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The Android Based Social Welfare Survey Application (Case Study at Sumbermulyo Village)

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ABSTRACT
Socioeconomic welfare is a complex problem, so more work is needed to address the lack of population welfare. One way by reviewing communities by surveying methods is that the survey method itself has the advantage that the results of the survey can be translated into number and this can make it easier for data grouping. But the current system of surveying is conducted has many flaws, ranging from an easy to split-down survey sheet damaged to difficult recapitulation because data must be regenerated. Lacking the conventional survey system, it is necessary for a system that can solve the problems that arise and enable survey activity to run smoothly. Researchers choose Research and Development Method. The goal of this study is to produce an app that can be used on an android device. The framework base researcher use is Framework7. Framework7 is the choice because framework7 have user friendly interface characteristics. The development of the conventional survey system is an android - based application for the social welfare of the population to make it easier for officials to survey in the field and help village staff to log the survey data, so that it can be reported to the data center.

***Keywords**: Android, Framework7, Survey, Social Welfare*

INTRODUCTION

Since the case of the spread of Corona Virus Disease or what we know as Covid-19 entered Indonesia in early 2020 and developed rapidly so that it became a global pandemic, significant changes occurred in all aspects of life, including changes that occurred in the workings of the Social Welfare Survey as one of the programs of the Ministry of Social Affairs that serves to provide social welfare data of the population in an effort to improve accuracy in services related to The distribution of social assistance and empowerment can achieve maximum results (Khaliq & Uspri, 2017).

With pandemics like Covid-19 makes us learn about many things, such as the implementation of large-scale social restrictions that force all officers who conduct surveys to get used to utilizing the use of technology and applications in an effort to reduce physical contact. Android technology is a technology that is familiar among the public, especially those who are familiar with the internet.

Therefore, researchers choose Framework7 as the basis of programming frameworks on survey applications that researchers design and develop. Not many people who use Framework7 as a base for the creation of government applications, Framework7 is the right choice to develop applications, especially those that attach importance to simple appearance but with complete features. Thus the expectation of activities such as data collection in the field can be easier, effective, and efficient and can increase the flexibility of data collection without having to bring stationery into the field (Aminulloh et al., 2020; Huda et al., 2020).

From research conducted by Sam Nursanto (2017) entitled "Android Application Development For Electricity Pole Survey at PT. DAMACO", according to the study, the use of Android Applications as a means of conducting surveys makes it very easy for officers to conduct surveys, because in using android applications officers can easily learn them, and the collected data can be checked in real time through web service so that the need for data in the field can be met effectively and efficiently.

Saiful Syah Dongoran (2020) conducted research on Designing Community Satisfaction Survey Assessment Applications Using Web-Based and Android Weighted Average Methods. The application was created with the aim of simplifying and assisting in managing assessment data based on the results of surveys that have been conducted through the Android application.

Fauzan Adhim (2020) Designing an Android-based Online document printing application there are supporting features such as chat, Print, Basket, Transaction and performance process can run as it should. The online printing system uses the waterfall method as an application design method and uses framework 7 (HTML 5) as a programming language and uses MySQL databases.

METHOD

The development of this system uses the commonly abbreviated Research & Development. method (R&D). According to Borg and Gall (1983: 772) Educational Research and Development (R&D) is a process used to develop and validate educatonal products. Sukmadinata (2008) Research and Development is an approach to produce a new product or improve an existing product. According to Sugiyono (2009: 407) the Research and Development method is a research method used to produce a particular product, and test the effectiveness of the product (Rumetna et al., 2020; Saputro, 2017).

Research and Development method is a method of research approach used to produce a product or improve it by testing how effective the product is in the development that is being done.

In this study the system development method used is the Waterfall method, where this method is carried out from the top to the bottom sequentially as shown below:

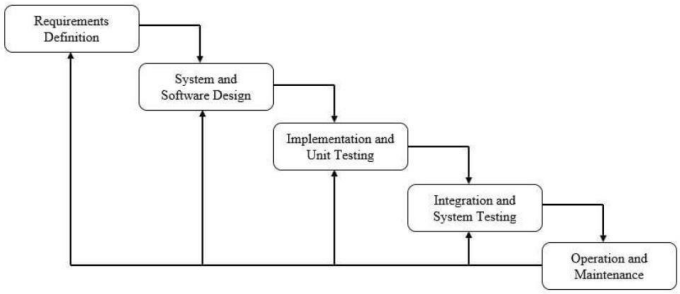

Figure 1. Waterfall Method Flow (Adhim et al., 2020)

From the figure above, it can be described as follows:

- Requirement (System Analysis)

  This is an analysis of the needs of the system. Data collection in this stage can conduct a study, interview or literature study. A system analysis will dig up as much information from the user so that it will create a computer system that can perform the tasks desired by the user. This stage will produce a user requirement document or it can be said to be data related to the user's wishes in creating the system. This document will be the reference analysis system to translate into programming languages.
- System Design

  The design process will translate the requirements of need into a software design that can be estimated before coding. The process focuses on: data structure, software architecture, interface representation, and procedural details (algorithms). This stage will produce a document called software requirement. This document will be used by programmers to perform their system creation activities.
- Implementation (Coding and Testing)

  Coding is the translation of design in a language that can be recognized by a computer. Performed by the programmer who will translate the transaction requested by the user. This stage is the stage in real in working on a system. In the sense that the use of computers will be maximized in this stage. After the coding is complete, testing will be done on the system that has been created earlier. The purpose of testing is to find errors in the system and then it can be corrected.
- System Integration and Testing

  This stage can be said to be final in the creation of a system. After analyzing, designing and coding, the system that has been used by the user.
- Operation and Maintenance

  Software that is difficult to convey to customers will definitely experience changes. Such changes could be due to errors because the software has to adapt to the new environment (peripheral or operating system), or because the customer needs functional development.

Data Analysis Technique

Data analysis is done as an effort to find and organize systematically the results of observations, interviews, and others that have been to improve the researcher's understanding of the case being studied and try to present it as a finding for others. As for improving the understanding, the analysis needs to be continued by trying to find meaning (Saleh, 2017).

Qualitative research is developed on the basis of "events" obtained when field activities take place. Therefore, between data collection and data analysis activities it is impossible to separate from each other. Both take place simultaneously, the process is cyclical and interactive, not linear. Miles and Huberman (1992) describe the process of analyzing qualitative research data as follows:

- Data reduction

  Data reduction is a simplification carried out through selection, focusing and validity of raw data into meaningful information, thus facilitating the withdrawal of conclusions.
- Data presentation

  The presentation of data that is often used in qualitative data is a narrative form. Presentation of data in the form of a set of information that is arranged systematically and easily understood.
- Withdrawal of conclusions

  Withdrawal of conclusions is the final stage in the analysis of data conducted to see the results of data reduction still adjudge on the formulation of the problem in the purpose to be achieved. Data that has been compiled compared to each other to be drawn conclusions in response to existing problems.

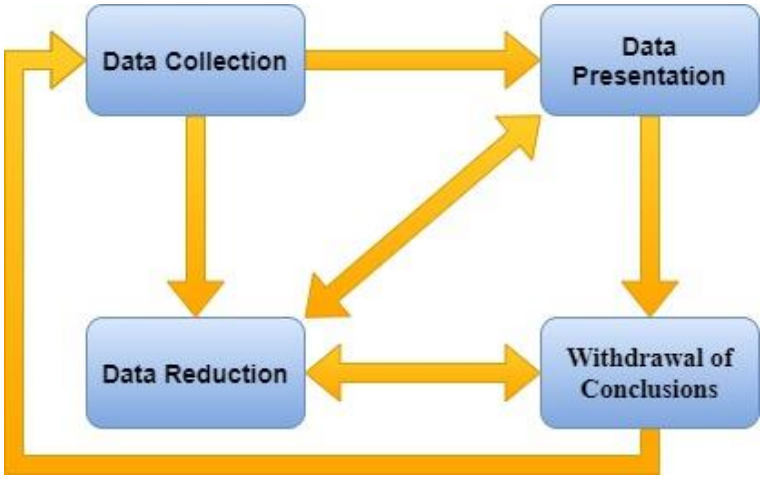

Figure 2. Qualitative Data Analysis Techniques According to Miles and Hubberman (Rijali, 2019)

RESULT AND DISCUSSION

Result

Previously researchers conducted research through observations and brief interviews with several staff in Sumbermulyo village to find out the condition of the ongoing survey system. In the observation and interviews that occurred there was some information including the survey system that runs in Sumbermulyo village still using conventional or ordinary systems that still use paper as a data collection media as a result of the survey process so it is not less well-structured and lacks in flexibility.

Here are the results of products developed by researchers:

Homepage Interface

In the Initial View The application officer is directly faced with the login page, after the login successfully the officer can directly see the homepage of the application in the first tab, for the second tab contains the profile of the officer who logged in to the application, while on the third tab there are several menus that can be accessed by the officer, namely Login View, Home, Profile and Application Menu. Here are some images from the initial interface of the application:

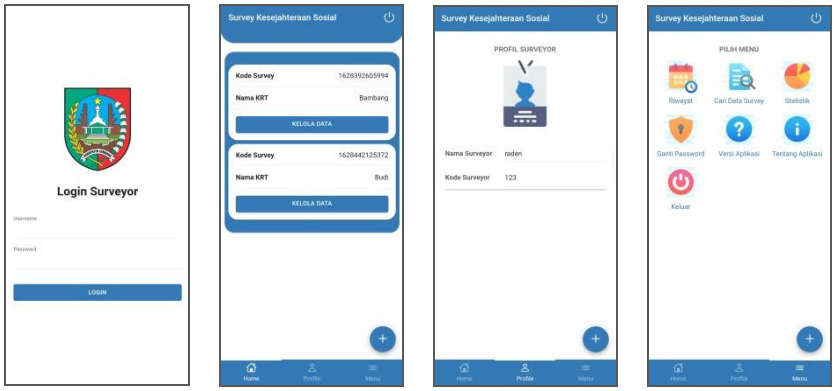

Figure 1. Login (a), Home (b), Profile (c) and Apps Menu Interface (d)

Data Management Interface

In Data Management View initially the officer must add survey data first after that will appear the manage data menu on the data that has been inputted. On the menu can select the Edit menu to change Household Principal Data, the Delete menu to delete The Principal Data if needed, while the Data menus I, III, IV and V based on the type of category. Data Management view can be seen at below:

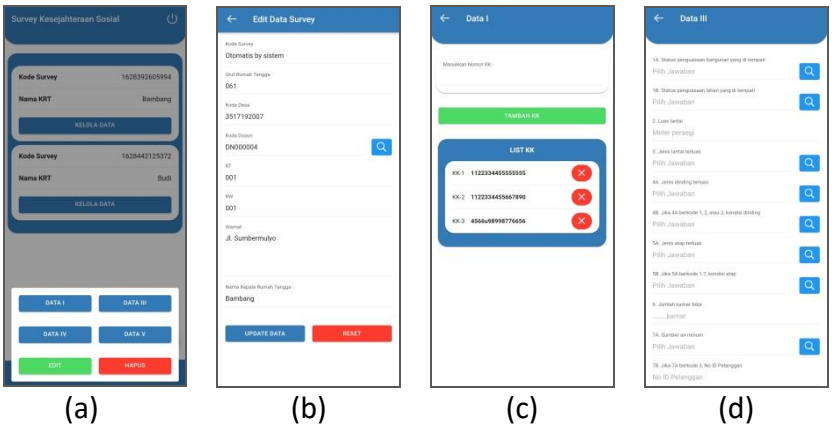

Figure 2. Data Management Menu (a), Edit Data (b), Data I Management (c) and Data III Management Interface (d)

Discussion

Current System Analytic

Analysis of the current system needs to be done before developing the system. The survey system that is running in Sumbermulyo village so far in collecting data is still conventional by means of manual input into survey sheet paper. These results in a double burden in grouping data when reporting data and will certainly take a lot of time, causing a focus on the work of the staff who handle the data collection.

The village staff had difficulty in copying the data that had been inputted manually into paper. Especially before reporting staff data must double check and group survey data according to criteria so that it can be used in determining which households are entitled to attention in the form of assistance and programs that are being programmed by the government.

Based on the analysis above, the running system can be described in the following figure:

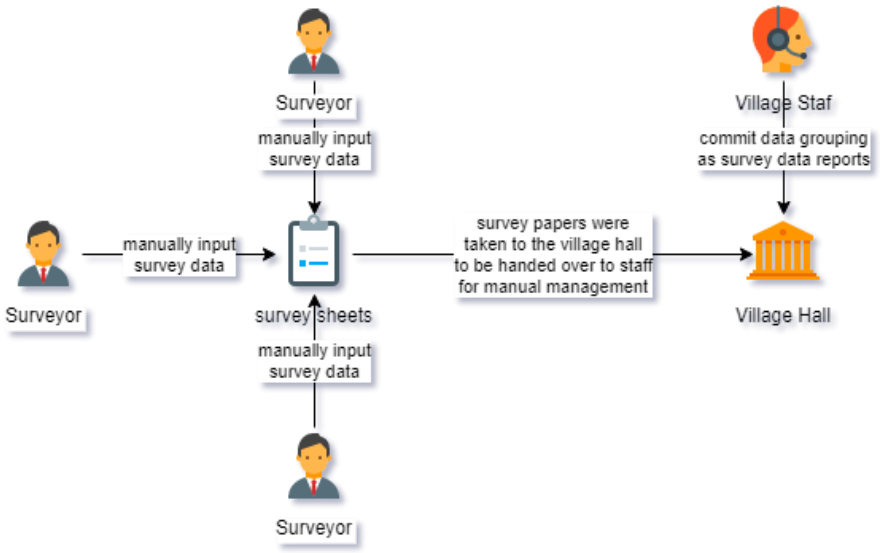

Figure 3. Current System Analytic

Proposed System

To overcome the problems that exist in the examination of surveys conducted at this time, a survey application is proposed that can facilitate in collecting data and grouping data as needed so that it can be presented.

With the creation of this application is expected to help in the problem of data recapitulation and facilitate the reporting of survey data in Sumbermulyo village. The village staffs no longer need to collect all survey data manually. With the data inputted by the survey officer through the application, the recapitulation and presentation of the report will not take a long time. So when the time of submission of the report to the data center does not experience obstacles.

After a trial of the effectiveness of the application on the proposed system showed that the new application can be easily used and the inputted data can be accessed in real time so that if there is an error in the input of the data can be corrected without having to repeat the data. For more details about the proposed system can be seen in the Figure in below:

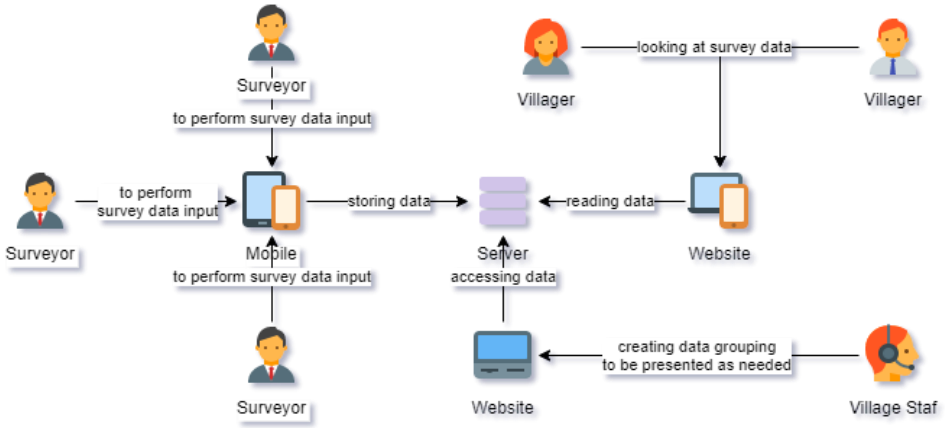

Figure 4. Proposed System

CONCLUSIONS

Based on the results of research and trials that have been conducted by researchers on social welfare survey applications, the conclusions that can be drawn are as follows:

- The current survey system is still being done conventionally ranging from data input to data grouping so that it takes a long time and if there is an error in the input it must repeat from the beginning again.
- Obstacles faced by officers and village staff can be overcome with survey applications that are integrated with the village information system website that has been running, so that data management can be done easily.
- With the village staff survey application can make a report about the survey results that can be accessed on information system website because the application is integrated with web service.

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