



## DESIGNING ANDROID-BASED MOBILE NOTIFICATION APPLICATION TO SUPPORT THE PERFORMANCE OF EMPLOYEES IN TANGGAMUS REGENCY GOVERNMENT

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### Abstract

Communication plays an important role in uniting various activities in life, the process of information and between individuals as well as between people so that interaction occurs between them. Communication in the present, occurs both directly and using communication media. The government supports the development of current technology and expects a system that helps all employees work in government agencies. In this study, applications will be made that are expected to help and support them. This application is used to send real time information notifications, receive, take action, and send notifications to desired employees and also real time. Information sent in the form of announcements of events, meetings, and other activities while discussing, and discussion will be made for employees of their work in the report to fill in the appropriate tasks and for employees who have more work. In addition, this application uses Google Cloud Messaging (GCM) to send information and conversation notifications. So that, information that is announced and translated is sent at a time that can be accessed easily, an application created on an Android-based mobile device with information and changes sent are made by a Web service based application as server application, so notifications and transfer information will be sent as soon as there is an internet connection. Based on the assistance, this application will be run as soon as possible to help the Tanggamus Regency Secretariat office.

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## I. INTRODUCTION

The development of technology and communication that is advancing rapidly today requires the government to be more proactive and creative in formulating strategies to carry out state administration, government, including public services and development. The role of the government bureaucracy is seen as the party responsible

for implementing the development of a country, as well as meeting all the needs and interests of the community. In every government agency, the good or bad service of an agency is determined by the performance of its employees. If the performance of the employees is good then the work they do will be good, and vice versa if their performance is bad then this will have an impact on the poor quality of their work. Of course, this cannot be left alone, because every government agency expects its employees to show good performance. Therefore, we need an application system that can reach all employees and is useful to support the performance of employees. In operation, this system can be a medium for delivering information and can monitor and provide warnings to all employees automatically.

The regional secretariat is an organization that develops the function of coordination and technical administrative services to all local government vertical devices or agencies, so performance appraisal for civil servants has a very important meaning, especially in efforts to make improvements in the future. The Regional Secretariat as a public organization that has the main task and function of coordinating and providing administrative services requires information about the existing performance within the organization so that an assessment can be made of how far the services provided by the organization can meet the expectations and satisfy service users. At the Tanggamus Regency Government Secretariat office, various apparatus resources show that the readiness for the implementation of regional autonomy in terms of the apparatus has not been fully realized. Government performance is still faced with problems that are inefficient, effective, and less professional in administration and service to the community. For this reason, it is necessary to create a notification system for employees to make it easier for leaders to monitor employee activities quickly, effectively, and efficiently.

Along with the times, we have now entered an era where mobile devices are a necessity that must be owned by everyone to do various things such as communicating, exchanging information, and doing other things. One of the mobile device operating systems that is widely used and is developing very rapidly at this time is Android. Android is an operating system that is open source. It means that programmers are allowed by operating system developers to create, modify, develop and distribute applications. By utilizing cell phone technology that uses the Android operating system, it is very possible to create an application that can carry out the processes described above and should meet the expectations of being able to reach all employees and be able to support their performance. Notifications are notifications about information or announcements from certain parties to the intended parties through media such as email, SMS, or chat applications (line, WhatsApp, fuel, WeChat) by the recipient. Notification is needed when the information to be conveyed to related parties is not possible to notify in person or face to face. Notification allows the accuracy or accuracy of the information provided.

Santoso, (2014) entitle Making Mobile Broadcast Applications for Android-Based Lecture Information explained that the push notification technology used is Google Cloud Messaging which in the process uses MySQL for the database and uses PHP to run the webserver. So it is necessary to create a PHP script for the webserver application. In Boedijono's research, et al (2015), it is explained that the push notification technology used is Google Cloud Messaging, wherein the process the

researcher uses the server services for push notifications belonging to Pushwoosh. Pushwoosh is a paid push notification service provider for various purposes. Pushwoosh requires an API key from Google Cloud Messaging able to send notifications. Pratama, Ferdian Aditya (2014), entitled Application of Google Cloud Messaging Service technology as Push Notification Delivery on Android-Based Mobile Commerce Applications. Explain that the mobile commerce application developed utilizes GCM technology in its' application and uses a Web-based platform.

From the background of the problems, that have been described, the authors are interested in designing an Android-based application that can provide improved services to government employees. By applying the title "Design of an Android-based notification mobile application to support performance at the Population and Civil Registration Office of the Tanggamus Regency." This Android-based application was expected to improve services to the community. This Android-based notification application will be developed at the Tanggamus District Secretariat. The public can assess how good the services at the Service are.

## II. RESEARCH METHODOLOGY

The methodology used in this research is descriptive analysis, which is a case study research method.

### 2.1 Data Collection

The data collection techniques used include:

- a. Literature study, carried out by looking for libraries that support the research to be carried out. The library can be in the form of books, journal reports, articles, etc.
- b. Field study, this study was conducted by making observations, namely observations in collecting the required data with careful and systematic notes.
- c. Direct interviews with the community related to the problem at hand.

### 2.2. Design Model

In this study, the waterfall model is often referred to as a linear sequential model or a classical life cycle. The stages of the process include:

#### a. System Planning

Translating the results of the Digital File system requirements analysis into a software representation. The stages in designing software are data structure design, software architecture, interface representation, and process specifications.

#### b. System Analysis

The activity of analyzing the needs of the Digital File Application system includes an assessment of the need for the application to be developed to then understand the problems that arise and define them in detail to then be poured into the application development design and the creation of an implementation schedule that contains the stages of work to be carried out. Analyst data was obtained from primary data collection through observation and interviews and secondary data through literature study. The ongoing system analysis is still using the manual archiving method by storing data in cupboard lockers. At the analysis stage, it is proposed to add a data storage method, namely by scanning the data into digital form, where the location of the physical document will be recorded in the system along with a digital data link.

c. Design System

At the system design stage, the system will be built by adjusting the manual data storage flow, wherein the system design a physical document storage location will be made in cupboard lockers so that when data is needed it can be quickly found and printed without having to take physical documents. As a Digital Personnel File storage, it uses a MySQL 5 database, with a visual-based application that can integrate desktop and web applications through a web service. Using android programming language. With the support of a client-server network that allows the use of this application to run multiuser at the same time.

d. Implementation

System implementation can be carried out if the system developed is following the planned user needs and is free from bugs (errors). The next implementation is followed by application training to users so that users can utilize the Digital Personnel File Application effectively and efficiently.

e. Maintenance

Things that need to consider in the maintenance phase are:

- 1). You need to do regular backups.
- 2). The placement of physical documents must be the same as the code for placing digital documents.

### **2.3. Data Analysis**

Following the research method, the data analysis method used by the author in this study is to use qualitative data analysis. This qualitative data analysis is an analysis of the data obtained based on the researcher's reasoning ability in connecting facts, data, and information. The qualitative data analysis method is by presenting the results of interviews and analyzing the problems found in the field so that a clear picture of the object under study will be obtained and conclusions will then be drawn.

## **III. DISCUSSION**

### **3.1. Program Flow Design**

The following use case diagram shows the actors involved and a list of activities that can carry out in the designed system. The use case diagram in this application can be seen in the following figure:





Figure 3. Login page display

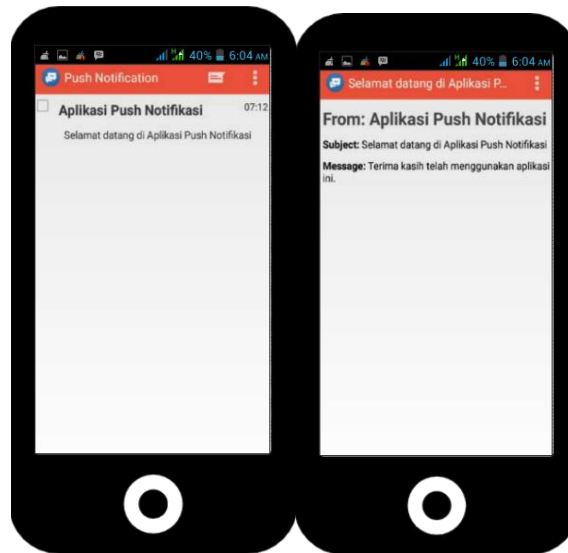


Figure 4. Display of Message Notification Application Results Pages

#### 4.5 Discussion

From the results of the above program implementation, a program was produced that can support the performance of employees at the Tanggamus Regency Secretariat. Android-based application for Android-based Message Notifications to Employees. With the Android application, employees can easy to receive information or messages directly.

#### IV. CONCLUSION

After analyzing and testing the Android-Based Notification Mobile Application to Support Performance in Government Agencies, it can be concluded that:

1. Applications can provide office information such as events, activities, or meetings to users or employees that send via the webserver to the client application.

2. The application can automatically notify users or employees who are working on reports regarding the deadline for processing reports, how much time is left, so that report collection can be on time. Applications can automatically notify users or employees if they often do not come to work for no apparent reason.

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