

Implementation of Microsoft Access-Based Electronic Filing System at PT. Fluid Science Batam

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Abstract

Archives are a vital element in a company, functioning as a memory center for every activity in the company. However, many companies still use conventional information systems that are inefficient and time-consuming in searching for archives. This study aims to design an electronic archive information system that facilitates information searches safely, quickly, accurately, and efficiently. The focus of designing this system is on dynamic archives, especially employee data, with integration using Microsoft Access. The data analysis method used is qualitative research with secondary data and the ADDIE model, which is known to be effective and efficient in system development. The results of the study indicate that the designed system can be an alternative to solving archive management problems at PT. Fluid Science Batam. This system is based on Microsoft Access which is expected to increase the efficiency and speed of archive management by the HR department and provide convenience and effectiveness in managing employee data.

Keywords:

Implementation, Design, E-Archive, Microsoft Access.

Introduction

The current digital era is increasingly marked by the rapid development of information technology. As we know now, almost every aspect of life experienced by society today is always related to the use of technology, and of course technology is now becoming increasingly sophisticated, including computer technology. The rapid advancement of technology in recent times has had a positive impact on the ease and comfort of carrying out various human activities. However, on the other hand, this progress also has an impact, especially in terms of archive management which needs to be addressed quickly. Developments in the field of archiving feel slow when compared to the rate of technological development which directly or indirectly produces archives that are constantly changing. (Rizky Zainab et al., 2023). Not only the development of information technology, every company is currently required to have internal controls in each department. The rapid development of information technology has a major impact on all aspects of life, including in society, both individuals, organizations, and other agencies that are trying to adapt optimally (Gede Endra Bratha, 2022).

The application of technology in all aspects of work is an unavoidable necessity and is also a demand of the times. One of the daily activities that requires technology is archive management. Archive technology was developed to make it easier for humans to manage various types of data, including incoming and outgoing mail data, personnel data, and confidential data. In addition, the use of computers in archive management is also a concrete example of the application of technology in archiving activities. Every company or institution must work faster and more efficiently.

Computers play an important role in answering this. Computers make tasks related to files, data processing, and even data archiving faster and more efficient. As we know, along with the development of technology, companies and agencies are the parties that receive the greatest increase in the volume of archives. This is because as the volume of archives increases, the archive management system used by an agency has a significant impact on archive management (Amalia & Panduwinata, 2022). And storing archives in the form of electronic media provides great benefits to its users, especially in terms of faster archive maintenance and can be compared to manual systems. This explains why the development of systems from manual to electronic is very beneficial in increasing work effectiveness (Di & Negeri, 2023).

One of the important sources of information in a company is the Human Resources department which is a department that is directly related to employees. So if the management of human resources in a company runs well, then the company will be easier to achieve the goals that have been set, so that the time used is much more effective. However, if the company's management is not good, it will cause other problems that weaken archive management and reduce efficiency or the archive retrieval process.

PT. Fluid Sciences Batam is a company engaged in the metal manufacturing sector and of course has a department that works for the welfare of its employees, namely the Human Resources department, as a department that has an important influence on managing the running of information systems and administrative systems related to employees to achieve the company's goals. In the Human Resources department, document and archive management is carried out using conventional methods such as storage in physical cabinets and in folders on computers or laptops. However, there are still many personal documents of employees, especially old employees, that have not been updated. Sometimes, their personal documents do not even exist or have not been updated at all. Therefore, researchers plan to design an electronic filing system based on Microsoft Access. This aims to make it easier for the Human Resources department to update and re-save employee personal data.

Research Method

The object of this research is Electronic archiving management that focuses on electronic archives. Electronic archiving includes documents created and received in electronic form or received as a result of media transmission. The implementation of this electronic archiving contains documents in the form of employee data. In this study, the author wants to design an Electronic Filing System Based on Ms. Access. With data collection techniques including:

1. Observation

Data collection by direct observation of the research object. In this case, the author collects employee personal data, compiles the data, and archives it manually.

2. Interview

Data collection is carried out by interviewing people who can provide information related to existing problems.

The data analysis technique in this study uses qualitative research using secondary data, namely the type of data that researchers do not collect directly but are obtained by researchers from existing sources and the research method used in this study is the ADDIE Model. Researchers use the ADDIE model because this model has many advantages, including being more effective, efficient and simple than other designs in supporting future system development.

Results and Discussion

System Requirements Analysis

To design a system, it is necessary to compile a system needs analysis used in managing archives in the company. The system analysis needs required in managing archives in the company are as follows:

1. The system is created to facilitate the process of inputting dynamic archives of employee data.
2. The system is created to facilitate the process of storing electronic archives, namely employee data.
3. The system is created to facilitate the search and retrieval of archives needed quickly, accurately and efficiently.
4. The system is created based on Microsoft Access limited to only be used by the HR department in the company concerned.

Database Design and Layout

Database system design is an important initial step in creating a system. This process aims to support the company's archive management system. Database design focuses on determining the information needed so that the system can meet the information needs according to the planned design. To support this database system design process, Microsoft Access 2019 is used. This system is used to store data, including employee information. The following are the stages carried out in database design and its design, which includes 18 items.

Table 1 Employee Data Table Design

No	Nama Field	Data Type
1	ID Karyawan	Short Text
2	Nama Lengkap	Short Text
3	Tempat Lahir	Short Text
4	Tanggal Lahir	Date/Time
5	Alamat	Short Text
6	Telp	Short Text
7	Foto	Attachment
8	Nik KTP	Short Text
9	KTP	Attachment
10	No KK	Short Text
11	KK	Attachment
12	No BPJSTK	Short Text
13	BPJSTK	Attachment
14	No BPJSKES	Short Text
15	BPJSKES	Attachment

16	Bank	Short Text
17	Bank Account	Short Text
18	Ijazah	Attachment

Form Design

After creating the table structure, the next step is to design a form to input employee data.

Figure 2 employee data archiving database creation process

Figure 3 Result of Creating Create Search Bar

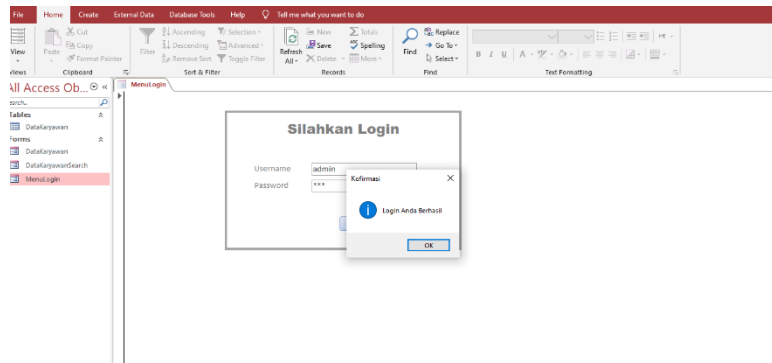


Figure 4 Results of Creating a Login Menu

System Testing

System testing is a crucial step to ensure whether the designed database system functions as expected. At this stage, system revisions and improvements are also made so that the system can finally be considered feasible and ready to use.

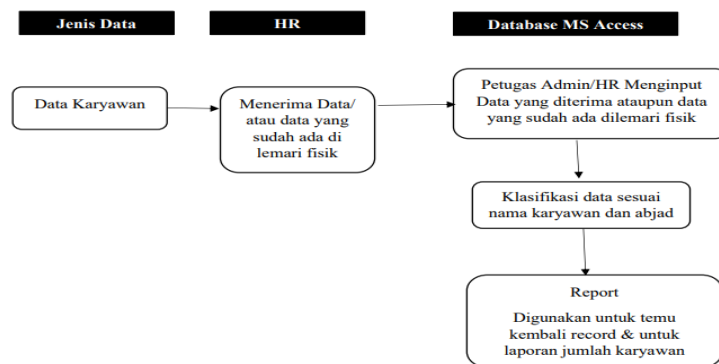


Figure 5 Dynamic Archive Management Flow in a Company

System Test Results

After the information system is designed, the next step is to conduct a trial. The tests carried out include data forms, archive searches, and reports.

Table 2 Archive Form Testing

Archive Form Testing	
Start	HR receives data, both new and existing in physical filing cabinets, and then enters it into Microsoft Access.

Process	Classify the data according to the employee's name, then the manager fills in the data on the form.
Test Results	The data that has been entered will automatically go into the table and report data.
Conclusion	Accepted

Table 3 Archive Report Testing

Search Testing and Report	
Start	HR receives requests for dynamic archive searches or searches related to employee data required for various company purposes, such as training or other needs.
Process	The manager performs an archive search using the Microsoft Access system by selecting the desired data report, then entering keywords in the form of employee names to find relevant data.
Test Results	Microsoft Access will display the employee form data searched for in the data report.
Conclusion	Accepted

1) Login View

The image shows a login interface with the following elements:

- Title:** **Silahkan Login**
- Username:** A text input field with a cursor at the start.
- Password:** A text input field.
- Login:** A blue button with the text "Login" centered on it.

Figure 6 Login View

2) Employee Database Archive View

FORM DATA KARYAWAN	
Search	Search Show All
Nama Lengkap	Foto
Tempat Lahir	
Tanggal Lahir	
Alamat	
Telp	No NPWP
Nik KTP	NPWP
KTP	
No KK	No BPJSTK
KK	BPJSTK

Figure 7 Employee Archive Database Form View

Microsoft Access Based Electronic Archive Filing System

Based on the results of the development of an electronic archiving system with Microsoft Access, it can be concluded that this application is an effective alternative for managing archives in companies. This system makes it easier to manage archives and search for the necessary archives, making the process more effective and efficient. The following is an explanation of the design of the information system design:

a. Table Structure

This Filing System consists of 1 employee data table consisting of 18 items in the table.

b. Form

The form design is based on the previously created table structure, according to the needs of the information system for archive management.

c. Report

The data report designed refers to the existing table structure. This report is used to display information about employee data. In addition, the report also functions as a tool for the archive retrieval process.

Implementation using the ADDIE model

1. Analysis Stage (Analyze)

In this research, the analysis of information system needs and identification of problems carried out was to create an electronic archive system to simplify and speed up the retrieval of archives.

2. Design Stage

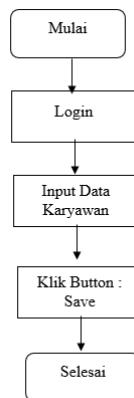


Figure 8 Design *Flowchart*

The design stage is a plan or design that is able to answer problems from previous analysis and has a plan related to the use of the application.

3. Development Stage

The stage that is the embodiment of the design into a software design and the creation of an archive system. In this study, the user is HR.

4. Implementation Stage

At this stage, system testing is implemented to determine the effectiveness of the system.

5. Evaluation Stage

Evaluation is carried out for revision needs. Evaluation is carried out based on validation results and then data analysis is carried out such as processing responses, criticisms and suggestions.

Conclusion

Based on the results and discussion of the information system, it can be concluded that the electronic archive system based on Microsoft Access is expected to solve the problem of archive management in the company. This system also facilitates the process of searching for archives effectively and efficiently, so that dynamic archives can be accessed quickly, precisely, and accurately when needed. The use of an electronic archive system based on Microsoft Access will help companies reduce the time needed to find archives again.

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