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GERNING VILLAGE ANDROID-BASED INFORMATION SYSTEM TO IMPROVE VILLAGE SERVICES AND POTENTIAL

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Abstract

The information system is a system that is used for data processing in an organization with grouping procedures and processing to become useful information for users. Android is an operating system based on the Linux kernel which is specifically intended for mobile phone devices with touchscreen features. Seeing today's technological developments brings progress in several fields such as government, education, trade, economics, business, and so on. The current development of the village cannot be separated from the development of information technology to advance the potential of every town in the territory of Indonesia. The android-based information system makes it very easy for the community to find out potential information in their village and improve the quality of community services and the potential of the government in Gerning Village so that they can provide examples of other villages to use village information system services by following current technological developments. Making this Android-based Information System was created and designed using the method of observation, interviews, and the Development Life Cycle System (SDLC) which was carried out with the Planning Stage, Analysis Stage, Stages of Design, Stages of implementation, and Stages of maintenance. To know the flow of Information Systems using the Fishbone Framework and context diagrams. The design of making this Gerning Village Android-Based Information System using the PHP and MySQL programming languages. and by testing several systems that have been implemented can run or not. This Gerning Village Android-based Information System is expected to make it easier for the public to find the information provided.

1.0 INTRODUCTION

The development of technology at this time is growing very rapidly bringing progress in several fields such as government, education, trade, economy, business, and so on. The development of the village at this time is also inseparable from the development of information technology to advance every village in the territory of Indonesia. It is very important for a village to implement information technology in the village by using the village information system. Based on data from the Central Bureau of Statistics of Pesawaran Regency regarding Internet Users in 2019 in Pesawaran Regency aged over 5 years of 37.29% while the population using

cellular phones (HP) or computers (PC/Laptop/Tablet) was 82.82%. Gerning Village really needs to implement a Village information system to fulfill responsibilities to the community and make it easier for Village officials and Village Heads to manage data and information in the Village so that Village residents get their rights to know the work program of the Village Government [1] .

In a study conducted by Risun, Moch. Arief Sutisna, Dora Bernadisman (2019) The development of a WEB-Based Village Information System in Pandansari Village, Paguyangan District, Brebes Regency is the publication of information about village progress, potential and services that can be accessed without being limited by space and time. The development of a WEB-based Village Information System in Pandansari Village, Paguyangan District, Brebes Regency is very helpful for the community in obtaining information about Pandansari [2]According to Herpendi (2017) With the Village Information System in Takisung Subdistrict, it is expected to be able to facilitate the Subdistrict and Kelurahan parties in conveying information to the community so that the community can directly provide criticism and suggestions with the Village Government online [3]. From research conducted by Jimmy Asmara (2019), he produced a village information website, which can help the community, especially Netpala Village, South Central Timor Regency and in general to all people who need information about Netpala Village, on this website there are four main menus, namely, profile, institution Villages, statistics and potential advantages of Netpala Village [4].

Based on previous research, it has produced a village information website, which can help people who need information about the village, the advantages of this website are four main menus, namely, profile, village institutions, statistics and potential advantages of the village. With this website access to information will be easier, faster and accurate and improved service to the community will be better. The drawback is that there is no administrator menu to manage information and data on the website. The research that will be carried out in Gerning Village will provide the latest news in Gerning Village about the work program activities of the Village Government, Village development, and for the website an administrator page will be provided to make it easier to manage the website.

The Gerning Village community lacks services to obtain information related to the Gerning Village Government's work program, regarding the development of Gerning Village because the system used in Gerning Village is still manual. This study aims to make the Gerning Village community able to get information in the village quickly, easily and accurately in order to improve services and village potential, can be an example for other village governments in applying the technology that is developing at this time.

2.0 METHODOLOGY

2.1. Method of Collecting Data

Literature review This is the method used in this research to obtain relevant information by searching for sources from books, ebooks, and journals in the campus library and on the internet that are in accordance with the topics discussed. So that the information obtained is accurate regarding the research and is based on facts.

Observation According to Ni'matuzahroh, Susanti Prasetyaningrum (2018) observation is a method of collecting data through observing behavior in certain situations and then recording the observed events systematically and interpreting the observed events. In this case, the researcher made direct observations at the location to obtain information [5].

Interview Based on an interview conducted with the Gerning Village Secretary named Sofiyal Ashari on March 20, 2021 at 17.00 WIB, Gerning Village is a village located in Tegineneng District, Pesawaran Regency, he also strongly supports research conducted in Gerning Village because there has never been any research conducted in Gerning Village during his tenure

as Village Secretary, he also said that previously there was an idea to create a village website so that information for the village community could be even better.

2.2. System Development Life Cycle (SDLC)

According to Sri Mulyani, Leny Suzan, Yusar Saraga et al (2018). SDLC is a logical process used by a *system analyst* to develop an information system by involving *requirements, validation, training* and system owners [13] .

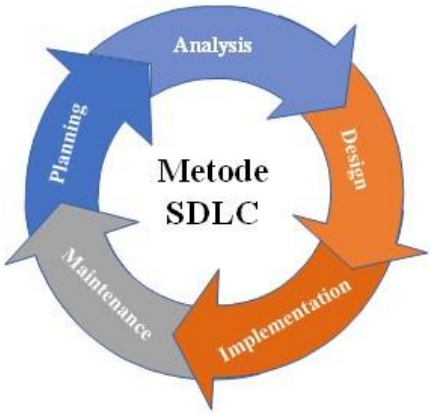

Figure 1. System Development Life Cycle (SDLC)

The following are the steps that must be carried out in this SDLC method:
Stages of Planning at this stage, collect data and study the feasibility of application requirements and determine the purpose of the application.
Stages of Analysis at the analysis stage, analyze all the system requirements needed to create applications and determine the flow of the information system to be made.
Stages of Design at this stage, start creating applications and the appearance of the application that will be made based on a predetermined flow.
Stages of Implementation at this stage the program installation process, direct program implementation, whether the application is made in accordance with the design carried out and also whether the entire program is running well.
Stages of Maintenance at this stage the researcher monitors the menu checking program or facilities on the system that have gaps and program damage so that the data is more secure and the program runs well.

2.3. Fishbone _

According to Slamet in the Journal of Maulana Amirul Adha, Achmad Supriyanto, Agus Timan (2019) fishbone is a graphic technique and a good tool used to find and analyze significantly the influencing factors in identifying the quality characteristics of work results [14] .

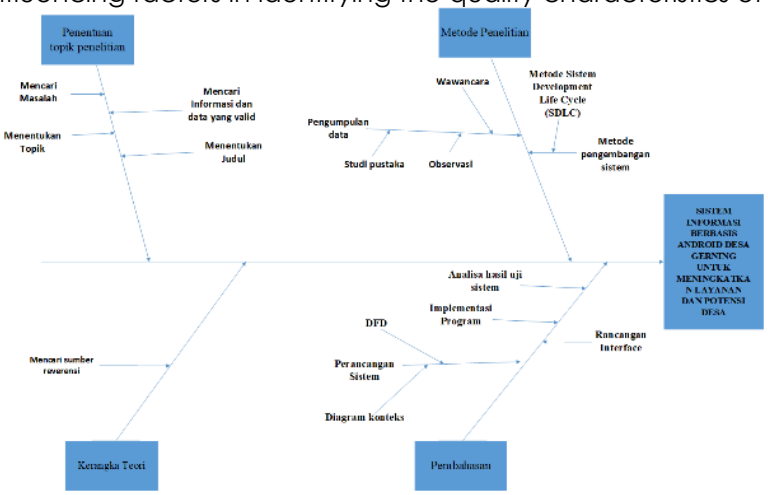

Figure 2. Fishbone

Based on the picture above shows how the flow of the system will be made. Here's the explanation:

a. Topic determination
   In determining the topic, the first thing to do is to look for problems aimed at making it easier to determine the topics to be discussed, looking for valid information and data so that the topics to be discussed are really on target, then determine the topic and determine the title that fits the topic being discussed.
b. Theoretical framework
   In the theoretical framework, looking for references or sources from several books in the library or on the internet to serve as a basis for answering a problem.
c. Research methods
   In this method, the first thing to do is to collect data by means of literature study, observation, and also interviews aiming to get relevant and up-to-date data, the second method of system development aims to do system development properly in order to reduce the risk of errors in making the system.
d. Discussion
   In a useful discussion to answer research results based on the topics discussed, the first thing to do is design a system using context diagrams and DFD aims to explain the entire flow of the system to be made, the second interface design is useful to facilitate user interaction, the third program implementation implements a system that has been made in the form of an application program so that it can be used, the analysis of system test results aims to test all menus or existing facilities on the application system running well.

3.0 RESULANTS AND DISCUSSION

Design

In this design process, the researcher will create an android-based information system for Gerning Village to improve the village's services and potential. Will be drawn in the form of a diagram as follows:

Context Diagram

This diagram serves to explain the entire flow and process of system interaction with users who are on the system created. The diagram is depicted as follows:

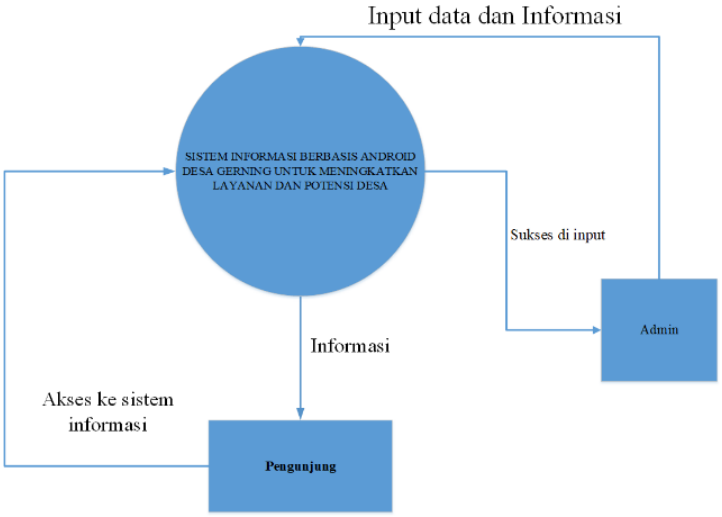

Figure 3. Context Diagram

Data Flow Diagram Level 1

This diagram will describe the processes and flows that exist in the menu section of the system that is created. The diagram is depicted as follows:

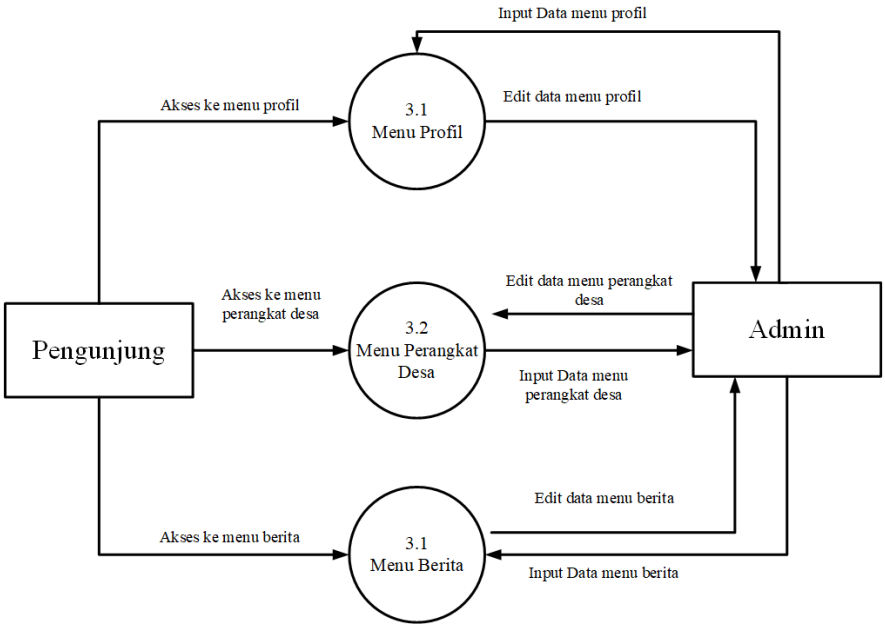

Figure 4 Data Flow Diagram Level 1

Program Implementation

Below is a picture of the implementation of the program that has been made. Picture as follows:

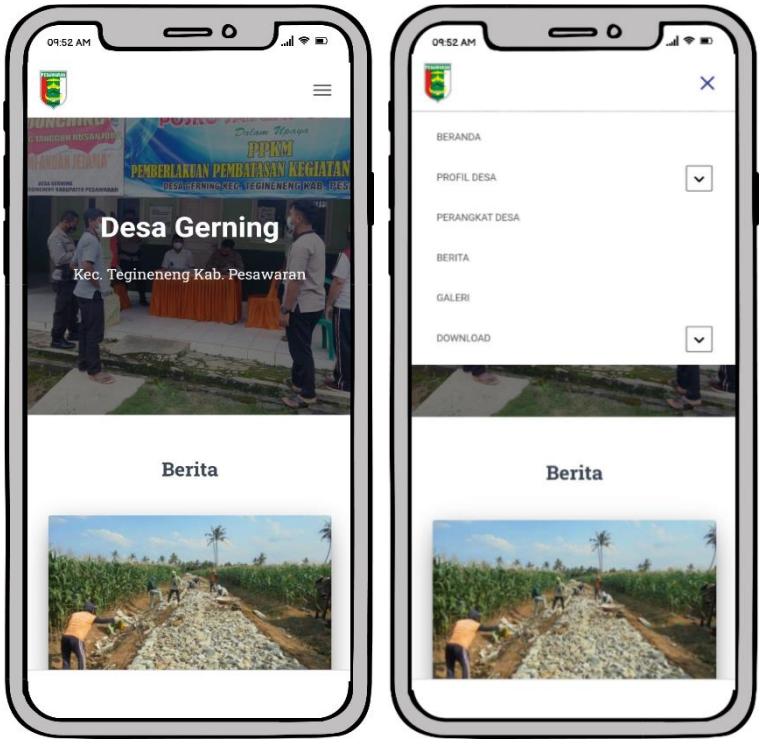

Figure 5. Home Page and Home Menu

Furthermore, the admin login menu is a menu that functions to manage all activities and manage data on the Gerning Village data website. The admin menu also provides access to manage data, both internal village data and data from external villages.

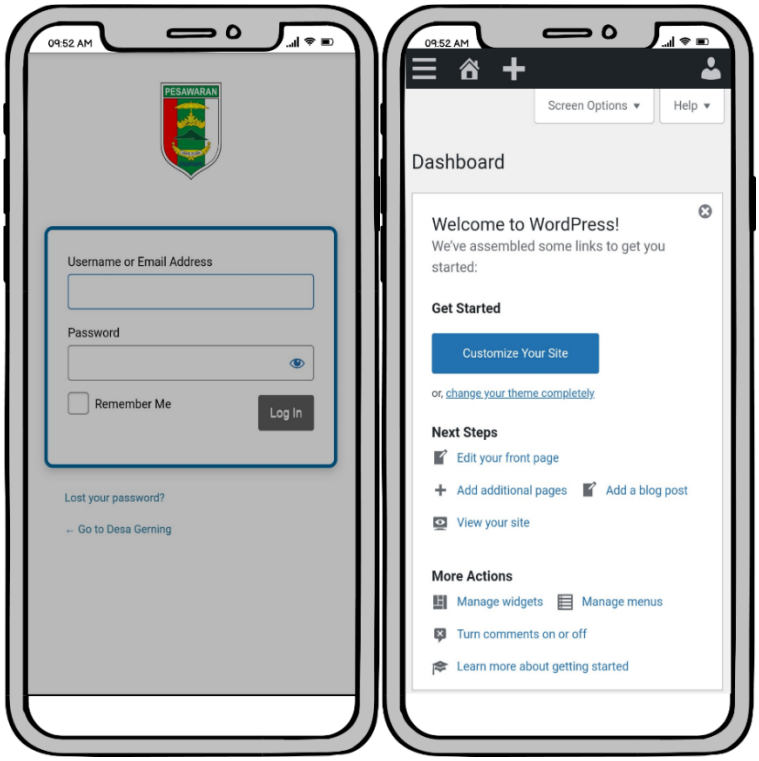

Figure 6. Admin Login

The administrator menu has functions to change data, input data, delete data and can also provide access to writing village stories. This menu can also be used to manage village service data.

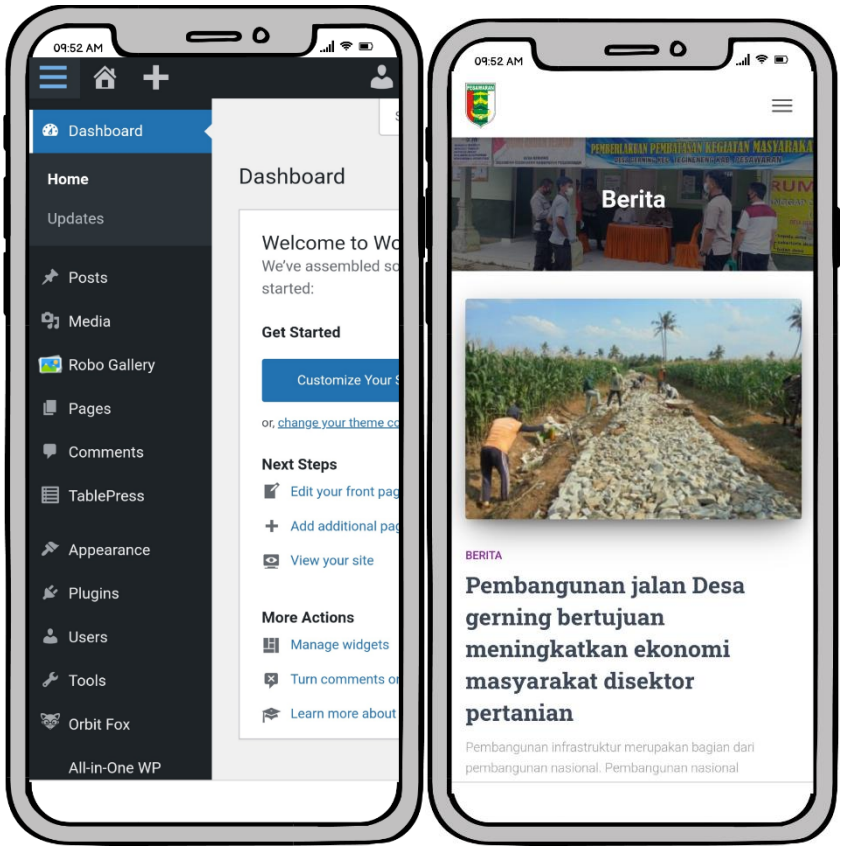

Figure 7. Administrator Menu

System Test Results Analysis

Below is a table of results from the system test that has been made. The table as follows:

Table 1. Analysis of System Test Results

No	Tested menu	System test results		Information
		Running	Error	
1	localhost	Running		Can be run
2	Home page	Running		Can be used well
3	Village Profile	Running		Can be used well
4	Village Apparatus	Running		Can be used well
5	News	Running		Can be used well
6	Gallery	Running		Can be used well
7	Download	Running		Can be used well
8	Admin Login	Running		Can be used well
9	Dashboard	Running		Works fine
10	Posts	Running		Can be used well
11	Media	Running		Can be used well
12	Pages	Running		Can be used well
13	Appearance	Running		Can be used well
14	Users	Running		Can be used well
15	Tools	Running		Can be used well

From the results of internal tests using black box testing using a checklist system by testing the menus that have been built based on functions, the test results show success. Of the fifteen tools menus that were tested, the results achieved 80% success, the system was running well, 20% of the menus failed. Debug because the database tables were not related and there was an error in the data type. This error becomes a record for revision by taking 14 days after this test is carried out.

4.0 CONCLUSION

Based on the research that has been done in the manufacture of an android-based information system in Gerning Village to improve village services and potential, it can be concluded that the Gerning Village android-based information system to improve services and village potential from the results of research that has been carried out is expected to provide convenience to access information. Specifically to the community, especially the Gerning Village community. The Gerning Village android-based information system to improve the services and potential of this village can also overcome the processing of village data and information to make it even better because it is stored in an integrated database system and can improve services and show the potential potentials that exists in Gerning Village.

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