Information System Data Population in Gunung Panjang Samarinda Seberang

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Abstract- The development of technology today is getting faster. With the sophistication of today's technology, we can facilitate the work to be done. We can find the information we need and we can expand the communication network using advanced technology. Currently, population data collection in the government system can be said to be ineffective. Population data collection with a manual system can cause inefficient processing of population data and administrative services will take a longer time. This study uses two methods of data collection, namely: interviews (interviews) and observation. The system development used in this research is the Waterfall model, which starts with the analysis, design, coding, testing, and maintenance stages. The Gunung Panjang Village Population Data Information System was created using several programming languages, Hypert Text Markup Language (HTML), Hypertext Preprocessor (PHP), and Cascading Style Sheet (CSS). and MySQL. It can be concluded that the results of this study are an Information System for Population Data Collection in Gunung Panjang Village which can be used for processing population data and as a means of delivering information on Gunung Panjang Village through the website.

Keywords- Technology, Population Data Collection, Population Mutation, Service, Waterfall, Website.

I. INTRODUCTION

The development of technology today is getting faster. With the sophistication of today's technology, we can facilitate the work to be done. We can search for the information we order and we can expand network communication using advanced technology. One of the technologies that are widely used today by the community is computers. By utilizing computer technology we can store, organize, and retrieve various data that we have (Al-Hafiz & Haswan, 2018).

Currently, population data collection in the government system can be said to be ineffective. Data collection on the community should continue to be improved and improved again, good data collection will later become a benchmark for the performance of government agencies. Population data collection in government agencies still uses a manual system such as for processing written data. Population data collection with a manual system can cause inefficient processing of population data and administrative services will take a longer time.

With all the sophistication of computers today, many companies/institutions are using this technology. One of them that uses computer sophistication is the Gunung Panjang Lurah Office, the Gunung Panjang Lurah Office is one of the government agencies under the auspices of the Samarinda City government with the use of computer technology, the work on administrative processing is quite good, but in managing population data it is still done conventionally, namely officers The kelurahan visits people's homes in the Gunung Panjang Village to collect data so that the time required becomes inefficient, besides the problem of losing data that has been recorded by the officer into an ineffective job, not only that by using manual data collection methods there are still residents not recorded by the officer, therefore an "Information System for Population Data Collection in Gunung Panjang Village" was created which can facilitate work in processing population data in Gunung Panjang Village so that work becomes more effective and efficient (Al-Hafiz & Haswan, 2018).

Based on the above background, a problem formulation can be drawn as follows.How to help government agencies so that later population data collection can be more effective and efficient and How to design/create a web-based population data collection information system.

Web-based population, In connection with the formulation of the problem above, the author has limitations on the problems that must be studied, while the limitations of the problems examined are as follows, Processing of population data in Gunung Panjang Village and Population movement (entry, move, birth, death).

In line with the problems that have been formulated, the objectives and results of this research are as follows, Research Objectives (Realizing a more efficient population data processing information syste and Create an information system that can be used as a means of delivering information on Gunung Panjang Village through

the Website). Research Results (Facilitate government officials in processing population data and Produce an information system that can be used as a means of delivering information on Gunung Panjang Village through the Website).

II. LITERATURE REVIEW

According to research conducted by (Karim & Purba, 2018), entitled "Web-Based Information System for Village Mosque Village Population Data Collection". The use of a good population data processing information system, service, administration, and public complaints will make it easier to perform data processing that can save time, space, and costs.

According to research conducted (Sudipa & Lestari, 2019), entitled "Design of a Hamlet Population Information System (Case Study: Dusun Tegal Kori Kaja Ubung)". The Tegal Kori Kaja Hamlet population information system can make it easier to process and record population data, search data, minimize the possibility of errors in population recapitulation every year, and can provide population status information to every resident in Tegal Kori Kaja Hamlet.

According to research conducted by (Sopiandi, 2020), entitled "Web-Based Information System for Serambut Village Population Data Collection". With this system, it can help the Serambut Village Office in processing population data in Serambut Village, Hainaut Island District to be more effective and efficient.

According to research conducted by (Sopiandi, 2020), under the title "Web-Based Information System for Poor Population Data Collection". With the existence of a web-based poor population data collection information system, it will make it easier for the village to enter data on the poor in the village of bong cideries.

According to research conducted by (Soraya & Witi, 2021), under the title "Design of a Population Data Collection Information System at the Kotaratu Village Office, Ende Regency". This population data collection information system is one of the right solutions for Kota Ratu Village, Ende Regency. From the process and results of this research, it can be concluded that the population data collection information system can facilitate and assist the process of reporting residents of the Kota Ratu kelurahan, and can present information quickly and efficiently because this system can input population data and present reports required by the kelurahan, data The whole can be stored in a database which will be the village archive.

This application has a population growth graph that aims to find out the number of residents each year. In addition to the population growth chart, there are also charts of religion, age and family cards.

A. System
The system is a collection of elements referred to as subsystems or objects that are interconnected to achieve one goal.

B. Information
Information is data that has been managed, the results of which will later be displayed as useful notifications for many people.

C. Information System
The information system is a combination of information technology itself with individuals who use the technology so that later they can control information.

D. Population Data Collection
Population data collection is the process of recording population data in a certain area as government archive material.

E. Technology
1) Website
A website or abbreviated as the web can be interpreted as a collection of pages consisting of several pages that contain information in the form of digital data in the form of text, images, video, audio, and other animations provided through internet connection lines (Marlina et al., 2021).

2) Databases
A database is an organized collection of data to efficiently support multiple applications by centralizing data and controlling redundant data (Josi, 2017).

3) Xampp
It can be concluded that Xampp is a tool application to provide software packages that contain configurations for Web Server, Apache, PHP, and MySQL to help us in the process of making web applications that are integrated into one, making it easier for us to create web programs (Josi, 2017).

4) MySQL (My Structured Query Language)
MySQL (My Structured Query Language) is a program for creating and managing databases or what is often called a DBMS (Database Management System), the nature of this DBMS is open source. In addition, MySQL is also a networked database access program, so it can be used for Multi-User application (Kurniawan et al., 2021).

5) PHP (Hypertext Preprocessor)
PHP comes from the word (Hypertext Preprocessor), which is a universal programming language for handling the creation and development of a website and can be used in conjunction with HTML (Josi, 2017).

6) HTML (Hypertext Markup Language)
HTML stands for (Hyper Text Markup Language), which is a script in the form of tags to create and manage website structures (Josi, 2017).

F. Testing
Black box testing is one of the software testing methods that focuses on the functionality side, especially

on application input and output (whether it is following what is expected or not),(Heriyanto, 2018).
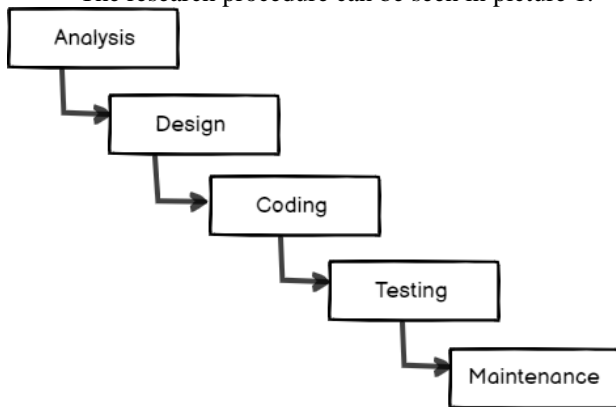
G. UML (Unified Modeling Language)

UML (Unified Modeling Language) is a system development technique that uses a graphical language as a tool for documenting and performing specifications on the (Tabrani & Rezqy Aghniya, 2020).

III. RESEARCH METHODS

A. Research Procedure

The research procedure can be seen in picture 1.

Picture 1. Waterfall Model

Description :
1) Analysis

The analysis was carried out using two data collection methods, namely interviews (interviews) and observation. Data collection interviews were conducted by directly interviewing the RT heads in Gunung Panjang Village, while observation was analyzing data in Gunung Panjang Village such as a request for a letter regarding population.

2) Design

System design is the making of an application design for a clear description of what the application will be like later, taking into account the data that has been analyzed. The design includes data structure, software architecture, interface representation, and coding procedures.

3) Coding

The design that has been made is then processed into a system with coding techniques. The coding process is carried out using the PHP, My SQL and XAMPP programming languages. After that, system testing is carried out to find system errors so that they can be corrected on the spot.

4) Testing

System testing is a process carried out to find errors in a system that later these errors can be corrected. At this stage, it can also be determined whether the application will be suitable for use or not by Gunung Panjang Village

5) Maintenance

System maintenance is an action taken so that the efficiency of a system is maintained properly so that the system can be used more optimally. At this stage, the system will continue to be developed and updated gradually following the development of existing software in the future so that the system does not become foreign.

B . System Design

The design is carried out after the development stage after analyzing the problem. At this stage, a system design is carried out that requires a process.

1) Use Case Diagram

After logging in, the admin can process population data (data input, edit data, and delete data), the admin can also access population data and service data, while the Lurah and Kasi can only access population data and service data. Visitors can access information about services. The use case diagram design can be seen in picture 2.
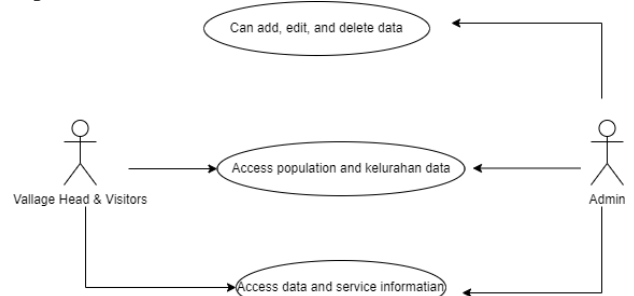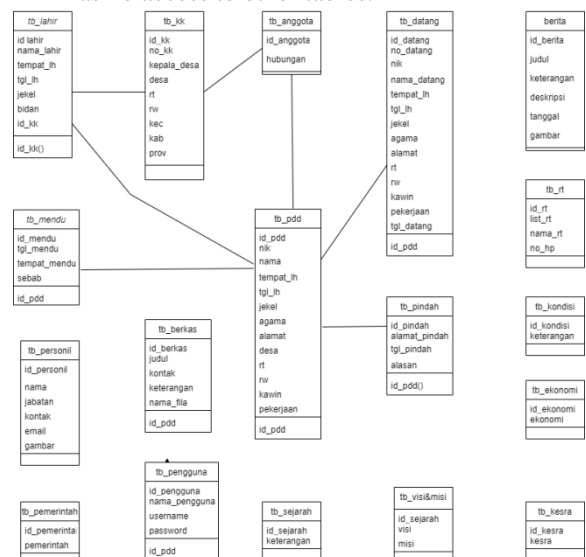

Picture 2. Use Case Diagram

2) Class Diagram

It has 18 database tables, the class diagram design can be seen in picture 3.

A related table is a table that has access to each other, while an unrelated table is a table that has no access to other tables.


Picture 3. Class Diagram

IV. RESULTS AND DISCUSSION

The Information System for Population Data Collection in Gunung Panjang Village, Samarinda Seberang District, Samarinda City Based on a Website was created to facilitate government officials in processing population data and can be used as a means of delivering information on Gunung Panjang Village through the Website. In this application, there are two system users, namely: Administrator and Visitors. For the administrator page after logging in, a dashboard page will appear in which there is a data management menu, population circulation menu, profile menu, data menu, service menu, and system user menu. For the visitor page after opening the home page which contains the data menu, profile menu, service menu, and contact us menu. Here is a view of the results of the website creation:

A. Login page

The login page is the page that is used to get access rights to enter the dashboard page by filling in the correct username and password. The login page can be seen in picture 4.
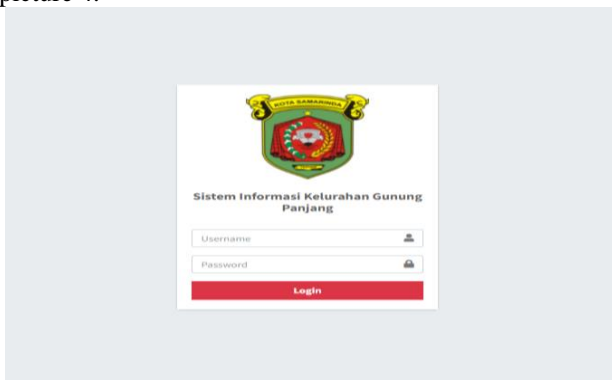
Picture 4. Login Page

B. Admin Dashboard Page

The dashboard page contains several data control menus, namely population data, family card data, birth data, domicile data, moving data, and death data, as well as graphs showing the number of residents by gender. The dashboard page can be seen in picture 5.
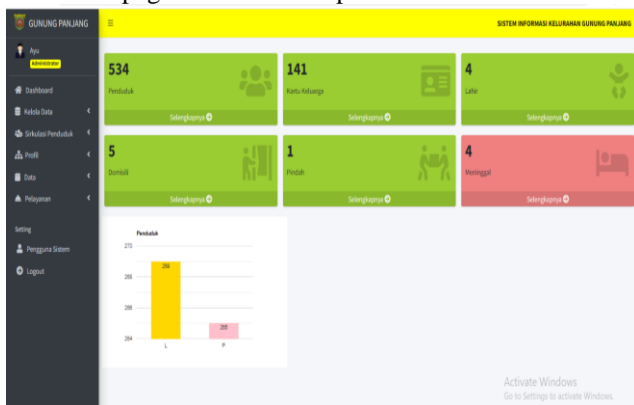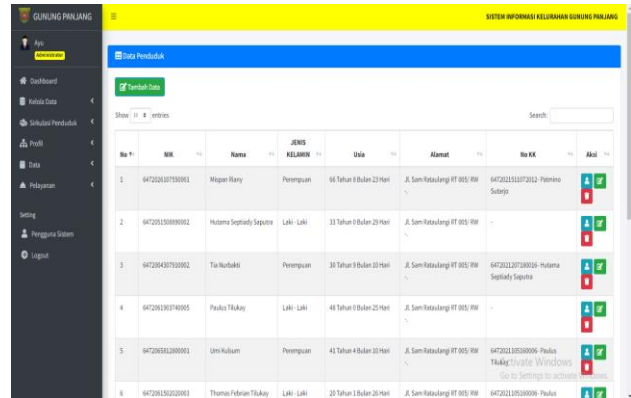

Picture 5. Admin Dashboard Page

C. Manage Data Page

The data management page is part of the menu that

contains several sub-menus, namely population data and family card data where later the admin will perform data processing such as viewing population details, adding data, deleting data, and editing data in picture 6.

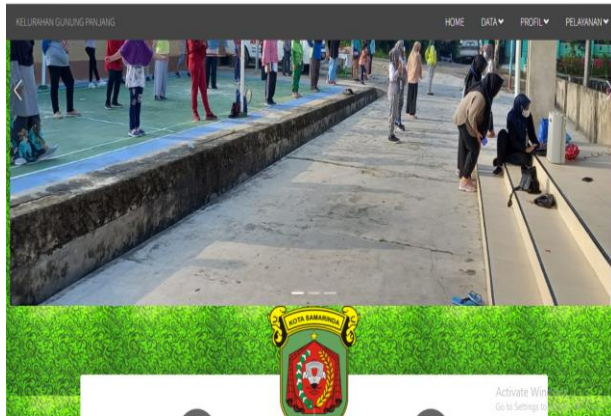

Picture 6. Manage Data Page

D. System User

The system user page is part of the sub menu that stores the data of anyone who has registered and can access the Gunung Panjang Urban Village system. The system user page can be seen in the picture 7.
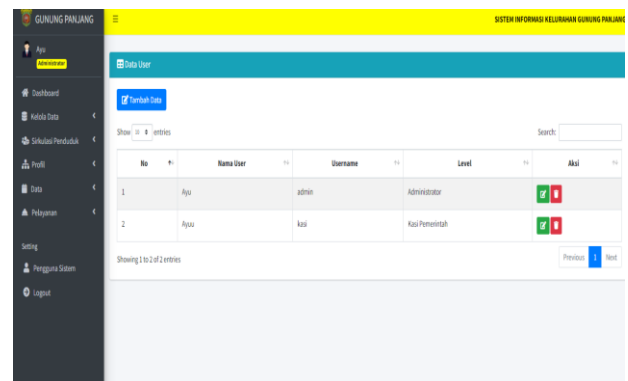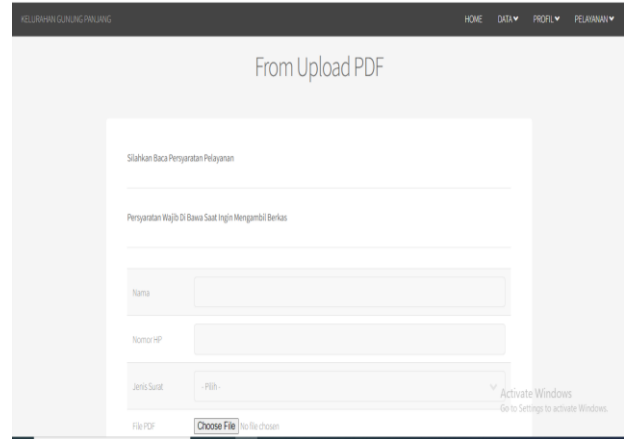

Picture 7. System User

E. Visitor Home Page

The home page or homepage is the first time that is displayed when opening a website, this page is often referred to as the main page on a website. The home page can be seen in picture 8.

Picture 8. Manage Data Page

F. Population Data Chart

A population graph is population data that is presented in graphic form and contains information related to the number of residents in each RT in Gunung Panjang Village. The population graph display can be seen in picture 9.


Picture 9. Population Data Chart

G. Upload Files

This sub-menu displays from for uploading the file management requirements in the form of a PDF which will later be viewed by the admin. After the letter has been made, it will be confirmed through the contact that has been filled in by the resident. The view from the file upload page can be seen in picture 10.

Picture 10. Upload Files Page

H. File Page

The file page is part of the sub menu that stores the uploaded file data from residents which will later be processed by the admin, if it has been completed it will be confirmed through the existing contact. The file page can be seen in the picture 11.
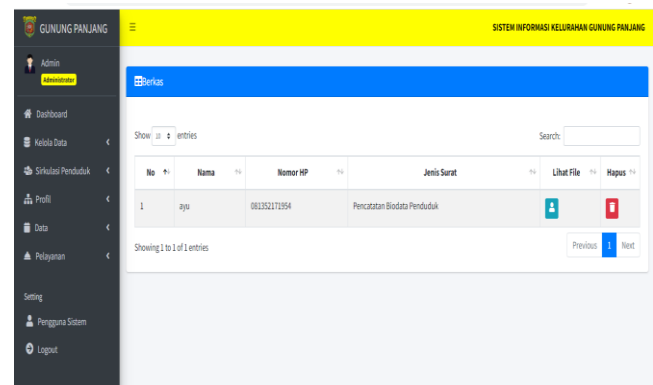
Picture 11. File Page

Tests are carried out for errors when the system is running so that later the application runs as expected. At this stage, testing is carried out on the menus contained in the system. This writer performs system testing using the black box method. System testing can be seen in table 1.

Table 1. System Testing

Input	Output	Test Results
Click login	Enter username and password	Succeed
Click dashboard	Showing the home page	Succeed
Click manage data	Displays the resident data page and family card data	Succeed
Click on population data	Display population data	Succeed
Click on family card data	Show family card data	Succeed
Click population circulation	Displays birth data, death data, birth data and death data	Succeed
Click birth data	Show birth data	Succeed
Click death data	Displaying death population data	Succeed
Click on domicile data	Show data resident	Succeed
Click data move	Displaying resident data moving	Succeed
Click profile	Displays data on news, history, environmental conditions, village personnel, vision & mission	Succeed
Click news data	Show news data	Succeed
Click historical data	Show historical data	Succeed
Click on environmental condition data	Displaying environmental condition data	Succeed
Click on village personnel data	Displaying village personnel data	Succeed
Click on vision & mission data	Display vision & mission data	Succeed
Klik data	Click data	Succeed
Click RT data	Displaying RT data	Succeed
Click service data	Displays data on government & administrative divisions, Economic and Development division & Environment Division divisions, welfare & social assistance divisions	Succeed
Click on the data for government & Peace and Order	Showing data for government & Peace and Order Division	Succeed
Click on the data for Economic and Development division & Environment Division	Showing data for Economic and Development division & Environment Division	Succeed
Click on the data for welfare & marketing division	Displaying data on welfare & marketing division	Succeed
Click system user	Display system user data	Succeed
Click logout	Bring back the login page	Succeed
Click add data	Display the add data form	Succeed
Click edit data	Displaying data editing form	Succeed
Click clear data	Delete data	Succeed
Click detail data	Show details data	Succeed

V. CONCLUSION

The Gunung Panjang Village Population Data Information System is used by admins to make it easier to process population data such as adding data, editing data, deleting data to save time and effort and be more efficient. As for the population service section, there is a menu to send documents needed by residents so that later they can easily process letters according to population needs. This information system is also used to facilitate the delivery of existing information to the entire population. This system has been successfully created using the programming language Hyper Text Markup Language (HTML), Hypertext Preprocessor (PHP), Cascading Style Sheet (CSS). and MySQL.

From the Population Information System Website, the author realizes that there are still many shortcomings in making reports and making applications. The suggestion that the author gives is the addition of features such as other supports and making the display for visitors to make it look more attractive. This application can be accessed by government agencies in the Gunung Panjang village by entering a username and password that is not known by others

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