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DEVELOPING BERU SUBDISTRICT'S POPULATION DATA SERVICE APPLICATION TOWARDS PAPERLESS OFFICE AND GOOD IT GOVERNANCE

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ABSTRACT

Many government and private institutions have begun using information systems to process data and produce quality information. Likewise, the Beru Village Office is a government agency that takes care of population administration as a form of service to the community. Beru Village currently uses a computer as a tool to help with administration related to services. However, making certificates are still manual using Microsoft word. This gives rise to inefficient time spent in mail creation and data search, and often, there are missing and damaged documents. In terms of storage room efficiency, if all these files are converted into digital form or digitized, then storage space is more effective, duplication costs are more efficient, and the use of paper for documents is minimized, or called a paperless office. This reduces the environmental impact of the overuse of writing and is cost-effective, time-saving, efficient, and more productive. With a digital format, the dissemination of information becomes more accessible and faster as a manifestation of the paperless offices towards e-document-based institutions. This is why the idea of doing research and developing applications is given. The main shot is to create the implementation of a subdistrict towards a paperless office and Good IT Governance, as well as pilot projects for other agencies in processing data efficiently and entering the digital era.

INTRODUCTION

From the womb to the burrow, a person cannot be separated from public service affairs. They start from population administration issues, health, education, and other livelihood matters. The 1945 Constitution has mandated the state to meet the basic needs of every citizen. When people want to get services, there are still many complaints from the community about obtaining fast, simple, non-convoluted, timely services, not experiencing long queues, and excellent administrative and consultative service. This condition is still ongoing until now. On the other hand, technological advances are pretty rapid (Sutherland et al., 2014). Still, they have not been fully utilized and adopted by public service institutions, and work patterns have begun using paperless practices (Camngca et al., 2022).

Paperless has been widely applied to various large companies and institutions (Civelek et al., 2015). According to Firdausy and Artha (2012), in researching the use of WordPress-based paperless, the advantages of paperless officed are to increase productivity, save costs, more easily share documentation information, secure to store information, help the environment and communication that is not limited by space and time. In implementing a paperless office, gradually Human Resources (HR) will implement a pattern of data distribution (Chen & Xu, 2022). The same thing was also revealed by Sulistiyono and Yasin (2017), that paperless offices are made

with the aim of more than just reducing the use of paper, facilitating communication, suppressing the use of paper only to print documents that have special legal force such as certificates, letters of promise and so on.

From the advantages of using paperless, there are still disadvantages that receive attention. As Qomariyah (2014) stated, many people prefer to read through paper rather than through digital media. The convenience factor and habits are the main things that make people choose paper over digital media (Bergström & Belfrage, 2018). In addition, judging from usage, paper is still considered a symbol. Examples of symbols such as diplomas, land letters, or other securities. Paper symbols are deemed to have not been replaced by digital machines. The problem of costs incurred by companies is also a staple that is often an obstacle to implementing a paperless office (Allen et al., 2019).

When the implementation of a Paperless office has reached the ideal level, the next stage is how to implement good IT governance or Good Information Technology Governance. According to Nurcahyani and Daru (2011), good governance is one of the essential elements in implementing electronic-Government or e-Government, in addition to HR, ICT Infrastructure, and leadership. Good Governance is necessary for democracy, and a market economy, when associated with ideology, is the same as liberalism (Crawford, 2012). This is to overcome the inequality between IT developments and current technological demands.

The inequality between information technology's rapid development and suboptimal information technology will become a weakness in public services (Kuziemski & Misuraca, 2020). According to Lamangida (2018), several disadvantages before implementing good governance show that applying the principles of participation, transparency, responsiveness, and accountability has not met community expectations. The implementation or application of the principles of good governance is essential in supporting the achievement of the government's objectives (Khanna, 2017).

The results of this study support research conducted by Azlim and Darwanis (2012), which states that implementing good governance demands financial system renewal. The goal is to manage people's money transparently and account for it in financial reporting based on the concept of value for money to create public accountability, which can make general welfare (Lamangida, 2018).

To implement good governance, an adequate framework or IT Governance Design Framework is needed for optimal achievement (Kujala et al., 2021). Megawati et al. (2017) said that the IT Governance Design Framework is a design framework that plays a role in understanding, designing, communicating, and maintaining IT governance. The focus of the IT Governance Design Framework is to establish an organizational strategy that is realized with its ICT strategy, pay attention to organizational behavior and IT adoption in the organization, and harmonize with other governance (Megawati et al., 2017).

From the description above, the author aims at one of the government agency offices with a high level of active service because it is in the middle of the city of Maumere, specifically the Beru Village Office. The Beru Village Office is an office of a government agency that takes care of

population administration as a form of service to the community. Beru Village currently uses a computer as a tool for administration related to services. However, service activities such as making certificates, etc., still use a simple program, Microsoft Word. Based on the author's observations, this work pattern creates inefficient time in providing services to people in need, such as creating needed letters and searching for population data. In addition, in making reports, the Government Section sometimes has difficulties. This is because data storage is still in archives, so it takes a long time to find data and then recapitulate using Microsoft Excel, and it is often lost. For damaged data/documents, a computerized application is needed, which is expected to store population data dynamically and can serve and apply for a letter of residence anytime and anywhere without taking time and energy.

This is why the author and his team researched and created a population application program in a computerized registration service. The main shot is to create an application for the research site as a Village that leads to a Paperless office and Good IT Governance, as well as a pilot project for other agencies.

METHOD

System Development Methods

The system development process goes through several stages, from the system being planned until the system is implemented, operated, and maintained. Developing a system requires a methodology. The author used the SSAD (Structured System Analysis and Design) structured system analysis and design methodology in this study. To be able to carry out the steps according to what is given by the structured system development methodology, tools and techniques are needed to carry it out. The tools used in the system analysis stage using document flowcharts, the system design stage using data flow diagrams, and in determining in the creation of tables needed using data dictionaries and coding systems.

Research Design

In this study, several steps were carried out, namely:

1) Research Preparation
2) Observation to find out the working patterns in the current system.
3) Digitization of archival documents to be implemented in the system
4) Develop population data applications from system analysis, database design, coding/implementation, and system trials.
5) Study of the optimization of the system that has been built.
6) System analysis and evaluation.

The stages of the study can be seen in figure 1.

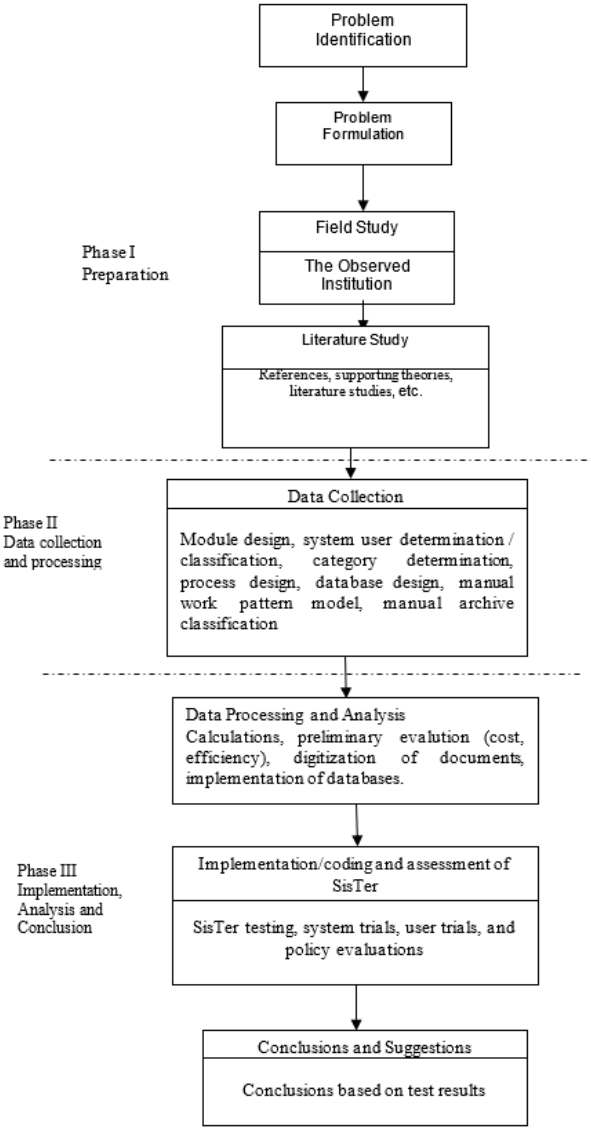


Figure 1. Research Flow

Data Analysis Techniques

Qualitative descriptive analysis techniques are needed in this study to provide an overview of the extent of the efficiency and effectiveness of the system that has been developed to be utilized and valuable for interested parties such as operators and Section Heads of Government Sections. Data analysis techniques this research was carried out in the following three stages: data analysis before in the field, data analysis in the area, and data completed in the field. Data analysis back in the field is an analysis of preliminary study data or secondary data that will be used to determine the direction of the research focus. In the area, data analysis is carried out by collecting data directly through interviews with the Head of the government section, users of the system, and other operators, as well as direct observation in Kanto Beru Village. At this stage, interviews are conducted until the researcher obtains valid data on the importance of developing a population

application. After being in the field, data analysis is a study of the data obtained to obtain an overview and order of the object of study or situation.

RESULT AND DISCUSSION

System Implementation

This research resulted in a population data service application to process population data per what is needed by the community regularly. This section will be explained the implementation of the developed system.

Login Form

The main login form is the main gateway to enter the application. The user enters a username and password. The username and password have been stored in the database.

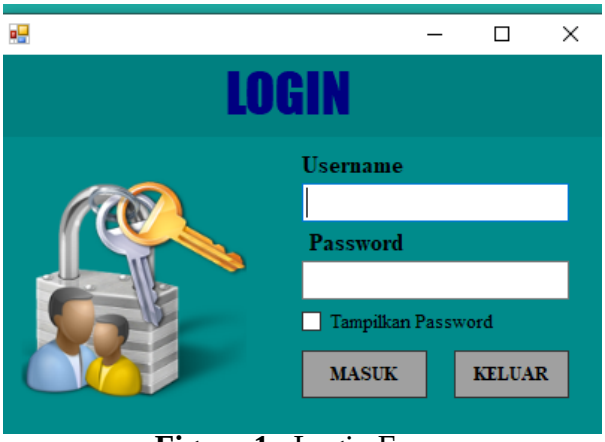


Figure 1. Login Form

Main Menu Form

The main menu form is the main form for calling all other states. Through this form, this population application is run. The menus contained in this main menu form include the Master Data menu, Manage Data, Print Certificates, and others.

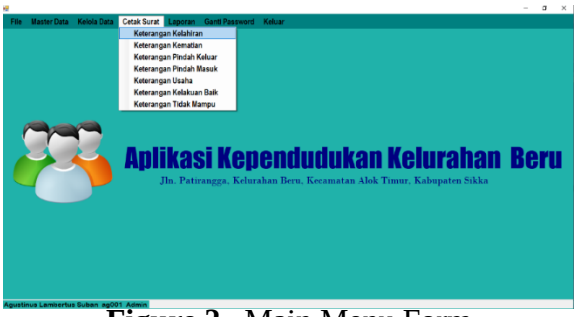


Figure 2. Main Menu Form

Resident Data Form

This form serves to process population data. This data is master data that will be used for several purposes, for example, certificate administration, death data, moving data processing, and others.

Figure 3. Population data Management Form

Birth Data Entry Form

This form serves to hold birth data before the data is input into the population data master form.

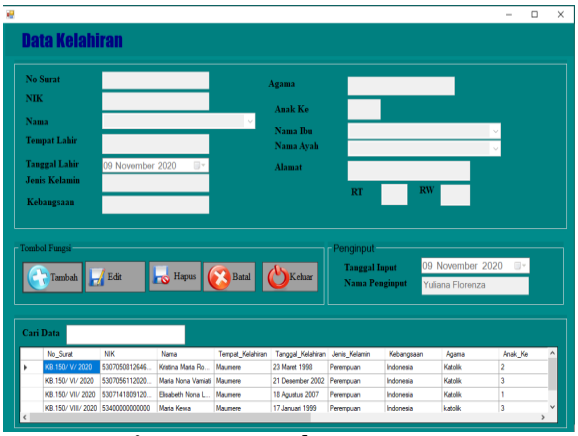


Figure 4. Birth Data Form

Move Out Form

This form is to collect data on people who move out.

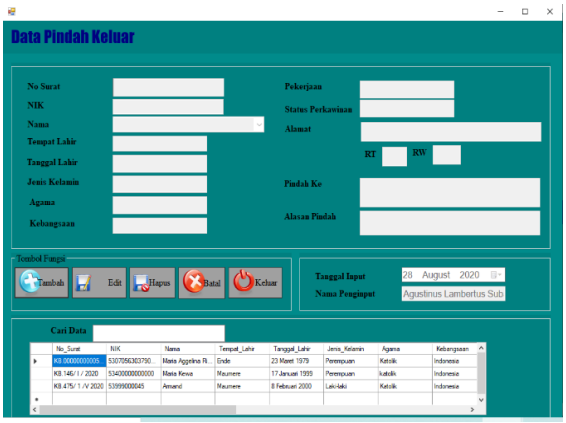


Figure 5. Incapacity Resident Data Entry Form

From Data on Incapacitated Residents

Figure 6. Incapacity Resident Data Entry Form

Report Print Form

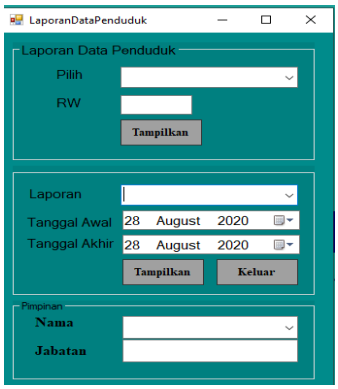


Figure 7. Report Print Auxiliary Form

Sample Application Output

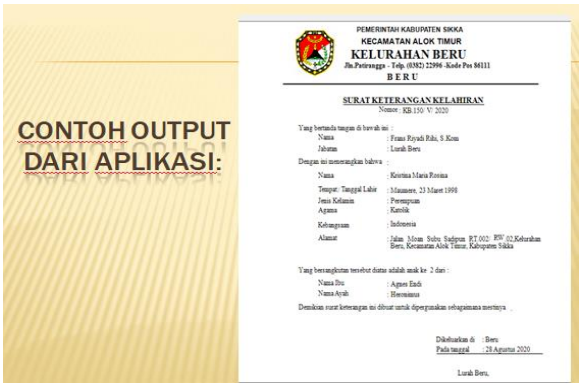
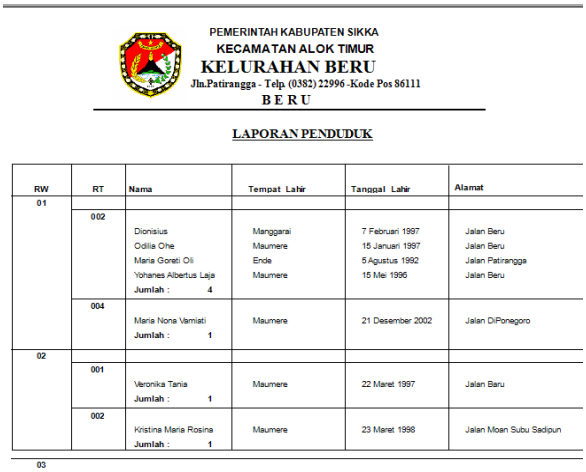


Figure 8. Sample Output Printed Certificate

Example of a Report View



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B E R U

LAPORAN PENDUDUK

RW	RT	Nama	Tempat Lahir	Tanggal Lahir	Alamat
01					
	002	Dionisius	Manggarai	7 Februari 1997	Jalan Beru
		Odilia Ohe	Maumere	15 Januari 1997	Jalan Beru
		Maria Goreti Oli	Ende	5 Agustus 1992	Jalan Patirangga
		Yohanes Albertus Laja	Maumere	15 Mei 1996	Jalan Beru
		Jumlah : 4			
	004	Maria Nona Vamiati	Maumere	21 Desember 2002	Jalan DiPonegoro
		Jumlah : 1			
02					
	001	Veronika Tania	Maumere	22 Maret 1997	Jalan Beru
		Jumlah : 1			
	002	Kristina Maria Rosina	Maumere	23 Maret 1998	Jalan Moan Subu Sadipun
		Jumlah : 1			
03					

Figure 9. Sample Report Layout

User Testing

The test on this application was carried out to determine the level of understanding of respondents (Samples) of the features displayed in terms of human and computer interaction (IMK) by allowing village officers to see and use the Beru Village Population directly Administration Information System. This test used a sample of 5 people (Subdistrict office employees) by providing several questions in the form of a questionnaire using an ordinal scale. The following authors describe the results of the test analysis:

Formula:

SS = 20 Responders

$= \frac{20}{45} x100\%$

$= = 44{,}45\% \frac{400}{9} x100\%$

S = 25 Respond

$$= = 55{,}56\% \frac{25}{45} x100\%$$

Information:
SS : Totally Agree (*Sangat Setuju*)
S : Agree (*Setuju*)
KS: Less Agree (*Kurang Setuju*)
TS : Disagree (*Tidak Setuju*)

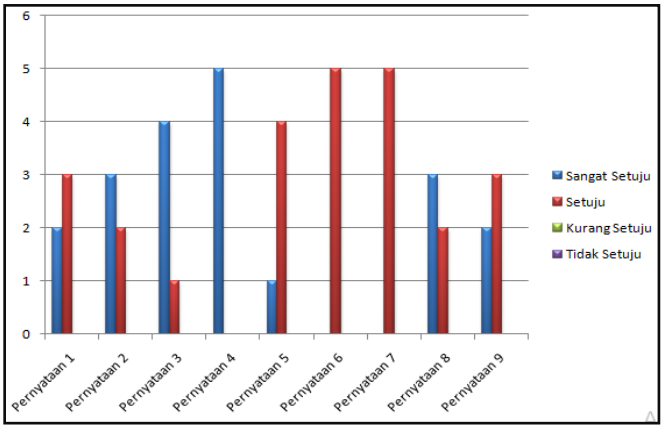

Figure 2. Respondent Assessment Graph

From the graphic picture above, it can be concluded that the respondents who chose the answer Strongly Agree 44.45%, Agree 55.56%, Less Agree, and Disagreed 0% of 5 (five) statements. This shows that the application has met the standards and aspects of Human and Computer Interaction (*Interaksi Manusia dan Komputer*, IMK).

CONCLUSION

With this system, information can be provided more quickly, accurately, and efficiently to the population. The initial stage of implementing this system is to input all the data into the application to reduce paper (Paperless) use. The leadership is faster in making decisions because all data formats have been recorded digitally and can be accessed at any time by the operator. Thus, this application can be used by users to process data correctly. In addition, from the results of this study, it is stated that in the future, application development based on client servers or mobile-based for more integrated data access will make it easier for people to obtain services without going to the village head office.

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