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Implementation of MVC (Model View Controller) Method Development of Web-Based Administrative Applications in the Office of Muara Sungai Village Prabumulih City

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Abstract

The village administration system is a website-based application that is important for village, including admins is carrying out village administration sevices which have a very important role in the government managing. All communities need to reiceve good village administration services. Data from this researcher was obtained based on interviews, direct observation at the muara sungai village office. The development method used is rad (rapid application development) which consists of requiretmens planning, design implementation processes. The language used is PhpMySql, a database operation that allows data selection or data entry, which can be done easily and automatically.

Keywords: *Village administration, services, website*

1. Introduction

Implementation is an action or implementation of a plan that has been prepared carefully and in detail. Implementation is usually carried out after the planning is considered perfect [1]. MVC (Model view controller) is a design pattern for application development architecture that separates and groups several codes according to their functions [2]. Muara Sungai Village itself is a village that requires a website-based system for population administration services that can process data related to the process of providing information services about Muara Sungai Village, such as application letters for making KTPs, moving and data processing such as death data, birth data, family data. and reporting on people's development and welfare. Services and information to the public are still done manually, all data is recorded in books. Obstacles faced by services that take a long time so that the service does not run effectively and efficiently. Based on these problems, this research aims to design an information system that is able to provide a website for village government by utilizing technology in implementing it using the Model View Controller (MVC) concept using the PHP programming language and MySQL database. Developing the Model View Controller (MVC) concept to create a village population administration website is needed to optimize existing population services, making it easier for users (Village officials) to obtain population information according to their needs. The application of the MVC concept in developing a website-based system for village administration services aims to provide simplicity and convenience for website programmers in system maintenance, because it separates the data (Model) from its appearance (view) and the way to process it (controller) so that it is not difficult when having to repair the system. Based on the problems above, I as the author will create a website-based information system with the title "Implementation of the MVC Method for Developing Web-Based Administration Applications at the Muara Sungai Village Office, Prabumulih City".

2. Theoritical Basis

2.1. Implementation

Implementation is the process by which several strategies and policies are transformed into action through the development of programs, budgets and procedures. Although implementation is usually only considered after the strategy has been formulated, implementation is the key to successful strategic management [3].

2.2. Understanding The MVC (Model View Controller) Concept

MVC (Model view controller) is a method for creating an application by separating data (Model) from the view (View) and how to process it (Controller). In its implementation, most frameworks in website applications are based on MVC architecture [4].

2.3. Understanding Application

An application is software that combines its use with hardware that will carry out commands or instructions from its users in processing words, processing numbers, and so on [5].

3. Research Metods

The preparation of this Sksipsi took research at the Muara Sungai Village office which is located at Jalan PPKR, Muara Sungai Village, Cambai District, Prabumulih City. The scope of this research is that the village administration application can help in collecting population data and correspondence more quickly and efficiently. The data collection method is:

1. Observation
   Namely data collected directly from the object studied in this case, at the Muara Sungai village office.
2. Interview
   Namely data collection carried out by direct question and answer with the village head who can provide the information needed by the author.
3. Literature study
   Namely collecting data by studying problems related to the object under study through journals, e-books compiled by experts related to problems with the object.
4. Documentation
   Namely collecting data regarding things in the form of notes, books, transcripts, newspapers, inscriptions, magazines, meeting minutes, agendas and photos of activities.

4. System Planning

System design or system design is carried out when the system analysis stage has been completed. Based on the current system analysis in the previous chapter, a website-based application is proposed that can help administrative services at the Muara Sungai village office, Prabumulih city, in overcoming several problems that occur.
Use Case Diagrams are interactions between Use Cases and actors or exchange messages for actions carried out by the system. Actors can be people, equipment or the system being built.

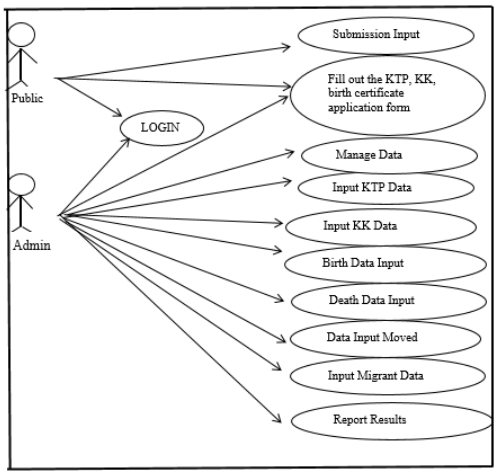

Fig. 1: Use Case Diagram

Figure 1 explains that there are two actors who can use the application, including the community and admin, where the community can log in after that the community can input applications, including filling out the KTP, KK and deed application forms. In the admin section itself, where the admin can log in, after logging in, the admin can manage data.

5. Implementation

In designing this application, researchers used the MySQLphpMyAdmin database via a web server, namely the Xampp Control Panel. The following is a view of the implementation.

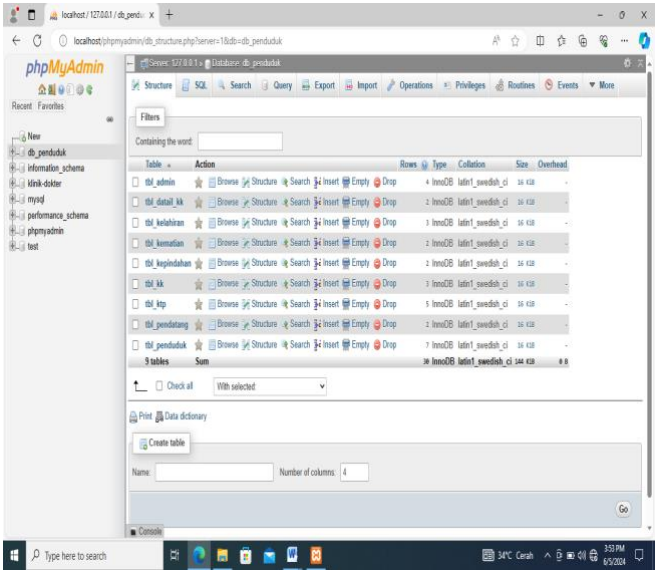

Fig. 2: Population Administration Database

In figure 2 is the database in the population administration application display that will be designed.

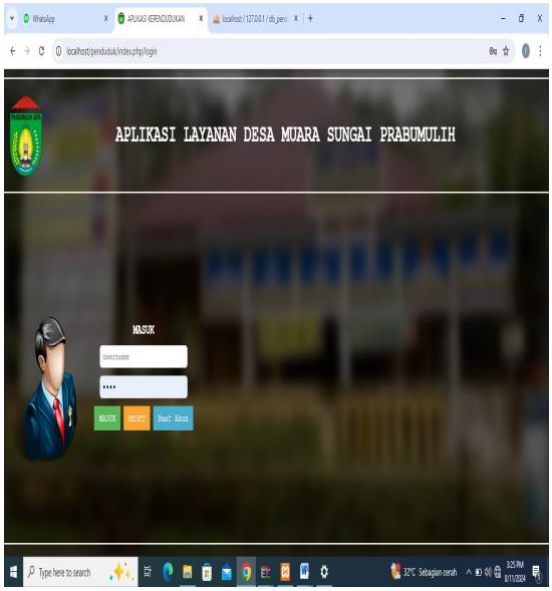

Fig. 3: Login Page Display

In Figure 3, the login page displays which will function for admins who want to enter and use the system. The admin must log in first by filling in the username and password.

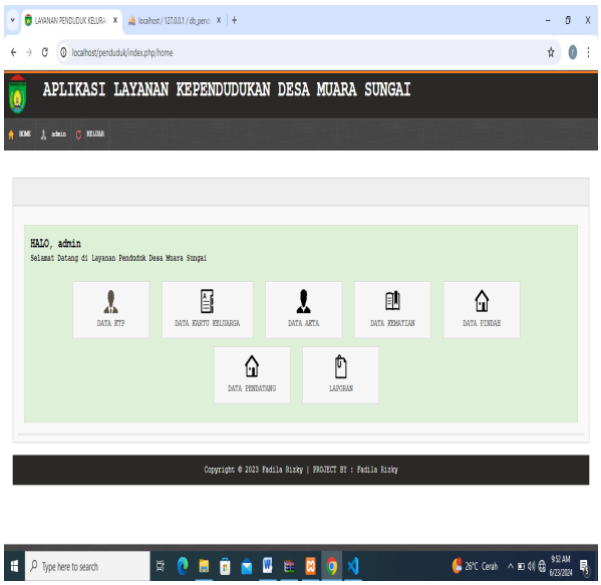

Fig. 4: Admin Main Page Display

Figure 5 shows the appearance of the system that the admin will see after successfully entering the home page, where on this page the admin will be able to see all the resident administration application displays.

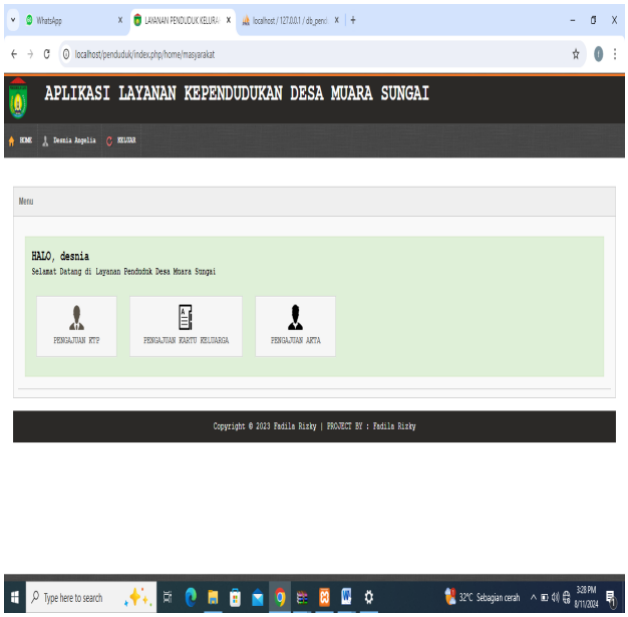

Fig. 5: Community Main Page View

Figure 5 shows the appearance of the system that will be seen by the public after successfully entering the home area, where on this page the public will be able to see all the displays of the resident administration application.

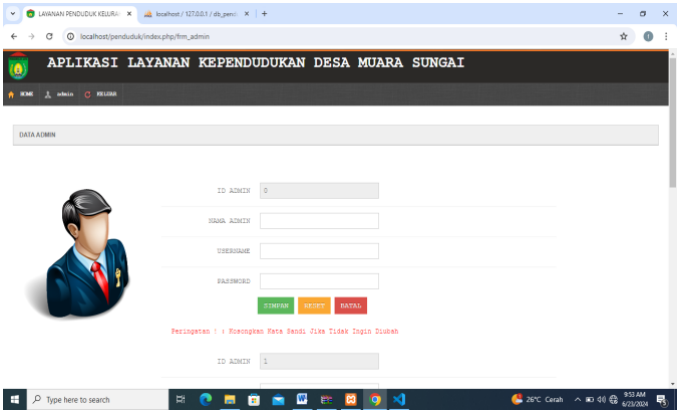

Fig. 6: Admin Data Display

Figure 6 shows admin data that can be added and deleted to be able to log in or enter this application.

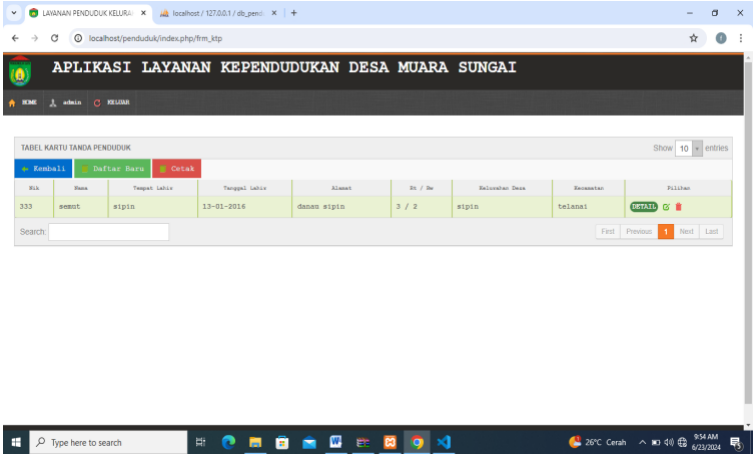

Fig. 7: KTP display

This image shows the KTP table system where the admin can later enter data for each person who wants to make an application letter for making an KTP.

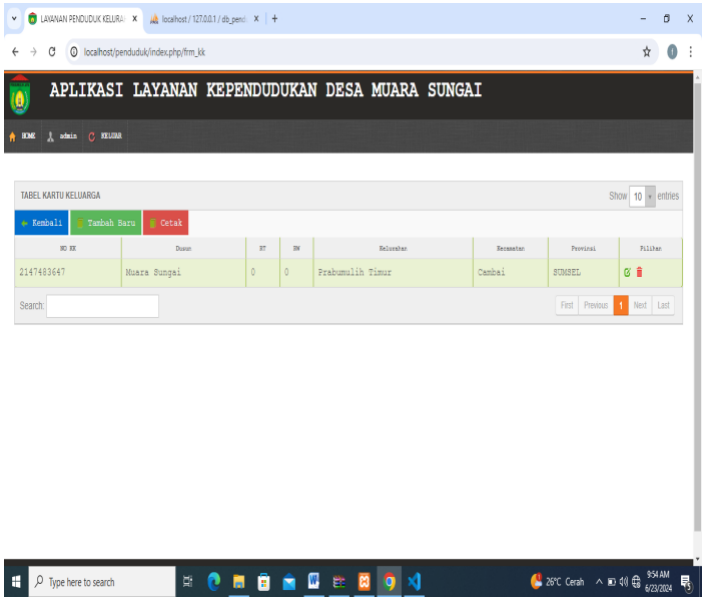

Fig. 8: KK view

Figure 8 displays the Family Family Table where the admin will later enter each family data, so that it will make it easier to find family data.

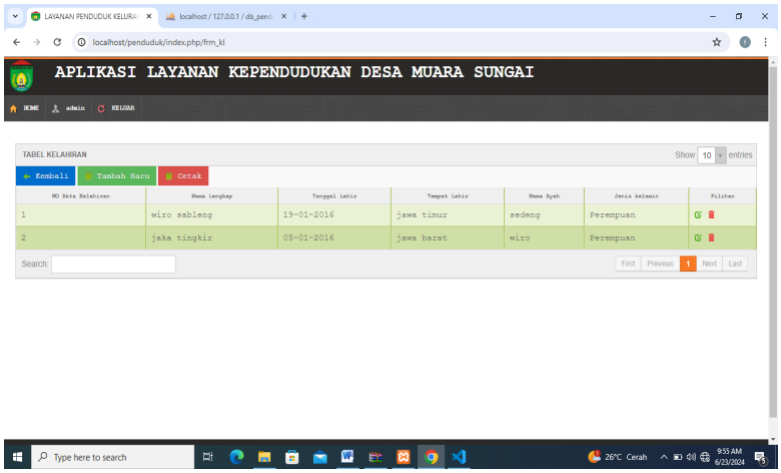

Fig. 9: Birth Certificate Display

Figure 9 displays the birth certificate data that has been entered by the admin into the application to make it easier to search for birth data.

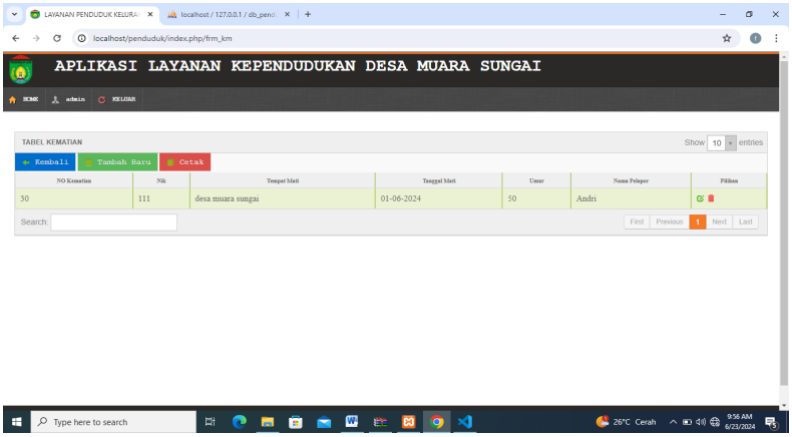

Fig. 10: Death Data Display

Figure 10 shows death data in Muara Sungai village, Prabumulih city.

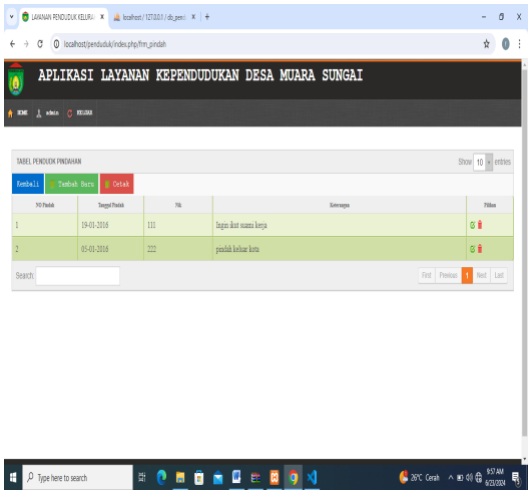

Fig. 11: Moving Data Display

Figure 11 shows the transfer data that has been submitted by the community which has been input by the admin at the village office, and this section makes it easier for people who forget the data when they moved.

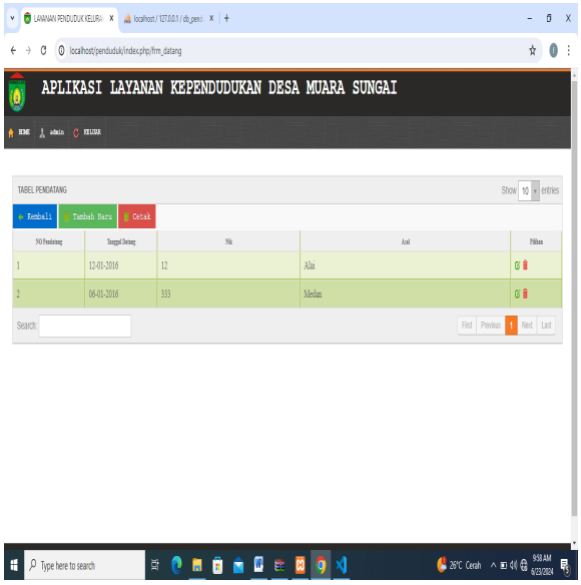

Fig. 12: Data Display Coming

Figure 12 shows arrival data, this section really helps the admin in carrying out data processing services when someone comes or wants to live in the village.

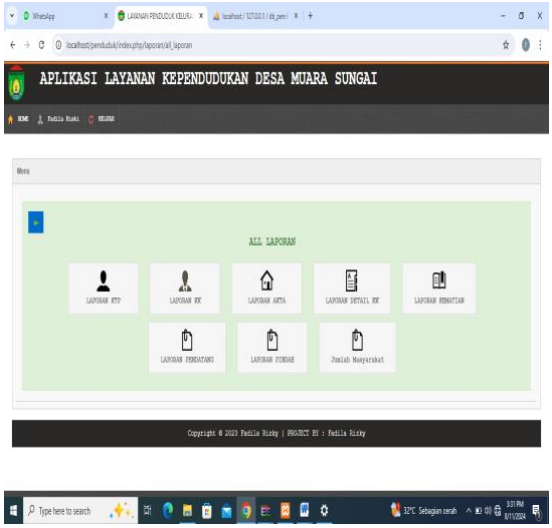

Fig. 13: Report View

Figure 13 shows a report display where all data can be printed in this section of the report.

6. System Testing

Testing this system uses the black box testing method which is useful for ensuring whether the system that has been created can function correctly. based on the test results of all systems that can function well and can be used to serve the community of the estuary village. The research results are in line with research conducted by [6], [7], [8] entitled Implementation of Document Management and Population Administration Services in Kedungwaru Village, Karanganyar District, Demak. shows that the use of information technology to assist community service activities has become a demand for a government agency. One of the problems often faced by government agencies in the village area is the management of population documents and the process of writing correspondence which is still carried out conventionally, this of course has an impact on less than optimal service to community members. Kedungwaru Lor Village, Karanganyar Demak District is one of the villages that has used information technology facilities for data collection related to village data. However, the information technology used in this village is still limited to the use of document processing facilities with office applications which are only used as a means of data collection and have not been used for further processing. The use of office applications in document management and population administration has several main weaknesses, such as the dependence and carelessness of village officials which can cause inaccurate recording of population documents and letter data that have been created. Apart from that, the ability to master information technology in village officials is still limited to the use of office applications so that document management systems and population administration are the systems needed to improve the quality of services to the community.

7. Conclusion

The following is a summary of the results of research regarding Muara Sungai village administration using the RAD method and the MVC concept:

1. Requirement Achievement: The village administration service information system has been designed and created according to the desired needs.
2. RAD Approach: The use of the RAD (Rapid Application Development) method has enabled the development of an effective administrative service system.
3. MVC Concept: Applying the MVC (Model View Controller) concept simplifies the process of designing and creating websites.
4. Ease of Service: The application built makes it faster and easier for admins to provide services.
5. Village Website: A website-based service system for Muara Sungai village has been realized.
6. Performance Improvement: With this system, the process and performance of administrative services will be better.
7. Data Access: The system allows admins to easily review community data history.

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