Sarmidi & Fahmi, 2019).

2.2 Understanding Archives

Zulkifli Amsyah explains that "Archives are any written, printed documents that have a definite meaning and function as communication and information material stored on paper, computer media, and so on" in 2003 (Hayati, 2020).

2.3 System Design
a. Planning
    Al-Bahra defines design as "the ability to create several alternative solutions to problems" in 2005 (Wait & Handayani, 2015).
b. System Design
    McLeod stated, "system design is the determination of the processes and data required by the new system, and if the system is computer-based, the design can be stated as a specification of the equipment used" in 2001 (Wait & Handayani, 2015). The system to be designed is an inactive archive management system at the West Java Provincial DPMD, with the following system design.
    1) Input Design
        The design of inactive records management information system inputs include: Shelf Input, Inactive File Input, Loan Input, and Return Input.
    2) Design Output
        The design of the output of inactive records management information systems include: weekly archive data reports, monthly archive data reports, and annual archive data reports.
    3) Functional Design
        The functional design of inactive records management information systems include: Login, Manage Shelves, Manage inactive archive data, and manage loan returns.
c. Database
    Abdul Kadir said that, "database is a data that is interrelated so that it makes it easier for activities to obtain information. The database is intended to solve problems on systems using a file-based approach" in 2003 (Wait & Handayani, 2015).
d. Visual Basic 6.0
    Subaru and Yuswanto stated that "Visual Basic is not only called a Program Language; it is also a tool for producing Windows-based application programs" in 2008 (Wait & Handayani, 2015).
e. Crystal Report 8.5
    Irnawan and Yesni stated that "Crystal Report is also a special application that is used to design various types of reports" in 2011 (Muhammad et al., 2019).

3. Research Methods
3.1 Data Collection Methods
    In this study, interview techniques were used for data collection. Interviews were conducted with employees of the West Java Province DPMD archive depot who are in charge of managing inactive archives that have been in the processing unit for two years.
    Says Moleong "An interview is a conversation with a specific purpose carried out by two parties, the first party is the interviewer who asks the question, and the second party is the interviewee who answers the question" in 2012 (Ketut et al., 2022).
3.2 System Development Method
    According to Rosa and Salahuddin "the waterfall model is the simplest SDLC (Software Development Life Cycle) model, and this model is only suitable for software development with specifications that do not change" in 2013 (Suryanto, 2016). The following are the functions of each component of the waterfall model:
    a. Software Requirements Analysis
        Analysis to propose solutions, system analysis is used to identify and assess problems, bottlenecks, and anticipated needs.
    b. Design

Software design is a multi-step process that includes the development of data structures, software architecture, interface representations, and coding techniques for software programs.

c. Program Code Generation

A software application must be created from scratch. This stage's final product is a computer program based on the designs created during the design stage.

d. Testing

Testing focuses on the software's logical and functional aspects and ensures that all components have been thoroughly tested. This is done to reduce errors and ensure that the output matches your expectations.

e. Support or Maintenance

When software is delivered to a user, it is possible that it will change. Changes may occur as a result of problems discovered during testing but not addressed.

3.3 System Testing Method

Method application testing with Black Box. Pressman stated, "Black Box testing focuses on the functional requirements of the software, in other words testing whether the output produced by the system meets expectations regardless of the system's internal structure" in 2010 (Ketut et al., 2022).

4. Results and Discussions

The DPMD West Java Province is one of the government agencies in charge of allocating funds to meet the needs and interests of many people in West Java Province. In the West Java Province DPMD, they still use manual methods for managing inactive archives. As a result, several flaws in the archive management system at the West Java Provincial DPMD were discovered, including the following:

a. The process of entering inactive archives continues to use Microsoft Word, which is considered less effective and frequently encounters errors when inputting data..

b. Borrowing and returning loans are still done manually on borrowing cards, which is considered inefficient and ineffective because errors occur frequently when recording loans and returning files, and there is a risk of losing the loan and returning the card.

Based on a study of existing systems and archive management issues at the West Java Provincial DPMD, the authors provide solutions to issues such as the following:

a. Designing an archive management information system with Visual Basic programming language,.NET framework 4.0, and Ms. Access as a database is expected to make working in inactive archive management easier.

b. Creating a system to make archive management easier for administrators.

Using the author's solutions create a system that can solve the problems that arise.

4.1 UML Design

Munawar stated that "UML (Unified Modeling Language) is one of the most trustworthy tools in the world of object-oriented system development" in 2005. (Prasetyo & Susanti, 2015).

a. Use Case Diagram

A Use Case Diagram is "a modeling tool for describing the behavior of a future system. The use case diagram depicts an interaction between one or more actors and the to-be-created system" (Wijoyo, 2019). Use Case diagrams for inactive archive management applications are shown below.
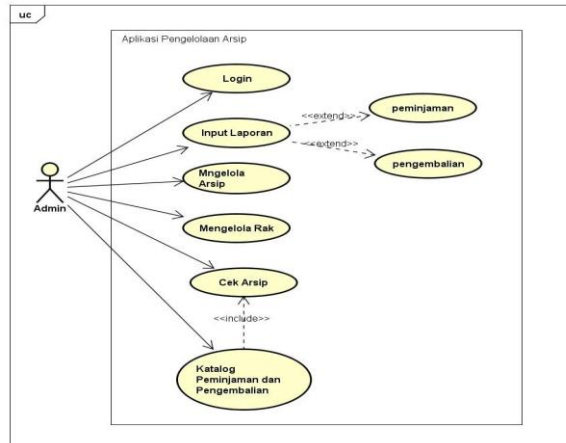
Fig. 1. Use Case Diagram for inactive Archive Management Applications

This archive management program's use case only has one actor, admin. The administrator can access the archive application and enter inactive archive data. The administrator can also enter Loans and returns reports, manage shelves, and check archives. There is a borrowing and returning catalog in the archive check.

b. Activity Diagram

Henderi stated, "Activity diagrams are diagrams that describe the dynamic nature of a system in the form of flow and control models from one activity to another" in 2007 (Simaremare et al., 2013). Activity Diagrams for inactive archive management applications are displayed below.
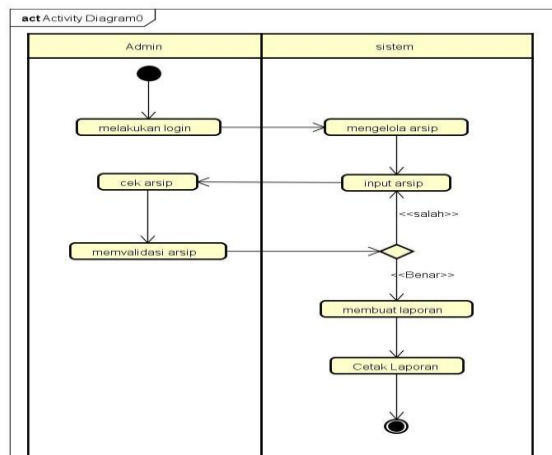
Fig. 2. Activity Diagram on Inactive Records Management application

Diagram of Activity There are activities in this archive management program that involve the Admin and the System, beginning with the admin activity of logging in, then the admin manages the archive, then inputs the archive and checks the archive, after which the archive is validated if the result is incorrect, the admin will return to input the archive if the result is correct, the admin will make a report and then print the report.

c. Class Diagram

Sri Mulyani stated that "in the classroom, there are various classes that are interconnected and can be represented by class diagrams" in 2016. Meanwhile Rosa AS and M. Salahuddin stated that "the system to be built can be described in terms of definition with a system structure." classes in the form of Class Diagrams, Class Diagrams are classes in the system that will be built based on the system's needs" in

2013 (Arifin et al., 2021). The class diagram for inactive archive management applications is shown below.
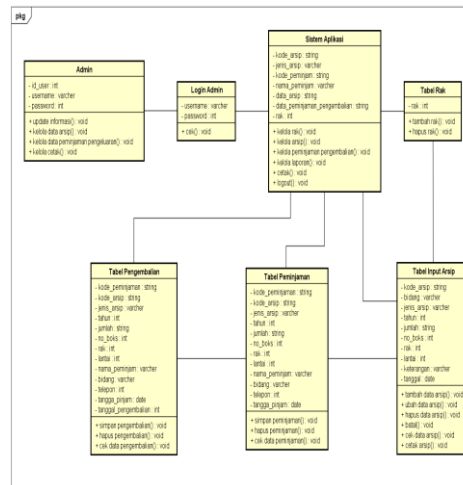

Fig. 3. Class Diagram on Inactive Records Management Application

Diagram of Classes There are several classes in this archive management program, including admin, admin login, application system, shelf table, archive input table, loan table, and return table. There is a relationship between class associations in each class, which includes the following. The first association is between the shelf table class and the archive data input table, where one shelf contains a large amount of archive data. The borrowing table is linked to the return table because where there is a return, there must be a loan.

4.2 Hardware and Software Specifications
a. Hardware

To support the hardware, hardware specifications that are in accordance with the needs of the application that is created are used to ensure that the system functions properly. The specifications that are recommended include:
1) Processor: AMD A4-3330MX Graphics 2.30 GHz,
2) RAM: 2 GB or higher, Hard Drive: 120 GB or higher,
3) Keyboard: Compatible with Ms. Windows, Mouse: Compatible with Ms. Windows.

b. Software

To support the software, software specifications that are in accordance with the application's requirements are used to ensure that the system functions properly. The recommended specifications are as follows:
1) Operating System: Windows 7,
2) Programming: Visual Basic 2010,
3) Database Processing: Ms. Access.

4.3 System Display
a. Login Display

The login display is used by the user to access the archive management application at the West Java Provincial DPMD, as shown in the image below.
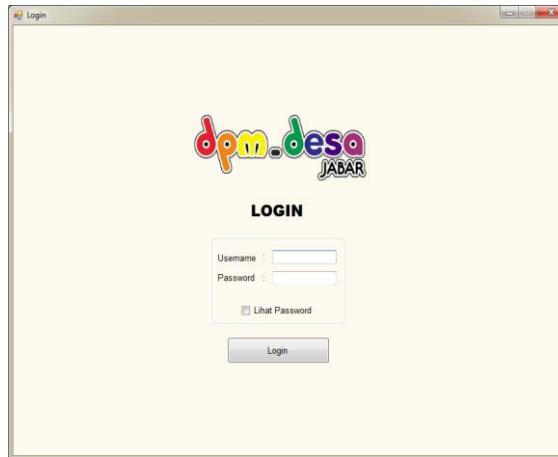
Fig. 4. Login display at the beginning of the application

The username and password are typed into the textbox and then entered into the main menu. The administrator must first login before proceeding to the main menu page.
b. Main Menu Display
The main menu display appears after the administrator has successfully logged in on the login page, as shown in the image below.
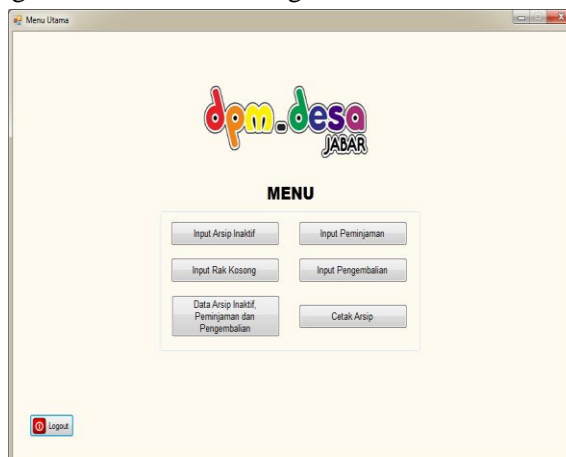

Fig. 5. Display the Main Menu on the application

The main menu page provides access to a variety of options, including empty shelf input, inactive file input, loan input, return input, archive data, loan return data, and archive print.
c. Empty Shelf Input Display
The first thing the admin should do after entering the main menu page is to enter an empty shelf. The admin will then click the empty shelf input button on the main menu page, resulting in the display shown below.
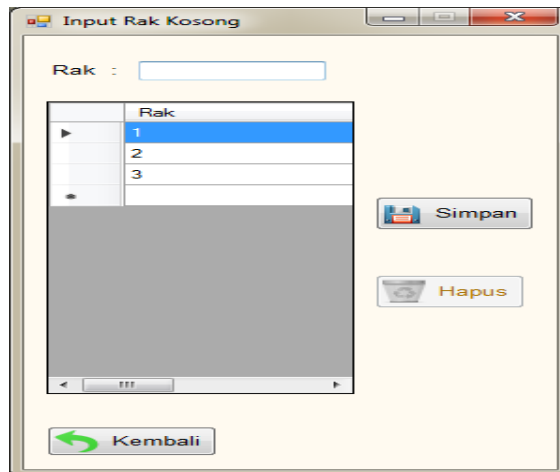
Fig. 6. Display for inputting Empty Shelves

After clicking Input empty shelf, the admin only needs to enter the shelf data in the empty shelf input section and save it.

d. Inactive Archive Input Display

The admin will then select the archive input button on the main menu page after entering an empty shelf, and the inactive archive input display will appear, as shown below.
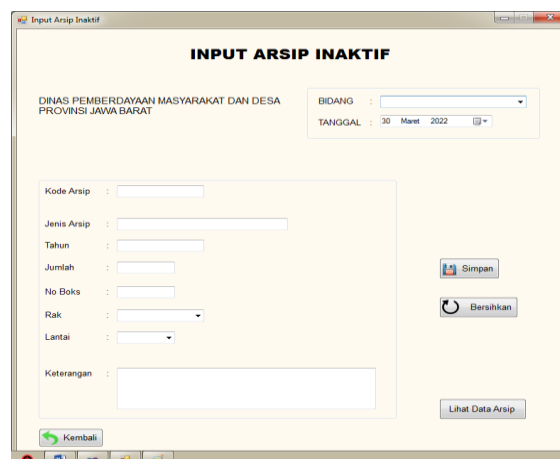

Fig. 7. Display of inactive archive data input

After clicking Input archive, the admin simply needs to fill in the archive data in the inactive archive input section and save it.

e. Loan Input Display

If anyone wishes to borrow inactive archive data, the administrator will select the loan input button on the main menu page, and a loan input display will appear, as shown below.

Fig. 8. Display of inactive archive loan input

When the admin enters the loan input view, he or she simply enters the loan data in the loan input section and saves it.

f. Return Input Display

If a user wants to restore an inactive archive file, the administrator will select the restore input button on the main menu page, and a return input display will appear, as shown below.

Fig. 9. Input display of inactive archive data return

After entering the return input display, the admin only needs to fill in the return date in the return input section and save it.

g. Archive Data Display, Borrowing and Return Data

When you enter inactive archive data and want to see inactive archive data and borrowing return data, the administrator clicks the archive data, borrowing and return button on the main menu page, and a display of options for checking archive data or loan data appears.

1) Archive Data Display

When you enter inactive archive data and want to view it, the admin clicks the archive data button on the inactive archive data menu page and loan-return data, and a data check option appears, as shown below.
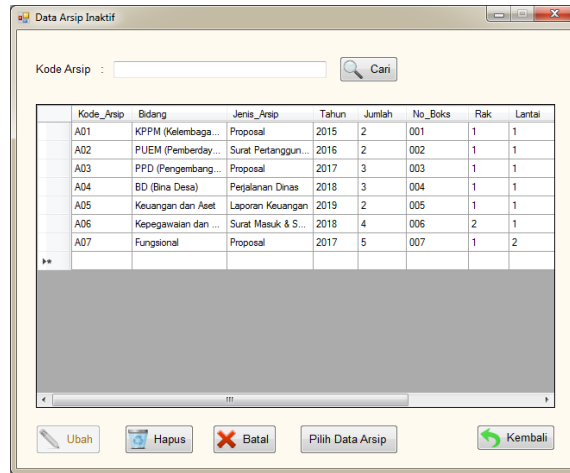
Fig. 10. Display of inactive Archive Data

The admin only needs to see the archive data in the archive data check section after clicking archive data.

2) Loan and Return Data Display

When loan-return data is entered and you want to see it, the admin clicks the loan-return data button on the inactive archive data menu page and loan-return data, then a data check option display appears, as shown below.
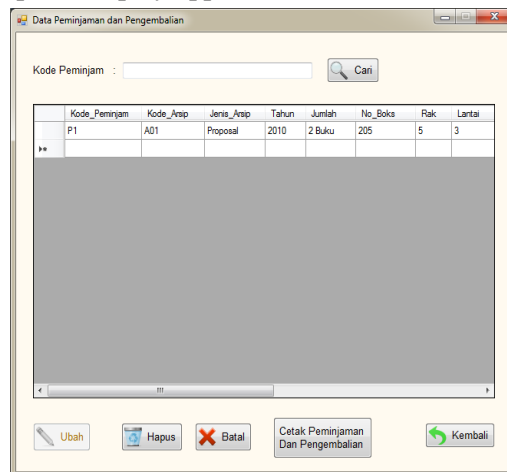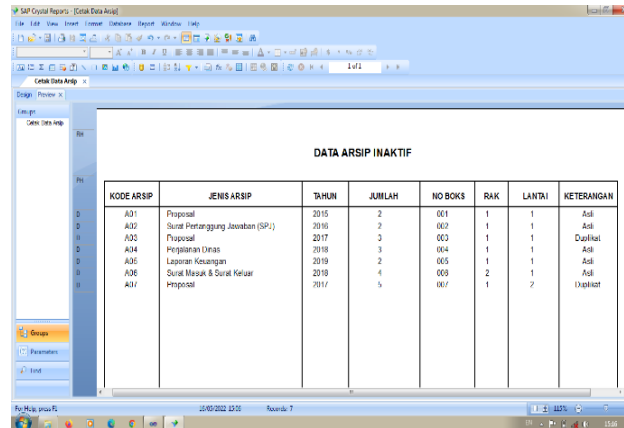

Fig. 11. Display of data on borrowing and returning inactive archives

The admin only needs to see the loan and return data in the check loan and return data section after clicking on the return loan data.

h. Archive Print Display

When you want to print inactive archive data, the administrator clicks the print archive button on the main menu page. After the administrator clicks print archive, the archive will be printed directly in the form of a file, as shown in the image below.

Fig. 12. Display of inactive archive data printout

5. Conclusion

This system's design is intended to make archiving work easier. This program is intended for a single user only. This program includes displays such as login, main menu, empty shelf input display, inactive file input display, loan input display, return input display, archive data display, loan repayment data display, and archive print display. This application, which is supported by a user-friendly interface, can assist administrators in managing inactive records, particularly when entering inactive archive data and loan repayments.

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