

# Designing an Android-Based Administrative Service Application (Case Study in Jenggala)

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## ABSTRACT

*The village administrative office in Jenggala village is one of the offices that have trouble doing services to the public, especially in making official letters. The lack of facilities in managing and making official letters applied by the people can disrupt the staff's performance and slow down the official letters' pace. Some of the problems that occur are general administrative work done manually, limited working hours at the office, public data loss previously submitted, and poor reporting. The head office does not know all messages and information presented in a certain period. The researcher aims to create an android-based administration service application to facilitate the public in making the official letters as needed. Researchers design the application to be fast, precise, and effective communication between the people and the officer. Researchers built applications to facilitate the village government in managing the reports in making official letters delivered by the citizen of Jenggala. Therefore, the application tends to provide convenience and flexibility in making official letters in Jenggala Village.*

**Keywords:** *Jenggala, Android, Administration Service Application.*

## 1. INTRODUCTION

The *Jenggala* village is a town located in *Tanjung* sub-district *North Lombok* with coordinates  $08^{\circ}-18^{\circ}-45^{\circ}.0''$  LS dan  $116^{\circ}-14^{\circ}-08^{\circ}.8''$  BT the borderline *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  $\pm 8.931$  inhabitants [1]. The *Jenggala* village office is one of the village offices with troubles or problems in doing services to the public, especially in making official letters. Some issues occurred in the government office in *Jenggala*, such as creating an official letter that, even though it has computerized the process, but still uses standard templates that type manually using Ms. Word. It can take a long time to process because the document that is already archived is not well-organized. Also, there is no evidence of a written letter in the current process, no evidence that the community has made a letter (receipt), working hours are still limited, and there is no status message that can be monitored by the community. Also, there is no assessment of creating official notes so that the Head Officer cannot monitor the workers' performance. The applicant's file's storage is still not well-organized, so that sometimes the files or documents of the applicants are lost, and the warehouse is not well-maintained. The only thing that the governments do to help the public is to help the people produce official letters or documents needed by the people to complete the requirements. The applicants have to go directly to the Village Office and requesting 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.* Researchers developed this application to help the village government manage reports on creating official letters applied by the *Jenggala* village community. Thus, researchers developing this application are expected to provide convenience and flexibility in making official letters, especially in the village of *Jenggala*.

## 2. LITERATURE REVIEW

### 2.1. Relevant Research Theory

Here are the differences between similar applications that have been made with applications that are being developed by researchers. The comparison can be seen as follows:

Suci Ramadhani, Fajar Hermawanto did the study and Andi Mariani (Informatics Engineering Study Program, Gorontalo Polytechnic) in 2018 with the title of the survey "*Aplikasi Pelayanan Surat Menyurat Desa Tanah Putih Berbasis Web.*" This application is made only for use in the village of Tanah Putih. The process of requesting a letter from the community must go to the Chairman of the Rukun Tetangga. Then the next process is that the letter will be recommended to each Village Head. After that, the officer will make the selection of whether the letter can be approved or not. If it is approved, then the next process is to receive a receipt [2].

The study was done by Dewi Leyla Rahmah (Informatics Engineering, Faculty of Mathematics and Sciences, Indraprastha 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 the income and outcome of official letters at the company [3].

Irwin Supriadi, Rina Indrayani conducted the study, and Verra Trysda Maulyyda (Bandung College of Technology, Information Systems of National Conference) in 2018 with the title of the survey "*Rancang Bangun Aplikasi Surat Masuk dan Surat Keluar Berbasis Web pada Kantor*

*Asuransi Jiwa Kantor Layanan Administrasi Bandung.*" The study results are an application that can manage and record archived data of income and outgoing official letters [4].

Andi Darlianto did the study 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 focus on managing incoming and distributing letters and managing ledgers [5].

Didin Agus Priyadi conducted the research 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 application functions were focused on managing the reports of population data, preparing the certificates, and finding population data [6].

Diajeng Rahmawati, Nia Kumaladewi did the study, 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 letter 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].

In 2012 Sandy Ferdinandus, Ir. Hans Wowor, M.Kom. Arie S.M Lumenta, ST, MT. Arthur Rumagit, ST, MT. (Department of Electrical Engineering, Faculty of Engineering, UNSRAT) conducted research with the research title "Designing Applications for Incoming and Outgoing Letters at PT. PLN (Persero) Suluttenggo Region." The study results build an application that can manage incoming and outgoing official letters of the company [9].

## **2.2. Literature Review**

### **The village administrative service application**

The village administration service application is an android-based software that can be used to apply the making of official letters needed by the community. The public of Jenggala village can only access this application.

### **Mobile Application**

A Mobile Application is a software made for portable smartphone devices that requires the user to download a mobile software application in a specific place for use. According to Pressman and Bruce in the book entitled *Software Engineering*. Mobile Application has been designed explicitly for the Mobile Platform (e.g., iOS, Android, or Windows Mobile) [10].

### **Research Methodology**

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

#### **a. Listen to Customer**

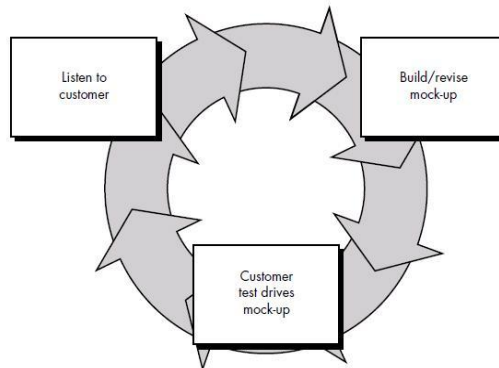
In this phase or stage, an approach is carried out to the customers to determine the system requirement needed to build an application.

b. Build/Revise *Mockup*

The design and manufacture of prototypes are carried out following the system requirements obtained in the first stage: customer needs.

c. Customer Test Drivers *Mockup*

At this stage, the user will test the system prototype. The researcher then evaluates the system, whether there is a lack of complaints or additions to the user system.



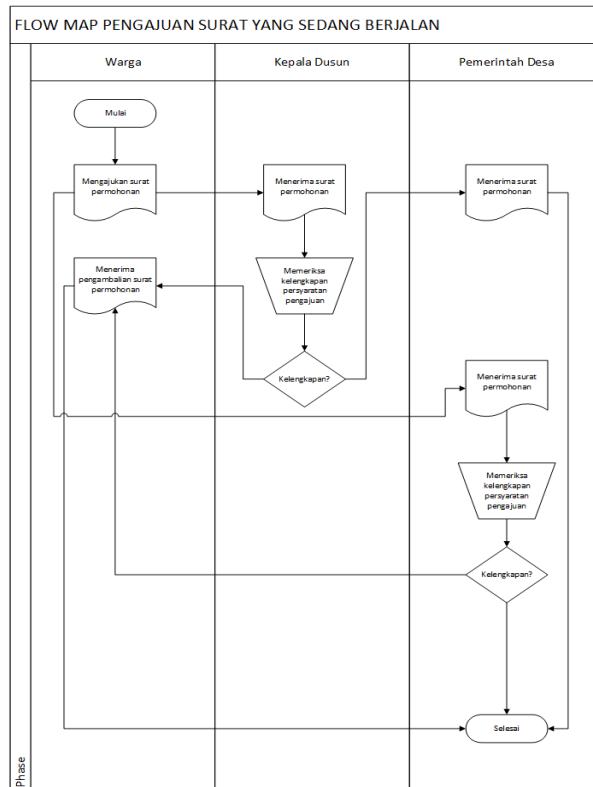
**Picture 1. Prototype Method**

### **3. RESULT AND DISCUSSIONS**

#### **3.1. 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 be slowing down the service process done by the public or citizens of the village. There is a lot of request for official letters applied to the office by the Jenggala village public. The government of *Jenggala* village cannot manage the administration of official letters very well. There is still a lack of weaknesses and problems in the village's submission letters systems to apply for official letters. The picture below is the on-going business process in the village office in *Jenggala*:

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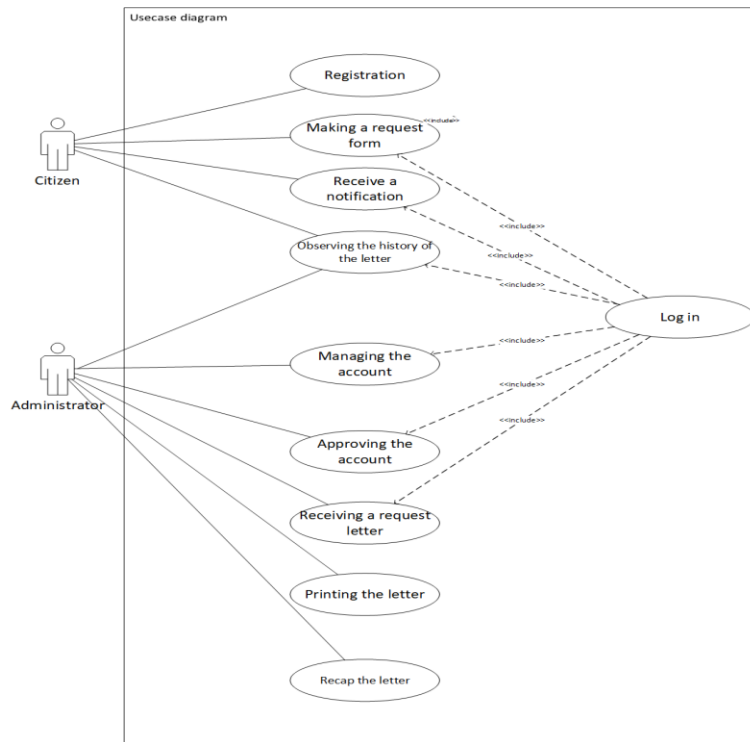


Picture 2. The flow map process of the on-going business process in the village office in Jenggala

### Usecase Diagram

The picture below uses a case diagram to build the village administrative of official letters service application in Jenggala village.

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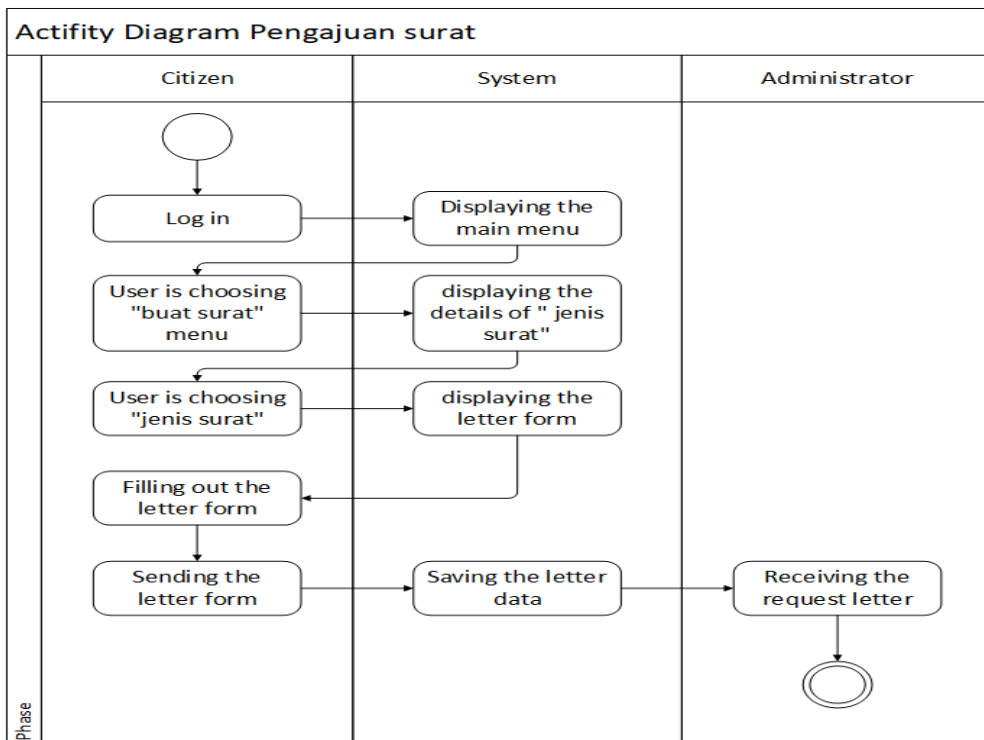
**Picture 3. The use case diagram for the village administrative of official letters service application**

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

<b>Actor</b>	<b>Description</b>
a) Citizen	b) The citizen is an actor involved in the process of filing a letter to the administrator
c) Administrator	d) The administrator is an actor involved in the account and submission of letters submitted by the public

### Activity diagram

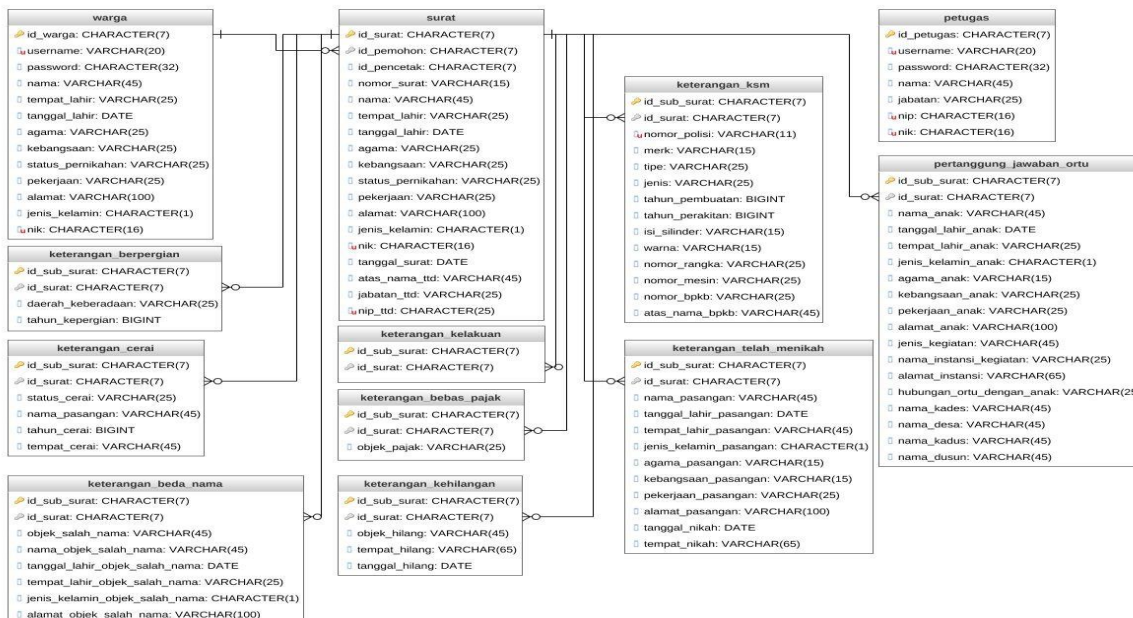
The picture below is an *Activity Diagram* used to build the village administrative of official letters service application in *Jenggala* village.



Picture 4. Activity diagram of applying to make an official Letters in Jengjala village

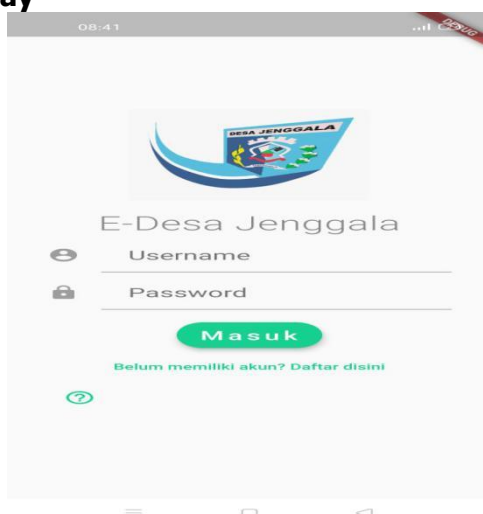
**Class diagram**

Below is a class diagram of the administration service in the village of Jengjala:



Picture 5 Class diagram

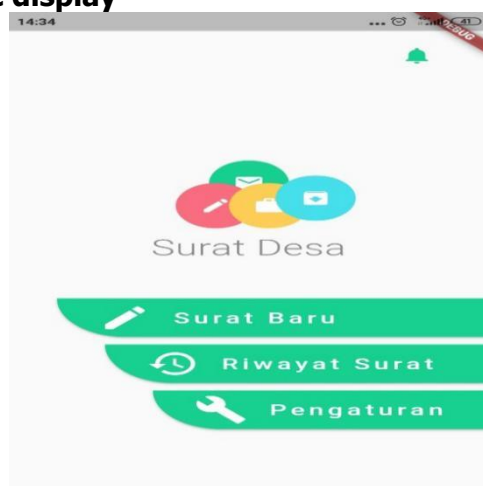
### The login interface display



**Picture 6. Login Interface**

In the login interface, each user enters a username and password to enter the application.

### The dashboard interface display

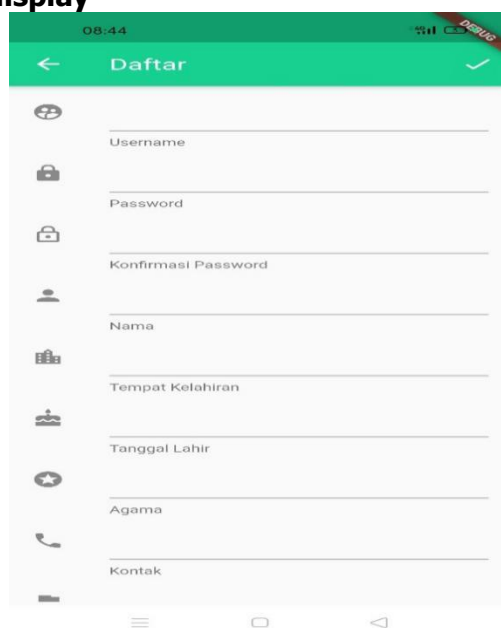


**Picture 7. The interface of the main menu (Dashboard)**

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 editing profile data.



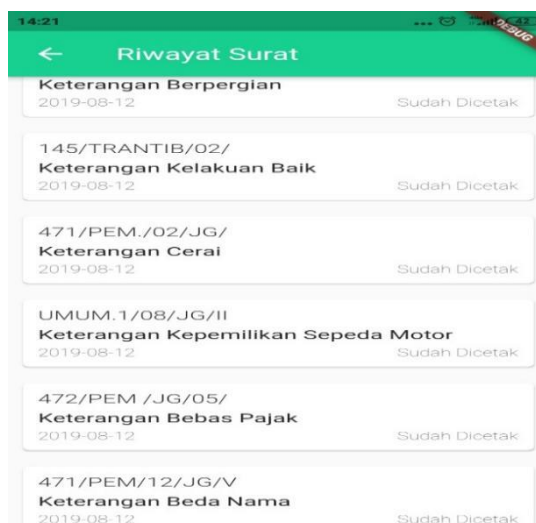
## Registration interface display



**Picture 8. Registration interface display**

Each user registers their account in the registration interface by entering personal data for data security and authenticity.

## Display Interface



**Picture 9. Display interface**

In the letter history, there are all reports that have been submitted. There is also a tracking process, which lets the public know the messages they implement.

## 4. CONCLUSION

After analyzing the mobile-based administrative application of Jenggala Village, Tanjung Subdistrict, North Lombok Regency, the researcher can draw the following conclusions:

- a. 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.

- b. Because of *Buat Permohonan Surat* features in the application, the public can apply to make official letters without being limited to the office's working hours.
- c. Because of *Konfirmasi Status Permohonan* feature in the application, the public can find out the status of the letter they applied to the village government by sending a notification to the public.
- d. Because of *Laporan Masuk Surat*, the village government can make reports about the public's submitted accounts in the application.
- e. 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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