The Making of Android-Based Administration Service Application
(A Case Study on Village Administrative Office in *Jenggala*)

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ARTICLE INFO

ABSTRACT

The village administrative office in *Jenggala* village is one of the office that has troubles or problems in doing services to the public especially in making official letters. The lack of facilities in managing and making official letters applied by the public can disrupt the performance of the staff and slowing down the pace in providing the official letters. There are some problems that is happening in the office such as the general administrative job is still done manually, the working hour in the office is limited, the lose of the public data that has already submitted in advance, and the making of report is not well-organized so that the head officer do not know both all the reports and the reports submitted in certain period of time. The researcher aims to create the android-based administration service application to facilitate the public in making the official letters as needed. The application is designed as a tool of fast, precise, and effective communication between the public and the officer. The application was built to facilitate the village government in managing the reports in making official letters delivered by the citizen of *Jenggala*. Therefore, the application is expected to provide convenience and flexibility in making official letters in *Jenggala* Village.

I. Introduction

The *Jenggala* village is one of a village located in *Tanjung* sub-district *North Lombok* with coordinates 08^0-18^0-$45^0.0$" LS dan 116^0-14^0-08^0 .8"BT and the borderline with *Java Sea* in the north, *Narmada* sub-district in the south, *Gondang* village in the east, and *Tanjung* village in the west. The area of *Jenggala* village is around 5.065 hectares with a population of ±8.931 inhabitants [1]. The *Jenggala* village office is one of the village office that has troubles or problems in doing services to the public especially in making official letters. Some problems occurred in government office in *Jenggala* such as creating official letter that even though it has computerized the process, but still use common templates that are types manually using Ms. Word. This can take a long time to process because the document that is already archived is not well-organized. In addition, having no written letters is being made, there is no evidence that the public has made the letter (receipt of letters), the working hours are limited, there are no status of the letters being made that can be monitored by the applicants (public) so it makes the public cannot find out whether the official letter they applied has been completed or not. In addition, there are also no assessment towards the process of making official letters so that the Head Officer cannot monitored the performance of the workers. The storage of the applicants file are still not well-organized so that sometimes the files or documents of the applicants are lost and the storage is not well-maintained. The only thing that the

governments do to help the public is helping the public in producing official letters or documents needed by the public in order to complete the requirements. The applicants has to go directly to the Village Office and making a request of making official letters to the officer as a requirement to make an official letter.

Based on the background study obtained by the researcher, the researcher aims to build an application named *Aplikasi Pelayanan Permohonan Administrasi Surat Kantor Desa Jenggala Berbasis Mobile Android."* This application was built to facilitate the village government in managing the reports for making official letters that is applied by the public of *Jenggala* village. Thus, this application is expected to provide convenience and flexibility in making official letters especially in *Jenggala* village.

II. Literature Review

A. Relevant Research Theory

The following is the comparison to the similar application with the application that the researcher made. These applications can be compared by their functions. It can be seen as follows :

The study done by Suci Ramadhani, Fajar Hermawanto, and Andi Mariani (Informatics Engineering Study Program, Gorontalo Polytechnic) in 2018 with the title of the study "*Aplikasi Pelayanan Surat Menyurat Desa Tanah Putih Berbasis Web* ". This application was built only in the village of *Tanah Putih.* In this application, the public has to come to the head of Neighborhood Association to submit a letter. Then, the process will be recommended to respective Head Officer of the village. After that, the officer will do the selection whether the letter can be approved or not. If it is approved, then the next process is to receive a receipt [2].

The study done by Dewi Leyla Rahmah (Informatics Engineering, Faculty of Mathematics and Sciences, Indraprasta PGRI University in Jakarta) in 2018 with the title of the study "*Perancangan aplikasi sistem persuratan berbasis web pada pt. Dwi pilar pratama*". The web-based correspondence system application at Dwi Pillar Pratama Company is an application that manages income and outcome of official letters at the company [3].

The study conducted by Irwin Supriadi, Rina Indrayani, and Verra Trysda Maulydda (Bandung Collehe of Technology, Information Systems of National Conference) in 2018 with the title of the study "*Rancang Bangun Aplikasi Surat Masuk dan Surat Keluar Berbasis Web pada Kantor Asuransi Jiwa Kantor Layanan Administrasi Bandung*". The results of the study are an application that can manage and record archived data of income and outgoing official letters [4].

The study done by Andi Darlianto and Inggih Permana (Information System, Faculty of Science and Technology of UIN Suska in Riau) Journal of Information Systems Engineering and Management in 2016 with the title of study "*Sistem Informasi Pencatatan Surat Masuk (Studi Kasus: Kantor Camat Kampar Kiri Kabupaten Kampar Provinsi Riau)*". In this application, the researchers are focusing on management of incoming and distributing letters, and managing ledgers [5].

The research conducted by Didin Agus Priyadi and Endah Wiji Lestari (Academic of Information Management and Computer Study of *Bina Sarana Informatika* (AMIK BSI)) in 2018 with the title of the study "*Perancangan Sistem Informasi Pelayanan Surat Menyurat Pada Kantor Desa Tanjungsari Kutowinangun Kebumen Berbasis Desktop*". In this study, the functions of the application were focused on managing the reports of population data, preparing the certificates and also in finding of population data [6].

The study done by Diajeng Rahmawati, Nia Kumaladewi and Yuni Sugiarti Applied in Information Systems and Management (AISM) in 2018 with the title of the study "*Sistem Informasi Disposisi Surat Berbasis Android*". This android-based letters disposition can manage the storage and search for letter archived at the Center of Construction Competence and Training or *Pusat Pembinaan Kompetensi dan Pelatihan Konstruksi* [7].

The study conducted by Joko Agus Prawono and Anton Respati Pamungkas, STMIK AUB in 2015 with the title of the study "*Sistem Informasi Pengelolaan Surat Masuk Dan Surat Keluar Di Stmik Aub Surakarta*". This application can manage the incoming and outgoing of official letters to provide convenience to the BAU STMIK AUB in *Surakarta* [8].

The study done by Sandy Ferdinandus, Ir. Hans Wowor, M.Kom. Arie S.M Lumenta, ST, MT. Arthur Rumagit, ST, MT. (Department of Electrical Engineering, Faculty of Techincal Engineering in UNSRAT) in 2102 with the title of the study "*Perancangan Aplikasi Surat Masuk Dan Surat Keluar Pada PT. PLN (Persero) Wilayah Suluttenggo*". The results of the study is to build an application that can manage incoming and outgoing official letters of the company [9].

B. Literature Review

The village administrative service application

The village administrative service application is an android-based software or an application that can be used to apply the making of official letters that is needed by the public. This application can only be accessed by the public of *Jenggala* village.

Mobile Application

Mobile Application is a software that is made for portable *smartphone* devices that require users to download mobile software applications in certain places so that the application can be used. According to Pressman and Bruce in the book entitled *Software Engineering*. Mobile Application is an application that have been specifically designed for the Mobile Platform (e.g. iOS, Android, or Windows Mobile) [10].
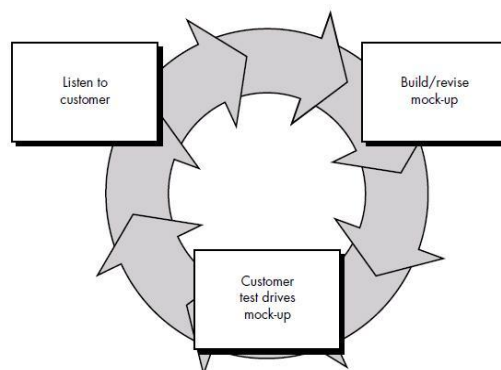
III. Research Methodology

Figure 1. Prototype Method.

There are some phases or stages found in the research method using the prototype method including

1. Listen to Customer
   In this phase or stage, an approach is carried out to the customers to determine the system requirement needed to build an application.
2. Build/Revise *Mockup*
   In this phase or stage, the design and the making of prototype are carried out in accordance with the system requirements obtained at the first phase, which is the customers' requirements.
3. Customer Test Drivers *Mockup*
   In this phase or stage, the prototype of the system is tested by the customers or users. Then, the researcher do an evaluation of the system whether there is a lack of complaints or additional to the system from the user.

IV. Result and Discussions

A. The on-going business process (Existing)

In the present time, the administration system in the village office is still not well-organized. This thing can slowing down the service process that is done by the public or citizen of the village. There are a lot of request for official letters applied to the office by the public of *Jenggala* village. The government of *Jenggala* village cannot manage the administration of official letters very well. There are still lack of weaknesses and problems that exist on the submission letters systems in the village to apply for official letters. The picture below is the on-going business process in village office in *Jenggala*:
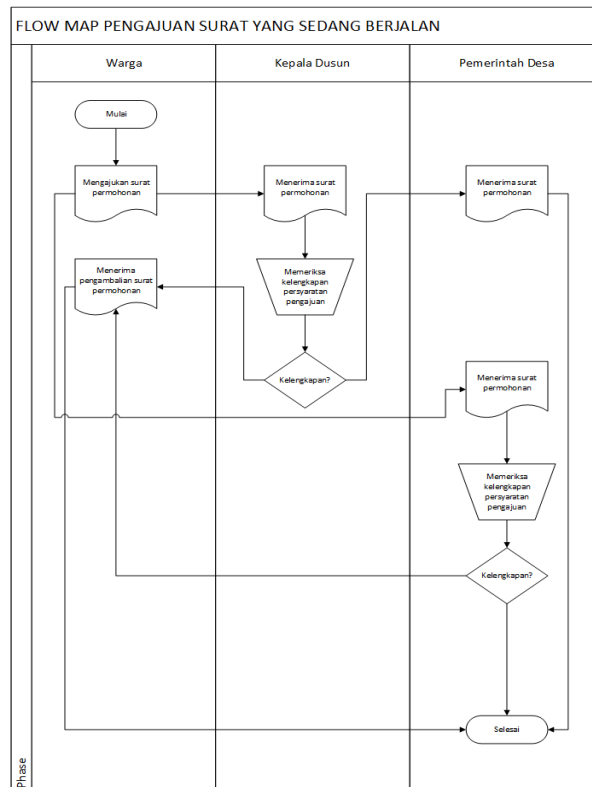
Figure 2. The flowmap process of the on-going business process in village office in Jenggala.

B. *Usecase Diagram*

The picture below are *use case diagram* that is used to build the village administrative of official letters service application in *Jenggala* village.
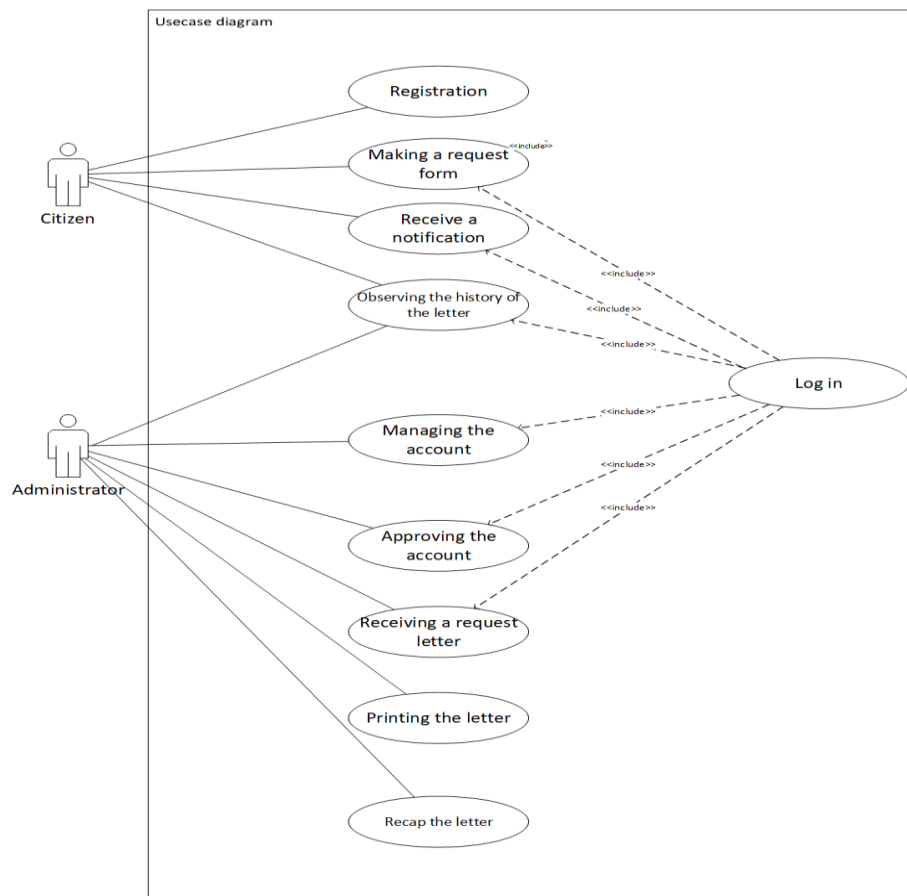

Figure 3. The usecase diagram for the village administrative of official letters service application.

The actor description is an explanation of the function of the actor involved in a system. The following is the description of the actors involved.

Actor	Description
Citizen	The citizens is an actor involved in the process of filing a letter to the administrator
Administrator	Administrator is an actor involved in the account and submission of letters submitted by the public

C. Activity diagram

The picture below is an *Activity Diagram* that is used to build the village administrative of official letters service application in *Jenggala* village.
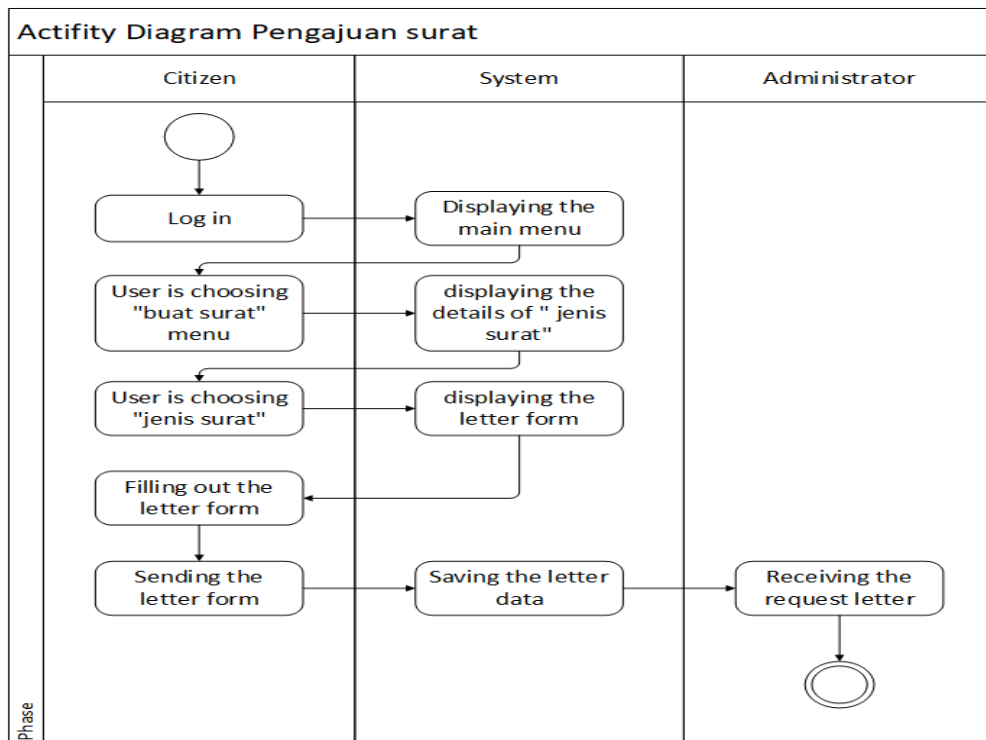
Figure 4. Activity diagram of applying to make an official Letters in Jenggala village.

D. Class diagram

Below is a class diagram of the administration service in the village of Jenggala:
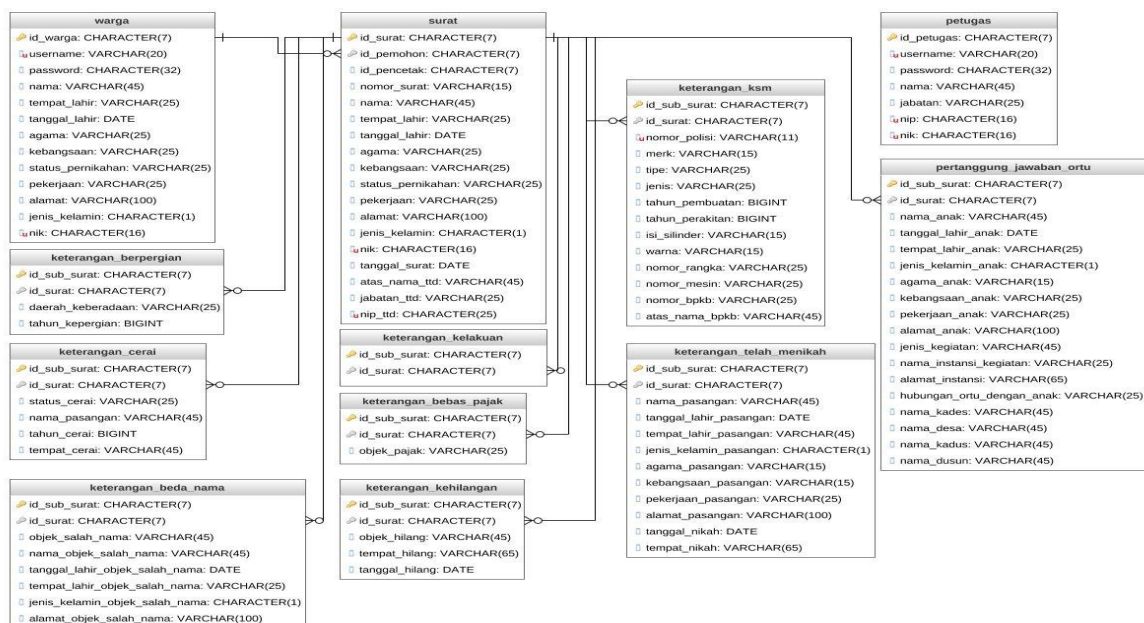
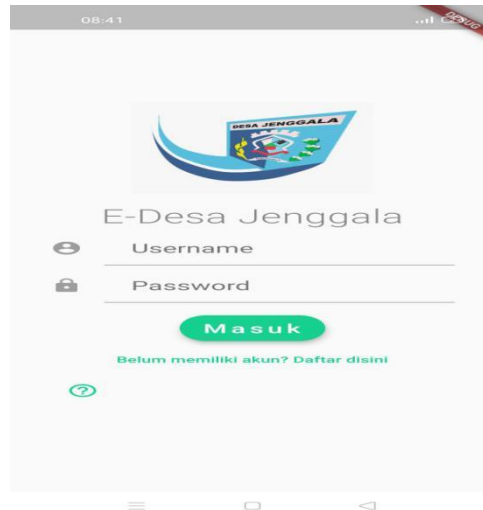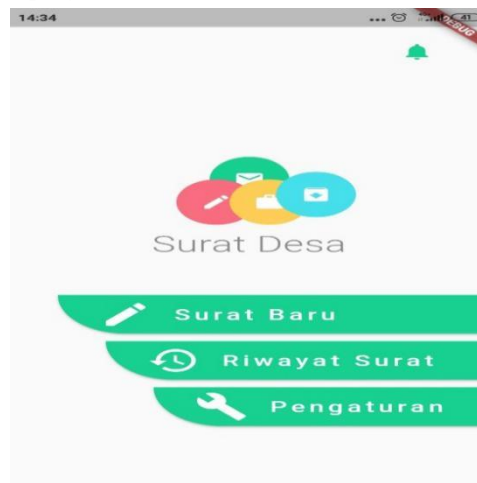Figure 5. Class diagram.

E. The log in interface display

Figure 6. Login Interface.

In the log in interface, the user is being asked to input the *username* and *password* to enter or login to the application.
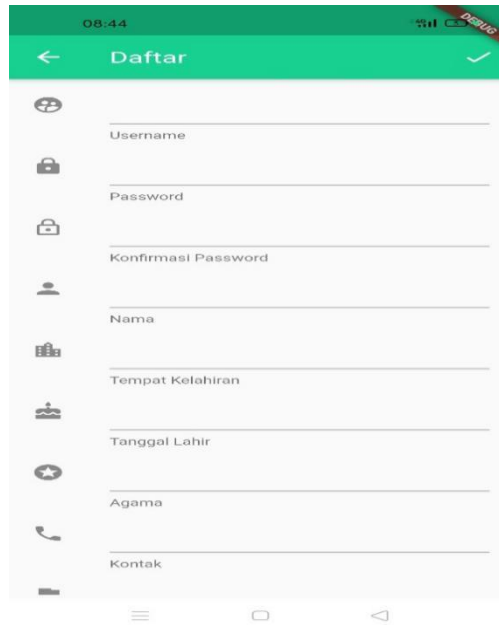
F. The dashboard interface display

Picture 7. The interface of main menu (Dashboard).

In the dashboard interface, there are 3(three) functions: The *surat baru* menu is for letter submission, is to see the history of letter submissions, and for settings, changing, or edtitng profile data.
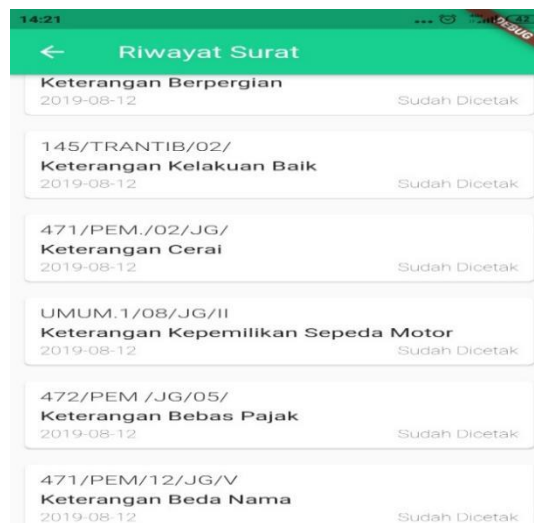
G. Registration interface display

Figure 8. Registration interface display.

On the registration interface, the user is being asked to register their account first by inputting the personal data for the security and authenticity of the data.

H. Display Interface

Figure 9. Display interface.

In the history of the letter, there are all reports that has been submitted. There is also a process of tracking which makes the public can figure out the process of letter they applied.

V. Conclusion

After conducting the analysis, the design of the mobile-based administrative application for *Jenggala* village, in *Tanjung* sub-district, *North Lombok*, the researcher can make some conclusions. It can be seen as follows :

1. Because of *laporan permohonan surat* features in the application, the head officer or the head chief can see and print the reports applied by the public every month.

2. Because of *buat permohonan surat* features in the application, the public can apply to make official letters without being limited to the working hour of the office.
3. Because of *konfirmasi status permohonan* feature in the application, the public can find out the status of the letter they applied that is made by the village government by sending a notification to the public.
4. Because of the *laporan masuk surat i*n the application*,* the village government can make reports about the submitted reports by the public.
5. There is a feature called *cetak bukti surat permohonan pengajuan surat* that will be received by the public who has been applying to make a letter.

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