Web-Based Population Data Management Application (Case Study: RW17 Citaliktik Soreang Office, Bandung District)

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Abstract

The RW17 Citaliktik Soreang office is one of the Residents' Associations, having its address at Kp. Citaliktik Soreang Islamic Boarding School has various kinds of resident activities. Currently, the population data collection at the Citaliktik RW17 Office is to collect citizen data conventionally according to its category. With this, it is necessary to implement an information system, the Population Data Collection Application, which is implemented through the website. The system will be developed using object-oriented software development and programming (OOAD) methods using a computer or laptop device. To assist the RW17 Citaliktik Soreang Office in improving the existing system with the hope that the processing and presentation of population data, which is still conventional, can make it easier to make this population data collection application. The result of making the application is a Population Data Collection Application at the RW17 Citaliktik Soreang Office.

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Keywords : *OOAD, Data Collection, Website*

INTRODUCTION

Digital needs are becoming more sophisticated and varied as we move into the digital era. Access to specific information must be quick and straightforward for the Head of RW (Rukun Warga). Many organizations in sophisticated countries have used information technology to collect information due to the field's rapid development. Internet technology, including the creation of websites, is one of the technologies that has advanced quickly.

Many things and pieces of knowledge are required from RW17 Citaliktik Soreang. In this instance, RW17 Citaliktik Soreang seeks to facilitate recording demographic information, including the number of families, birth rates, and information on immigrants and movers. Currently, data is still recorded using the traditional ways, requiring the RW Secretary to gather and write it on paper with a data form before submitting it to the RW17 Citaliktik Soreang Office to be recorded in various books according to its category. Data entry involves a considerable number of steps. In RW17 Citaliktik Soreang, the author intends to create a website-based application for collecting demographic statistics. A secretary can find things more accessible with the help of the RW17 Citaliktik Soreang web-based population data collection program if they wish to collect population data more quickly and efficiently. Therefore, collecting population data with the RW17 Citaliktik Soreang population data collection program may be more straightforward and quicker.

The author developed the Population Data Management Application (Case Study: Office RW17 Citaliktik Soreang Bandung District), a website-based application.

METHOD

Method of collecting data

1. Observation (Observation)

   Observation (observation) is a method of collecting data through direct observation or careful and direct observation at the research location. In this case, the author made direct observations at the RW17 Citaliktik Soreang Office, to collect sources of information that are very important to find out the constraints that exist in the current system.
2. Interview

   This method is carried out through a question and answer process with a resource person at the place or location where the research object is carried out. In this case, the question and answer process was carried out directly to the Secretary of RW17 Citaliktik Soreang.
3. Literature review

   Literature study is all efforts made by researchers to obtain and collect all written information that is relevant to the problem being studied. This information can be obtained from books, research reports, scientific articles, yearbooks and other sources such as journals. As well as searching on the internet. By using the library study method, researchers are expected to obtain theories and literature from previous research, so that researchers do not recreate existing research.

System Development Methods

The system development method used to carry out this research is the Unified Modeling Language (UML) method, which is one of the tools for developing object-oriented systems. UML provides a visual modeling language that allows authors to create system designs in a standard form, easy to understand, and equipped with effective mechanisms for sharing and communicating designs with one another.

Current System Analysis

Analyzing a system that is running is one of the stages in analyzing whether a system is in accordance with the main goal of the system itself, namely making things easier for users. System analysis is very important because the function of the analysis itself is to find out how the system works so that the system created can produce the desired results and can achieve the planned goals. The following is the system currently running:

1. The secretary collects population data files
2. The secretary records this data in the books according to its category
3. There are 4 categories of bookkeeping, namely Citizen Data Files, Family Card Data Files, Mutation Data Files, RT Data Files

The secretary collects files for the needs of the population such as citizen data, family cards, mutations and RTs in the form of several notes and are recorded in separate books according to the category, in which this method makes it difficult for the secretary to search and this collection causes files to pile up.

RESULTS AND DISCUSSION

Implementation Stage

This system implementation stage is the stage carried out after system analysis and

design, where this stage is the stage that includes the implementation of the system so that the system can be operated. The stages carried out in this implementation stage are transferring the program logic obtained from the analysis and design results in the form of algorithms into a particular programming language to test the system itself. The tools and specifications required are:

1. Hardware
   Hardware is a device that can be carried anywhere, mobile or what is most often called a cellphone. Applications of mobile devices that can support the application that will be created include:
   a. Mobile device with Android operating system
   b. Minimum Android version 5.0 (lollipop)
   c. Minimum RAM (Random et al.) 1GB
   d. Quota for connecting to the internet
2. Brainware
   Brainware is one of the essential components in implementing a system and usually takes the form of human objects as the implementing staff consisting of:
   a. Administrator, the person in charge of operating the system and carrying out the process of entering, changing, or deleting data.
   b. Experts, namely people who are the source of creating a system, in this case through books and other sources.
   c. User, namely the person who is the User of the finished system results.
   d. Programmer, a person who functions as a creator and improves computer programs that refer to the built system.
3. Software
   Software (Software) used to run and implement the system to be created. In this case, the software used by the author to apply this system includes:
   a. Text Editor Sublime Text
   b. Google Chrome browser
   c. Xampp

Program Testing

Before the program is implemented, the program must be free from errors. The program is tested for each module and continues with testing for all modules that have been assembled. Program errors that may occur are grouped into the following types of errors:

1. Language error (Language Error)
   Also called a writing error (Syntax Error) or Grammatical Error (Grammatical Error) is an error in writing the source program that does not match what has been hinted at. This error will be easy to find and correct because the compiler will tell you where the cause of the error is when the program is run.
2. Error during the process (Run Time Error)
   It is an error that occurs when an executable program is executed. This error will cause the program process to stop before it is finished in time because the compiler finds a condition that cannot be executed before it is fulfilled.
3. Logical Error

It is an error in the program logic that was created. Errors like this are difficult to find because there is no notification regarding the error, and you will still get incorrect program results.

Program Maintenance

In the operation of the application program changes often occur from the application or even damage. This can happen due to an error in the operation of the program or a request from the user, in terms of maintenance, basically it must always be there, of course, adjusted to the environment where the program is used, to maintain the stability and balance of the program which can produce the information needed by the user. .

Interface Implementation

This section describes the appearance of an application program that is designed according to the design made at the system design stage. From the existing system design, the authors divide it into several forms of display.

Login Admin

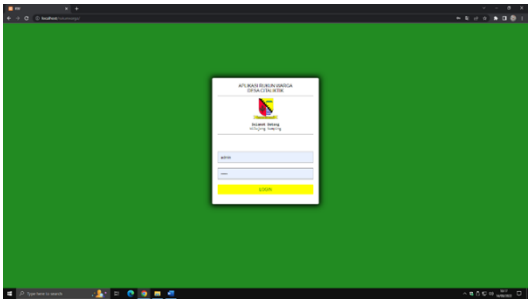


Figure 1. Admin Login Page

AdminDashboard

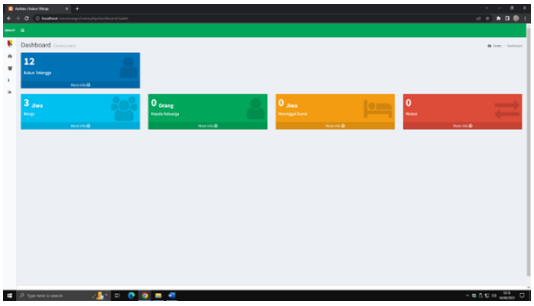


Figure 2. Admin Dashboard Page

Information: Citizen Data

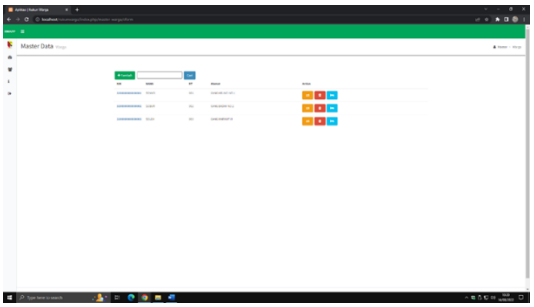


Figure 3. Information Page: Family Data

Information: Family Card Data

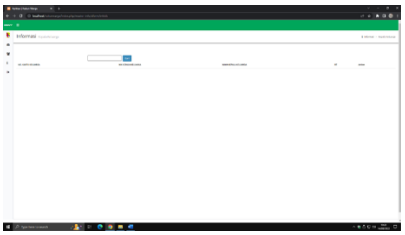


Figure 4. Information page: Family card data

Information: RT data

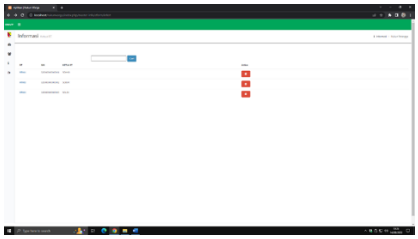


Figure 5. Information page: RT data

CRUD: Citizen Data

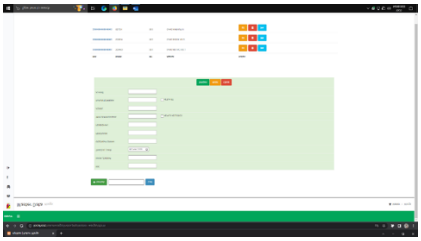


Figure 6. Information page: RT data

CRUD: Citizen Data

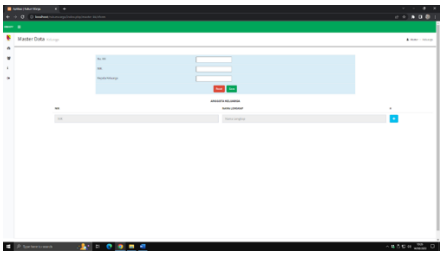


Figure 7. CRUD page: Citizen Data

CONCLUSION

Based on the results of the analysis, design and trials that have been carried out by the author for the population application in RW17 Citaliktik Soreang, the authors draw conclusions, namely:

a. Data collection, managing population data and making data collection detailed
b. Designed an application related to managing Population Data in RW17 Citaliktik Soreang
c. This application is designed to make it easier to collect population data.

From the several conclusions that the author has obtained, in order to get better and optimal results, the author suggests making improvements and developments to the application. Following are some of the author's suggestions for improvements to this application, including:

1. Develop CRUD (Create, Read, Update, Delete) features on admin pages to make it easier to manipulate data
2. To design this application, it is recommended to study PHP, HTML and database systems (MySQL) more deeply.

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