

A STUDY OF SIRIP DESA AT CITERAS, LEBAK, BANTEN AN ARCHIEVAL INFORMATION SYSTEM

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Abstrak

Penelitian ini bertujuan untuk membuat sebuah sistem informasi pengarsipan yang dapat digunakan untuk menyimpan data yang dimiliki perangkat pemerintahan di Desa Citeras sesuai kebutuhan. Tahapan penelitian diawali pengumpulan data arsip/ berkas yang terdapat pada Kelurahan Desa Citeras. Kemudian dilakukan pengolahan data untuk dapat diproses dalam sistem. Data yang diperoleh dimodelkan sesuai dengan kebutuhan sistem. Lalu diimplementasikan ke dalam sistem berbasis web. Luaran dari penelitian ini berupa tersedianya sistem informasi pengarsipan sebagai alat bantu penyimpanan data sesuai dengan kebutuhan perangkat pemerintah Desa Citeras berbasis web menggunakan metode SDLC (System Development Life Cycle) Waterfall. Perancangan database menggunakan MySQL dan bahasa pemrograman yang digunakan ialah PHP. Hasil penelitian ini ialah tersedianya sistem informasi pengarsipan untuk data penduduk di Desa Citeras berbasis web yang selanjutnya dapat digunakan oleh perangkat desa Citeras, Kecamatan Rangkasbitung, Kabupaten Lebak, Banten.

Kata kunci: Sistem Informasi, Arsip, Kependudukan, *Waterfall*.

Abstract

This study aims to create an archiving information system that can be used to store data held by government officials in Citeras Village as needed. The research stage was preceded by collecting data archives / files contained in the Citeras Village. Then the data is processed to be processed in the system. The data obtained is modeled according to system requirements. Then implemented into a web-based system. The output of this research is the availability of an archiving information system as a data storage tool in accordance with the needs of the web-based Citeras Village government device using the SDLC (System Development Life Cycle) Waterfall method. Database design using MySQL and the programming language used is PHP. The result of this research is the availability of a web-based archiving information system for population data in Citeras Village which can then be used by Citeras Village officials, Rangkasbitung District, Lebak Regency, Banten.

Keywords: Information System, Archives, Population, *Waterfall*.

INTRODUCTION

Citeras is a village located in Rangkasbitung, Lebak, Banten. This village is headed by a Local Mayor who is a Civil Servant, while the other employees are honorary staff. To accomplish the public service, this village require an information system which can be used as an archive storage. The archives includes the making of application letters by residents, incoming and outgoing letters which received by the village government. (Permata & Rahmah, 2020). Data processing that is currently implemented on Citeras is still recorded from correspondence sheets. So that in delivering service and information to the public is still done manually. This can be accommodated by building a web-based

information system in the form of archival storage to support better service to the community. (Listiyono, 2016). Data collection is done by the method of observation and interviews with the company to get the necessary data. (Silalahi, Ishak, & Marciello, 2020).

Based on the Law of the Republic of Indonesia Number 24, 2013, Concerning Civil Administration. Civil administration is a series of structuring and controlling activities in the issuance of documents and civilization data through civil registration and recording, management of civil information administration and utilization of the data for public service and development of other sectors. (Baharudin, 2013)

Information technology is the development in information systems by combining

computer technology with telecommunications. (Sukamto & Shalahuddin, 2018). The use of information systems can help the performance of village government become better and easier. A support from the information technology could make a development of information system more reliable. Information is one of the important resources in modern management era. The arrangement of information that carried out regularly, clearly, appropriately and quickly and can be presented in applications and reports is certainly very helpful for the operational activities of the village government. (Paryanta, Sutariyani, & Desi, 2017). The agencies need to aware with this technological development and continue to improve their ability in managing information and data. (Amsyah, 2003). A government agency also needs an information system which can support their needs in creating work efficiency and effectiveness in managing civil administration data.

Many researches related to information systems and archival storage management have been carried out. One of them is a research (Sudarsono, 2013) which shows that Gayungan Subdistrict Office of Surabaya still have a poor category in implementing archival storage management. This discovered by their way of storing archives, which only done by using one or two boxes. The next research was entitled at archiving information system incoming and outgoing mail at the Semarang Police (Oky, 2013) which produces an application that can manage incoming and outgoing mail using Visual Basic 6.0 programming according to the specified flow and solved the problems. The other research (Simangunsong, 2018) is about Web-Based Document Archiving Information System. This research reveals how to design, implement, maintain and make a security system so that able to avoid system damage. The application was developed with PHP and MySQL, with the aim to accelerate the process of archiving and storing the document in a fast, precise and detailed time. This research was done in Public Housing Regional - I, Medan.

A Software Development Lifecycle and others practices are to be used for software development projects involving optimized for implementation under a Waterfall model. (Santos, 2016). Helling etc have a research about Rumah Kost Hj. Gaby, for software development uses the Rapid Application Development Model (RAD). The results are expected to assist boarding owners in promoting their boarding houses and also provide a more effective way of conducting transactions related to the boarding houses. (Helling, Hasanudin, Wahyudi, & Ajasta, 2020). Permata and Rahmah

have a study to describe the dynamic archive storage procedures in the archives field of the Padang Pariaman District Archives and Library. The results showed that dynamic archive storage was active in the field of archives in the office of Archives and District Library Padang Pariaman uses Norms, Standards, Procedures, and Criteria (NSPK) in the Implementation of Archives Filing as a guideline in the filing of archives in the Padang Pariaman District Archives and Library Service. (Permata & Rahmah, 2020).

Thesing had a study for develops a decision model of a procedural model for project management. This study has two principal contributions. Each procedural model is particularly well suited for certain project types with defined criteria. If these project criteria are not met or are met only to a limited extent, the approach is likely to fail. (TheoThesinga, Feldmann, & Burchardt, 2021). Lee etc., have a research to propose a framework for optimizing software development and V&V qualities by incorporating and estimating various risk-cost factors related to SDLC processes. It showed important SDLC phases where the risk-cost factors can be minimized by achieving high software quality. (Lee et al., 2020).

From the explanation above, it can be concluded that the problem in Citeras Government can be solved by developing the web-based archiving information system. The studied archiving information system is expected to help the storage system of archives and data needed by Citeras Government.

RESEARCH METHODS

In this research, the archiving information system was developed using a software development analysis SDLC (System Development Life Cycle), which is a logical process used by system analysts to describe an information system, including requirement, validation, training and ownership (Sudarsono, 2013). Development of engineering system includes the following steps (Sutabri, 2005):

1. Planning. To produce a good quality software, it is necessary to do careful planning by conducting a feasibility studies, which includes: economic, operational, and technical.
2. Analyze. The purpose of system analysis is to determine the problem to improve the system. With this system analysis, it is expected that the problems will be resolved.
3. System Design. Describes screen layout, business rules, process diagrams and other documentations. The results of this step will

describe a new system as a collection of modules or subsystems.

4. Implementation (Build and Code). In this step the implementation of the design system. The result of this step will produce a software.
5. Testing. This is to ensure the reliability of the software.

Research Stages

This research flow consists of five stages which can be seen in Figure 1.

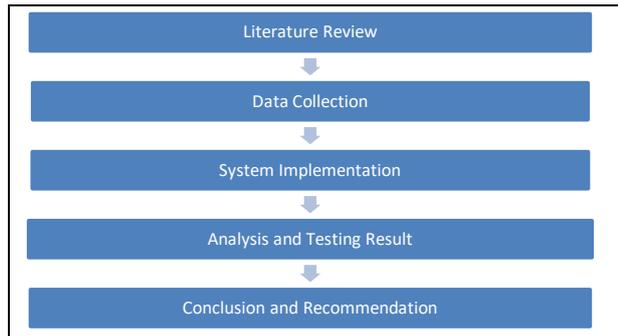


Figure 1. Stages of Research Flow

The explanation of the research stages above is as follows:

- 1) Literature Review
This stage means to study journals, research results and books related to information systems, archiving and software development.
- 2) Data Collection
Data collection is a stage that is done to collect data and information needed for research materials. At this stage, literature studies on science needed in research are carried out. This stage also needs the analysis to prepare all the requirement of research, including data sample.
- 3) System Implementation
Implementing SDLC method as the development of archival information system, using MySQL database and PHP as a programming language.
- 4) Analysis and Test Results
In this stage, various analysis and its design are carried out. Analysis and testing process is based on existing criteria to produce conclusions.
- 5) Conclusions and Recommendations
This stage aims to documenting and make a conclusion from the entire research, and also to give a recommendation for the next research.

RESULTS AND DISCUSSION

The archiving system of village government is an information system which able to

store archive and data needed by the Citeras government officers. This system expected to ease the officers to serve the Citeras community related to civil administration. This system is called SIRIP Desa and has the following capabilities:

1. Users of SIRIP Desa is the officers of Citeras government that responsible in civil administration.
2. The application to manage the population data, which able to create, read, update and delete data as needed.
3. The application to manage the population's birth and death data, consisting of two subsystems (birth and death data). Users able to create, read, update and delete data of birth and death as needed.
4. The application to manage application letters, consisting of seven subsystems, which are for create 1) the affidavit of unmarried, 2) the affidavit of legal capacity to marry, 3) the application letter for Residential Identity Card, 4) the application letter for Family Card, 5) the affidavit of poor resident, 6) the affidavit of temporary domicile, and 7) the application letter for population data change. Users able to create, read, update, delete, and print the previously mentioned item as needed.

System Design Analysis

The system design analysis is using SDLC with the implementation of Waterfall model, which provides the ordered software lifeline approach starting from system requirement analysis, system design development, program code implementation, testing and maintenance. (Simangunsong, 2018). SDLC models give a theoretical guide line regarding development of the software which is very important for developing the software in a systematic manner such that it will be delivered within the time deadline and should also have proper quality like waterfall model. (Malik & Nigam, 2017). Figure 2 shows about Waterfall model illustration.

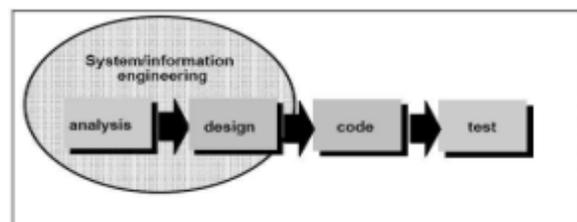


Figure 2. Waterfall Mode Illustration

System Requirement Analysis

At this stage, the analysis from the user side is carried out. This process is to understand whether the application able to display the required

menu. This application has three main menus, namely Population Data menu, Birth and Death Data menu and Application Letter menu, with the system requirement as follows:

- a) Population Data menu consists of brief population data information namely National Identity Number, Full Name and Family Card Registration Number. This menu is furnished by features to create new data, read details of population data, update population data, delete population data and also a feature to search population data.
- b) Birth and Death Data menu consists of two subsystems, which are Birth Data menu and Death Data menu. Birth Data menu consists of brief data information namely ID, Family Card Registration Number, Child Name and Child's National Identity Number. This menu is furnished by features to create new birth data, read details of birth data, update birth data, delete birth data, print birth data and also a feature to search birth data. Death Data menu consists of brief data information namely ID, Affidavit of Death Registration Number, Name of the Death and Date of Death. This menu is furnished by features to create new death data, read details of death data, update death data, delete birth data, print birth data and also a feature to search death data.
- c) Application Letter Menu consists of seven subsystems, which are 1) Affidavit of Unmarried Data, 2) Affidavit of Legal Capacity to Marry Data, 3) Application Letter for Residential Identity Card Data, 4) Application Letter for Family Card, 5) Affidavit of Poor Resident, 6) Affidavit of Temporary Domicile, and 7) Application Letter for Population Data Change. Each subsystem has different information based on the requirement. Details can be read in User Interface Design Subsection.

System Design

Stage of a user interface design development, as an initial overview for system display as well as the functionality of each user interface design which will be discussed in User Interface Design Subsection.

User Interface Design

User interface design is a display as communication tools between user and system. Communication that occurs can be either input from the user or output from the system.

Main Page Design

The main page displays menus required by users. The display at the first time opened shown in

Figure 3 and when the menu on the left side of the display clicked, a subsystem menu will appear as shown in Figure 4.

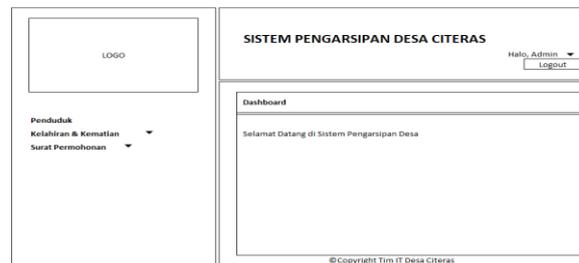


Figure 3. A display at the first time system opened

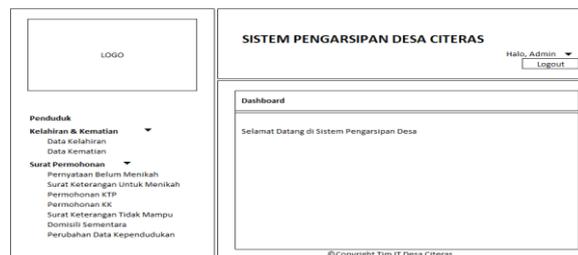


Figure 4. Display page when the subsystem menu appeared

Layout of the Population Data Menu Page Interface

The layout interface of Population Data Menu is used to process data population of Citeras. This page contains several buttons to add new data, show details of population data, change population data and delete population data. In this display, there is also search menu located to the top-right of the page. This menu can be used when user wants to quickly find the particular data. The layout is shown in Figure 5.



Figure 5. Layout interface of Population Data page

Layout interface of search result page

In this layout, user simply input the identity of the particular resident in search menu, as shown in Figure 6. This also applied to all subsystems that have search function.



Figure 6. Layout interface of search result page

Layout interface of population data edit page

In this layout, user able to edit data of each residents according to the information needed. This page also contains the back button to go back to the previous menu, and change button to save the changed data, as shown in Figure 7. This also applies to all subsystems that have a function to edit data.

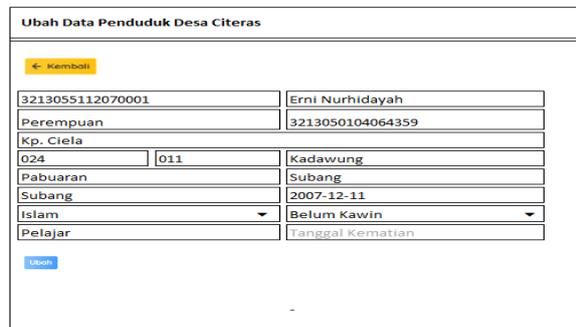


Figure 7. Layout interface of data population change

Layout interface of view population data

In this layout, users able to view details of population data. This page contains the back button to go back to the previous menu, edit button to edit population data as shown in Figure 7, and delete button to erase the population data, as shown in Figure 8. This also applies to all subsystems that have function to view data details.



Figure 8. Layout interface of view population data

Layout interface of create new population data

In this layout, users able to fill data as needed. This is shown in Figure 9. This page contains back button to go back to previous menu and add button to create new population data.

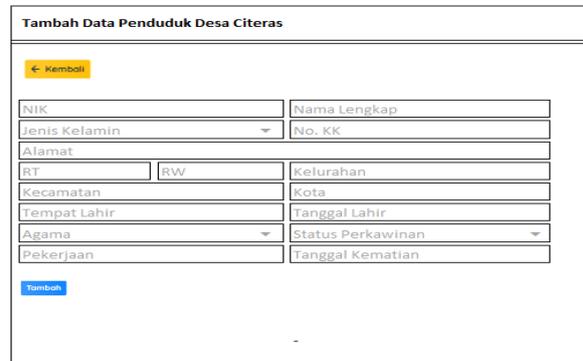


Figure 9. Layout interface of create new population data

Layout interface of print the affidavit of unmarried

Layout interface of print the affidavit of unmarried is shown in Figure 10. The submenu is included in Application Letter menu. This page contains print button to print the statement letter of unmarried. The printed page contains logo, letter head, letter title, body text that is tailored to the needs and the display that contains option to print the letter. This also applies to all submenu that have function to print with different content based on the needs.

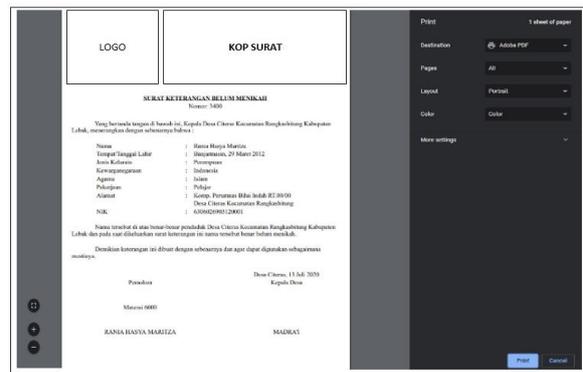


Figure 10. Layout interface of print statement letter of unmarried

Program Code Creation

The programming language used is PHP Programming and MySQL uses as a database storage. Figure 11 until Figure 14 show the line code of implementing PHP programming for making certificate of married.

```

function generateCertificate($nik)
{
    // Logic for generating certificate
}

function generateCertificate($nik)
{
    // Logic for generating certificate
}
    
```

Figure 11. Line code of implementing PHP programming for making certificate of married (1)

```

function generateCertificate($nik)
{
    // Logic for generating certificate
}

function generateCertificate($nik)
{
    // Logic for generating certificate
}
    
```

Figure 12. Line code of implementing PHP programming for making certificate of married (2)

```

function generateCertificate($nik)
{
    // Logic for generating certificate
}

function generateCertificate($nik)
{
    // Logic for generating certificate
}
    
```

Figure 13. Line code of implementing PHP programming for making certificate of married (3)

```

function generateCertificate($nik)
{
    // Logic for generating certificate
}

function generateCertificate($nik)
{
    // Logic for generating certificate
}
    
```

Figure 14. Line code of implementing PHP programming for making certificate of married (4)

System Implementation

The next step after system design is the implementation, using PHP as programming language and MySQL database.

Implementation of main page

The implementation of main page at the first time the system opened is shown in Figure 15 and when menu on the left side clicked, a submenu will appear as shown in Figure 16.



Figure 15. Implementation of main page at the first time the system opened

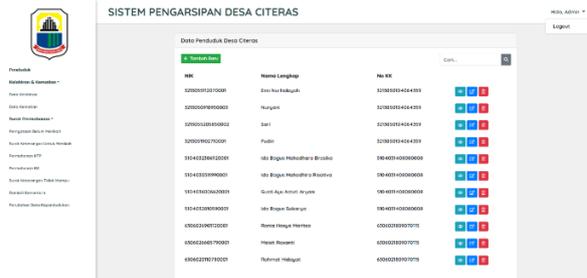


Figure 16. Implementation of the page when submenu appeared

Implementation of population data page interface

Implementation population data page interface is shown in Figure 17.

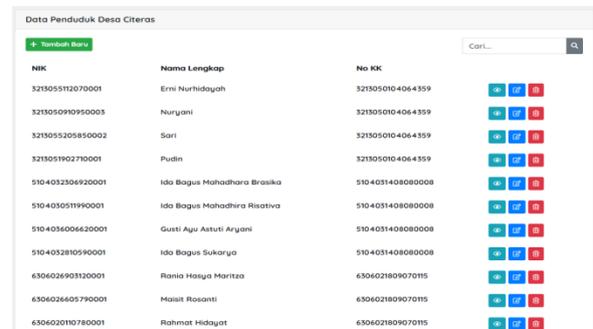


Figure 17. Implementation of population data page interface

Implementation of search result page

Implementation of search result page is shown in Figure 18. This also applies to submenu that have search function.

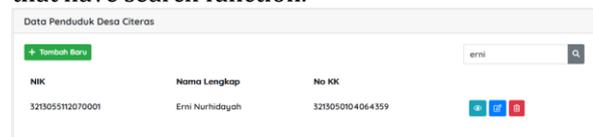


Figure 18. Implementation of search result page

Implementation of population data edit page

The implementation of population data edit page is shown in Figure 19. This also applies to all submenu that have function to edit data.



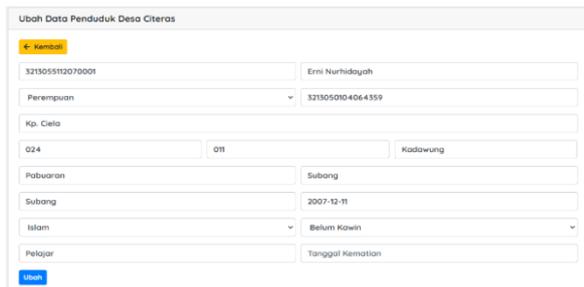


Figure 19. Implementation of population data edit page

Implementation of view population data page

The implementation of view population data page is shown in Figure 20. This also applies to all submenu that have function to view population data detail.

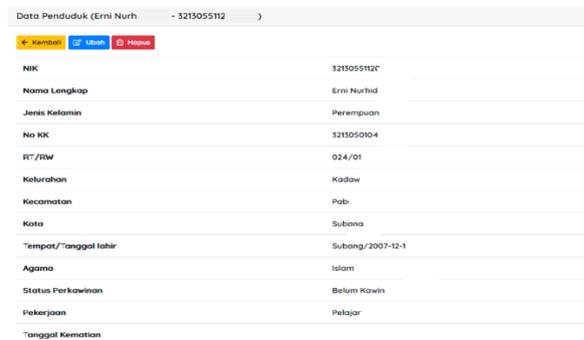


Figure 20. Implementation of view population data page

Implementation of create new population data page

The implementation of create new population data page is shown in Figure 21.

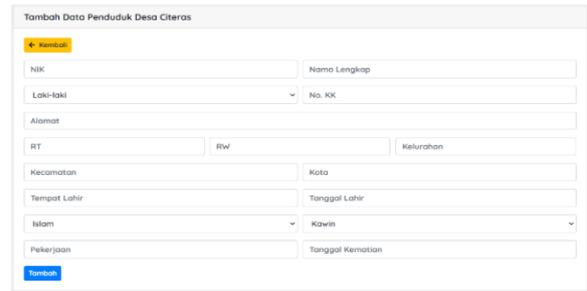


Figure 21. Implementation of create new population data page

Implementation of print affidavit of unmarried page

The implementation print statement letter of unmarried page is shown in Figure 22. This also applies to all submenu that have function to print.



Figure 22. Implementation of print statement letter of unmarried page

Testing

Testing for impleis done using black box testing method, which is a test to the entire system functionality. The black box testing results on the part of Create New Population Data shown in the Table 1.

Table 1. Black Box Testing Results on The Create New Population Data

No.	Test Scenario	Test Case	Expected Results	Test Result	Result
1.	Enter NIK	NIK: 3102863	The system will accept	According to expectations	Valid
2.	Enter NIK	NIK: abnfoe	The system will reject and display "enter numbers, not letter or special characters"	According to expectations	Valid
3.	Enter Nama Lengkap	Nama Lengkap: Erni	The system will accept	According to expectations	Valid
4.	Choose the dropdown list of gender	Click dropdown list beside "Laki-Laki"	The system will shown the other choice of gender "Perempuan"	According to expectations	Valid
5.	Enter No. KK	No. KK: 3102863	The system will accept	According to expectations	Valid
6.	Choose the dropdown list of religion	Click dropdown list beside "Islam"	The system will shown the other choice of religion	According to expectations	Valid
7.	Choose the dropdown list of marital status	Click dropdown list beside "Kawin"	The system will shown the other choice of marital status	According to expectations	Valid
8.	One of data is not completed except "Tanggal Kematian"	NIK: 3102863 Nama Lengkap: Erni No. KK: 3102863 Perempuan, Islam Belum Kawin	The system will reject and display error that data must be entered.	According to expectations	Valid



CONCLUSIONS AND SUGGESTIONS

The conclusion of this research is the availability of the archival information system that can be used by officers in Citeras government, Rangkasbitung, Lebak, Banten. This system information is called SIRIP Desa Citeras.

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