

# Android Based Application for Public Complaints at Yuliddin Away Regional Hospital

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## ABSTRACT

The Yuliddin Away Regional General Hospital, as an institution that completely conducts individual health services, often experiences obstacles in providing maximum services to the community. So that in some cases received complaints from the public. These complaints are accommodated with complaint boxes in each service division, but this method is difficult to get accurate information and relatively takes a long time. The use of information and communication technology in applications is expected to improve responsive and informative service quality. Through the Android-based Complaints application, it is easy for the public to provide advice and criticism of Yuliddin Away Hospital's services. Implementation procedures include observation, problem identification, literature study, design, system development, and application. The communication mechanism between the user and the system uses an interface. The application interface for public complaints at Yuliddin Away Regional Hospital includes Admin Flowchart Design, User Flowchart Design, Use Case Design, and Database Design. The application is beneficial for hospital staff in managing community complaints as suggestions in weekly and monthly meetings to improve Yuliddin Away hospital services' quality.

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## I. Introduction

### A. Background

With the development of current technology, the system developed refers to a computer-based system that is a structure that has hardware and software, as well as a telecommunications network (such as the internet or others). So the authors use the android studio for making hospital complaint applications because it has various advantages.

The advantage of Android is that its licenses are open source and free, so they are free to develop because there are no royalties or distributed in any form. This makes it convenient for programmers to create new applications from it. Besides, android is also a medium that can explore GIS capabilities through Google Maps [1].

The hospital provides the best service to patients or the community. As a health worker, there must be an oversight in providing services to patients, such as late getting medical treatment or treatment rooms that are less comfortable to be occupied by patients. Based on Tapaktuan hospital patients' interviews, their complaints were not conveyed accurately and took a relatively long time to respond. In addition to the complaints delivery system submitted directly to the hospital, the suggestion box media was also used before. Still, it did not work effectively because of the lack of participation from the patient's relative.

Quality of service resulting from a system in a health service organization is influenced by structural and process components. Organization (structure and culture), management, human resources, technology, equipment, finance are components of the structure. Service processes, action procedures, information systems, administrative systems, control systems, guidelines are components of the process. The quality of hospital services can be seen in terms of aspects: clinical



aspects (doctor, nurse, and medical-related services), service efficiency and effectiveness, patient safety, and satisfaction.

## II. Literature Review

### A. Application

According to [2], an application is a program that is ready to be used, developed to carry out a function for users of application services and other applications that can be used by a target to be addressed.

### B. Public Complaints

According to [3], a complaint is a person's notification to the official authorized to receive reports and complaints. A general notification involves all types of criminal acts in a report, while a complaint is someone's notification to the authorized official regarding a criminal offense. According to [4], complaints can be interpreted as expressions of dissatisfaction or disappointment. Organizations can collect customer complaints in many ways, including suggestion boxes, customer complaint forms, special telephone lines, websites, comment cards, customer satisfaction surveys, and customer exit surveys. According to [5], the community is a group of people who interact with each other. In the community, there will be agreements that have been determined to be obeyed and implemented by every community member. Agreements that already exist in the community then become a guideline for each of its citizens to distinguish between factions. In the context of public services based on the Republic of Indonesia Presidential Regulation concerning Management of Public Service Complaints article (1) paragraph (8), a complaint is the submission of a dissatisfaction submitted by the complainant to the public service complaint manager for implementing services that are not by service standards, or service obligation and/or violation of prohibition by the organizer.

### C. RSUD Yuliddin Away

The Tapaktuan General Hospital was first established on January 23, 1938, which was located at the Tapaktuan Health Nursing Academy and was inaugurated on January 23, 1939, by Yan Fiter V. Khorfec Kihler (Deputy Governor-General of the Netherlands Kuta Raja), witnessed by the king in South Aceh and other high-ranking Dutch officials in South Aceh.

In 1957 the Tapaktuan General Hospital was moved to Putri Naga Park's front location, located on the southern coast of the sea, the only hospital in South Aceh District. Before this hospital was built, the city of Tapaktuan already had a Dutch heritage hospital that is now no longer functioning. The building is being used as a place for the school of the Regional Government Health Nurses Academy. Due to the increasing demands of the community who increasingly need better and better quality health services, the rural and population health project (ADB III Loan Project No. 1299-INO) recommended the construction of a new hospital Tapaktuan. The previously used system at the Yuliddin Away hospital as a medium for submitting complaints and complaints is still manually using the suggestion box. The problem is that the suggestion box media is not effective because of relative patient participation.

### D. Android Studio

According to [6], android is an operating system (Operating System) that is generally used on devices with full touch screen navigation commonly owned by smartphones and tablet computers. According to [7], Android provides open programs for developers to create their applications for use by various mobile devices. Google Inc has taken over android. It bought it in 2005 from Android Inc. Google provides software/tools developed specifically to be used as an android application developer tool called "Android Studio." Android Studio was developed using java language by adding special libraries that are intended to create android applications. Android Studio uses a native code method that separates view and controller.

## III. Research Method

### A. Materials

As for supporting the process of implementing this final project, we need some supporting tools, which include the following:

#### 1) Hardware Requirements

The tools needed in this study are computers or laptops with sufficient specifications to run the working software used.

**2) Software Requirements**

The working software used in this research is:

- a. Android Studio
- b. JSON
- c. Xampp
- d. Sublime Text.

**B. Workflow**

The workflow of the implementation of this final project is shown in Figure 1.

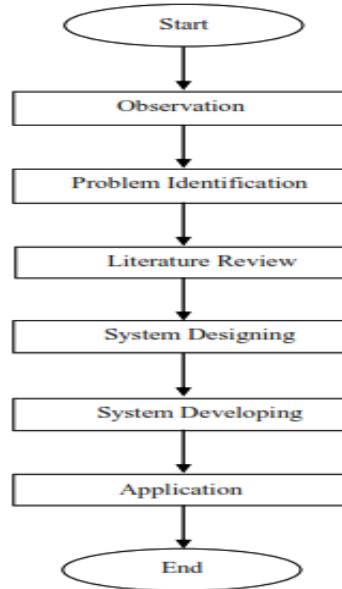


Figure 1. Workflow [8,9]

The implementation of this final project is carried out by following the following process:

**1) Observation**

The observation was carried out to gather information to explore problems from developing issues.

**2) Problem Identification**

This activity is carried out after observing and then identifying the problem to determine the main points of the problem. This problem is mentioned in the background, written with an interesting narrative to describe the final project's topic.

**3) Literature Review**

In this activity, data and information gathering relevant to the topics raised are in the form of literature and scientific work.

**4) System Designing**

This activity will build the application design, and the design is in the form of interface design and database design.

**5) Systems Developing**

This activity involves coding the system that was done before at the design stage.

**6) Application**

This activity involves the process of testing and implementing applications that have been made.

**C. System Design**

The interface is a communication mechanism between users and the system. The interface can receive information from users and provide information to users to help direct the search flow of problems until a solution is found. The following is an overview of the application interface for complaints and complaints from the Yuliddin Away Regional Hospital.

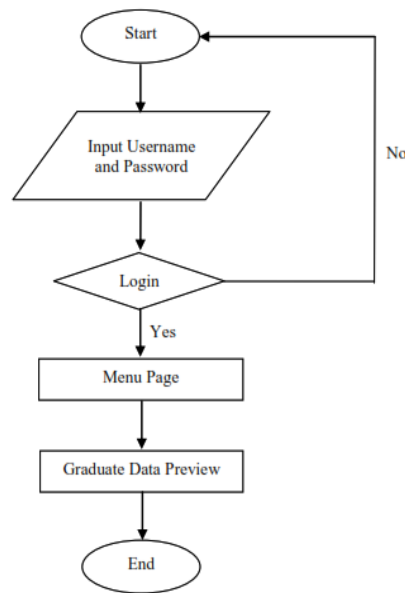
**1) Flowchart Admin Design**

Figure 2. Admin Flowchart

From the flowchart image above, the program's main menu will appear until there is a response from the program when the user chooses the options on the main menu. By using symbols and captions, the flowchart above outlines the steps that the user can take as follows:

- Before entering the system, the admin is required to enter a username and password.
- After input, the admin username and password, press the login button to enter the system.
- After the main menu page appears, the admin is provided with several menu options to choose from.
- Admin enters the complainant's data menu to see the complainant's data and history of who has entered the system.

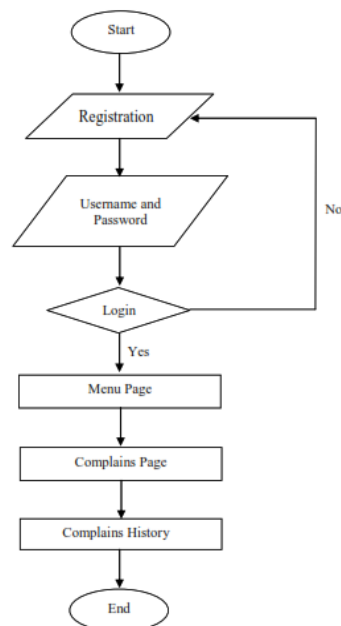
**2) Flowchart User Design**

Figure 3. User Flowchart

From the flowchart above, the program's main menu will appear until there is a response from the program when the user chooses the options on the main menu. According to [10] Flowchart is a chart that shows the flow in the program or system procedure logically. The

flowchart describes the problem-solving procedures [11]. According to [12], Flowchart describes the flow of processes that occur in the system.

By using symbols and captions, the flowchart above outlines the steps that the user can take as follows:

- a) To enter the system, the user must register first. Registration is used for user data security.
- b) Then the user enters the username and password that was previously inputted during registration.
- c) After entering the username and password, the user presses the login button to enter the system.
- d) After the main menu page appears, the user is provided with several menu options to choose from.
- e) Users enter the complaints service menu to submit complaints and complaints.
- f) If the user wants to see the history of complaints that have been submitted, the user can check the complaint history menu.

### 3) Use Case Design

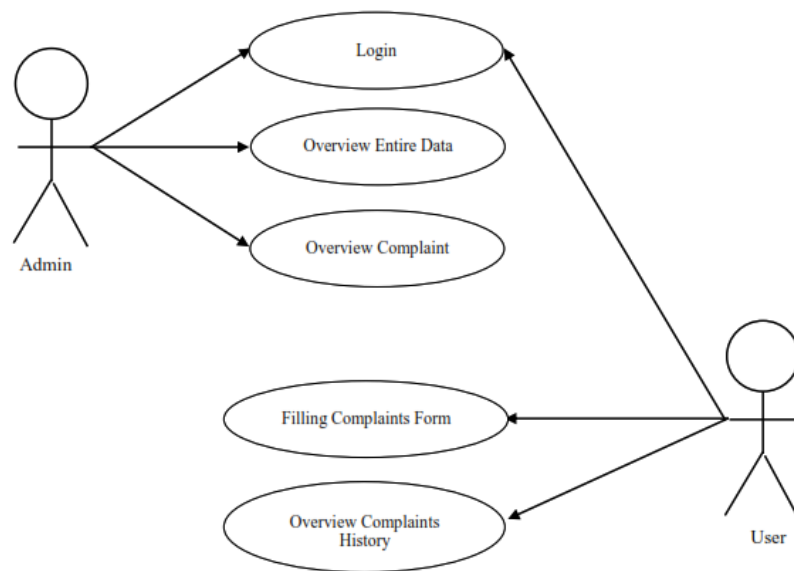


Figure 4. Usecase of Complaints

From the use case diagram above, it can be seen that in this system, the admin has access rights in the form of login, see all the complainant's data, and can check complaints that have entered the system. Whereas users only have access rights in the form of login, file, and view the history of complaints.

## D. Database Design

### 1) Complaint Table Design

Tabel 1. Complain Table Design

Name Field	Data Type	Long
ID_Complaint	Int	11
ID_User	Int	11
ID_Card	Varchar	20
Name	Varchar	50
Purpose	Varchar	50
Complain	Varchar	255
Time	Datetime	-

### 2) User Table Design

Tabel 2. User Table Design

Name Field	Data Type	Long
ID_User	Int	11
ID_Card	Varchar	20
Name	Varchar	50
Address	Varchar	50
Handphone	Varchar	15
Username	Varchar	20
Password	Datetime	20
Level	tinyint	1

#### IV. Results and Discussion

##### A. Registration Menu Output

This registration menu is used for initial registration for users who have never logged in before.

Figure 1. User Registration Display

On this menu, there is a user identification number (KTP) of the user or user, name, address, mobile number, username, and password, where this data becomes the user's permanent data at login. The registration menu is designed with many menu entries so that users have accurate data.

##### B. Outputs Menu login

The login menu is used as system security from misuse of access rights to guarantee data security. Here the user is asked to enter a username and password that was previously registered.

## Sistem Pengaduan Online RSUDYA

Username

Password

LOGIN REGISTRASI

Figure 2 User Login Display

c can only use this login menu for users who have already registered. The user logs in using a username and password, so user data is stored securely when using the application.

### C. Outputs Main Menu

The main menu contents are profile display, workflow, complaint service, complaint history, and logout. Application users just click on the desired menu.



Figure 3. Main Menu Display

In this main menu, the user can find out all processes in the application, such as RSUD profiles that display hospitals' profiles, hospital workflows in solving problems, complaint services, user complaint history, and logout.

### D. Output Profile Menu

The profile menu displays hospital profiles that contain a vision, mission, motto, history, and specialists available at the hospital.



Figure 4. Profile Page

This menu displays all information about the hospital that can be read by the user.

**E. Workflow Outputs Menu**

The workflow menu displays the hospital workflow for resolving complaints.



Figure 5. Workflow Menu

Hospital workflow is designed to know the process or action taken by the hospital in handling and resolving complaints from the community.

**F. Complaint Service Menu Outputs**

The complaints service menu displays the complainant's filling menu to submit complaints and complaints. This menu contains the National Identity Card (KTP) number, name, purpose, and complaint.

No. KTP	1101096411980001
Nama	Cut Rahmanizar
Tujuan Aduan	Ruang Bersalin
Aduan	Perawat lambat dalam mengambil tindakan penanganan. Sedangkan pasien sudah sekarat untuk bersalin, apalagi kalau mesti menunggu dokternya yang tidak ada di tempat pada saat yang di perlukan.
AJUKAN ADUAN	

Figure 6 Complaint Service Interface

In this complaint service menu, the user is required to fill in the entry menu, such as the user's ID card number for data accuracy, full name, the purpose of the submission to be addressed to the intended target, the contents of the complaint to be submitted to the hospital.

**G. The output of the Complaints History Menu**

The complaint history menu displays the complaint history that has been submitted by the user, such as the name of the complainant, the purpose of the complaint, and the time of the complaint.





Figure 7. Complaint History Display

Users who have submitted complaints can see complaints that have been automatically saved on the system.

#### H. Complaint Details Menu Outputs

The complaint details menu displays the complaint inputted data during registration and the contents of the complaint.

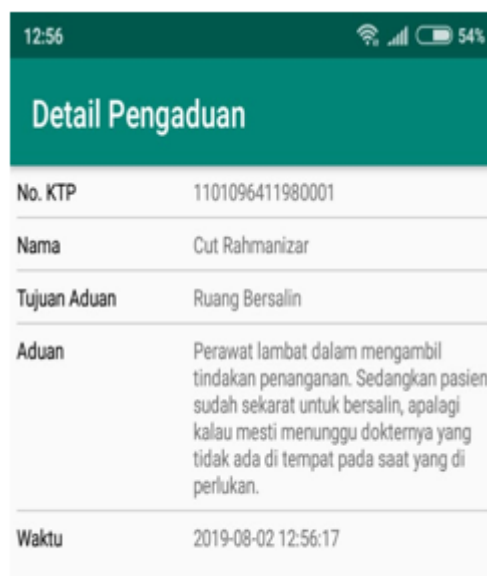


Figure 8. Complaint Content Display

Pada This complaint details menu users can see all data that has entered the system, such as the ID number, name, purpose of the complaint, the contents of the complaint, and the time to file a complaint.

#### I. Outputs Menu Logout

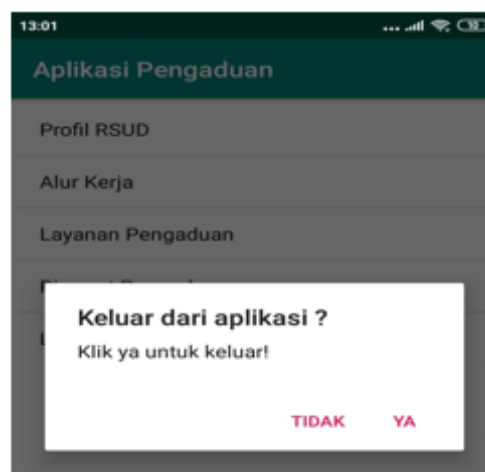


Figure 9. Logout Display

## V. Conclusion

### A. Conclusion

Based on the results previously discussed, the authors conclude that:

- 1) The Application is beneficial for hospital staff in managing public complaints about input in weekly and monthly meetings to improve Yuliddin Away hospital services' quality.
- 2) This application is user friendly that the average user already has a smartphone with an Android operating system.

### B. Suggestion

The system is still far from perfect, so it needs development to maximize sustainable functions and benefits. Therefore, system development is needed in which the authors identify that:

- 1) The system can still be integrated with other integrated applications and have the same function of improving the service quality.
- 2) To facilitate leadership in decision making, applications be developed based on website integration.
- 3) Should provide applications with a menu of reports that are consistent with the hospital's needs.

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