Developing Information System of Population

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Abstract. This research aims to develop information systems in the population administration section in Pahlawan subdistrict in Palembang to facilitate the collection of the population in the subdistrict quickly and accurately. To support the research, we use qualitative methods in descriptions and interviews with several subdistrict employees. The result analysis shows that in Pahlawan subdistrict still uses Information System in Microsoft Excel to record population data; it has not been automated and slow in adding, changing, or deleting data and other population data collections. This study shows that the development of the Visual Studio Information System can provide many conveniences in processing population data. The conclusion of this study is that by creating a population administration information system, the processing of population data such as family card data, birth data, death data, and moving data can be done more quickly and accurately because the data input can be connected well and the data is stored centrally in the database and can facilitate in making population reports based on data that has been inputted into the information system. The impact of this research resulted in a design of an information system that is expected to be used and help Pahlawan subdistrict in recording population data as a useful source of information for decision making in government, especially for Pahlawan subdistrict to be more effective and efficient.

1. Introduction

After the emergence of the phenomenon of globalization and major developments in the field of technology, especially the communication and information revolution, organizations were forced to utilize this technology and use it in developing their business both inside and outside the organization to improve productivity and service operations that must be followed by the organization in the face of competition [1]. Looking at the development of the modern era and the advancement of information technology today, the need for a computerized information system has covered all fields, including the government environment. With increasingly sophisticated technology to create population, information systems are able to have an impact in conducting data processing and are very influential in the efficiency and effectiveness of work [2]. The application of information technology to support daily activities not only pays attention to the needs of the moment but must pay attention to conformity with the vision and mission of the organization as well. This can be seen from some community complaints that the management of population data services is still carried out manually, so that it is considered less effective and efficient [3]. Population Administration Information System is an information system that is compiled based on procedures and uses special standardization aimed at organizing a population administration system to realize administrative order in the field of work [4]. The provision of public services by the apparatus is the embodiment and function of the state apparatus as a public servant in addition to being a servant of the state. In this context, the community is the main actor of development,
while the government is obliged to direct, guide, and create an atmosphere that supports the activities of the community. In this condition, the state apparatus is required to be better able to improve its performance and is expected to be better able to formulate concepts or create a conducive climate so that development resources can be a driver of acceleration of the realization of an independent and prosperous society [5].

From surveys in the field showed that the process of public service had used a computerized system of about 30%; the assessment is taken from the data obtained such as population record data either coming or data of the population who moved, the creation of domicile letters, birth data, and death data, where officers must record the applicant's data letter into the led big book and then enter the data into Microsoft Excel which results in the format of the letter becomes capricious and prone to the accuracy of population data recording that has been created and takes a considerable time for each process to occur [2]. From the research of Wijaya et al. it was explained that the implementation of a good information system in the Cimahi City Population Office, it will improve the quality of services at the agency. Population Administration Information System (SIAK) that has been implemented in Cimahi City Population Office has problems when the database is not accessible, so the SIAK application cannot run properly [4]. The research of Alkafi explained that the administration system is very neat, making the office know and understand about the level of service efficiency because it has provided services that cause increased production of goods and services [5]. Innovation is the key to success for the organization to survive and win competition not only in the business sector but also in the public sector, which plays a role and has great potential to contribute to economic growth. Among ASEAN countries, Indonesia ranks sixth behind the Philippines in terms of public services, while Singapore has the highest score of 2.19 [6]. Judging from the benefits provided by SIAK, it is not surprising that the importance of implementing SIAK in Semarang districts’ Civil Registry Service Office (Disducapil) properly and correctly. With a population of 996,346 people, it is important for Disdukapil Semarang Regency to manage an accurate, complete, up-to-date, and integrated population database [7].

Information Technology (IT) is considered an important tool in the constant efforts of public administration to improve efficiency [8]. Basically, the population administration system is part of the state administration system, which has a very important role in the government to manage population data. Everyone is entitled to good and easy population administration services [9]. Therefore, the purpose of this research is to develop a technology in the form of information systems in the population administration section in the Pahlawan subdistrict so that it can facilitate the data collection of the population in the subdistrict quickly and accurately.

2. Method
The method used in this research is the qualitative approach in the form of description and interview to several subdistrict employees. In this research, the administrative information system used is a type of local database. Designing the desktop application is done using Microsoft Visual Studio. Designing the desktop application is done using Microsoft Visual Studio. In Microsoft visual studio, we can use data connected from Microsoft access so that it can connect to Microsoft visual studio easily [10].

3. Results and Discussion
The results of this study were applied to Pahlawan subdistrict in Palembang City. This study used population data as a sample. From the results of the interview with the Secretary of Pahlawan subdistrict, it can be concluded that previously the administrative information system used in the subdistrict was less effective and efficient because the data processing is still using Microsoft excel and there is still a lot of manual data recording so that the processing of population data has not been automated and slow in the process of adding, changing and deleting data and other population data collections. The results of this study show that the development of the Population Administration Information System with Visual Studio can provide many conveniences in the process of processing population data. The results of the discussion also showed that the advantages of administrative information system using visual studio, data input can be well connected and data stored centrally in the database and can facilitate the
creation of population reports based on data that has been input into the information system compared to previous information systems that are still manual and use Microsoft excel.

Figure 1 below shows the initial view when opening the visual studio application on the population data administration information system of the Pahlawan subdistrict.

![Main Menu Display](image1.png)

**Figure 1. Main Menu Display**

The main menu has several sections, namely the menu section, the master data section, the data input section, the report section, and the settings section. The master data section and data input section consists of several data master forms, including population data form, resident identification card data form, family card data form, birth data form, death data form, and population displacement data form. The difference is in the master data section only displays population data that has been stored in the visual studio, while in the data input section, users can input/add new data.

Figure 2 displays the population data form when clicking on the data input section of the main menu.

![Population Data Display](image2.png)

**Figure 2. Population Data Display**

This form contains the bio of residents who live in the Pahlawan subdistrict. This form is used to search for population data stored in the visual studio by entering the parent number of the population in the search field and pressing the search button. In addition, we can also input new data by filling in the parent number of the residence, name, place of birth, gender, etc., and then pressing the plus button. Figure 3 shows Identity Card Data Display.
Figure 3. Identity Card Data Display

Figure 3 shows a list of identity cards of residents in the Pahlawan subdistrict. Users can input the data of residents who want to create a new resident identification card by filling in the letter number, parent number of the residence, name, address, etc. Figure 4 shows a list of family cards of residents in the Pahlawan subdistrict.

Figure 4. Family Card Data Display

In this page, users can input the data of residents who want to create a new family card by filling in the letter number, letter date, and family card number.
Figure 5 shows a list of childbirths for residents who have just given birth. This form is used to record the bio of the newborn child so that the data is stored in the Pahlawan subdistrict. The data that must be inputted is the parent number of the residence, the name of the child, the name of the father and mother, address, name of the helper, etc. See Figure 6.

Figure 6 shows a list of the recently deceased residents. This form is used to record the bio of the deceased population so that the data is stored in the Pahlawan subdistrict. The data that must be inputted is the letter number, the parent number of the residence, the date of death, the place of death, and the cause of death.

Figure 7 below shows a list of population displacements, both mutations from the Pahlawan subdistrict and newcomers.
Figure 7. Move Data Display

This form is used to record population displacement data so that the data is stored in the Pahlawan subdistrict. The data that must be inputted are letter number, status, origin address and destination address, and date of transfer.

4. Conclusion

Based on the research, it can be concluded that the creation of a population administration information system can help in the processing of population data such as family card data, birth data, death data, and moving data. The advantages of administrative information system using the visual studio is that the input data can be connected well and the data is stored centrally in the database and can facilitate the creation of population reports based on data that has been inputted into the information system compared to previous information systems that are still manual and use Microsoft excel. With this information, the system can also help to process population data quickly and accurately.

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