Mobile-Based E-Complaint Technology For The Government Of Bandar Lampung

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Abstract: Bandar Lampung was the capital city of Lampung Province carrying out a lot of public infrastructure development. This development must have maintenance in the field of infrastructure. The problem statement of this study was seen on the damaged infrastructure so that it needed improvement in order that people were able to submit the complaints or aspirations on the recent infrastructure. The objective of this study wass to design the mobile-based e-complaint technology for the Government of Bandar Lampung. This E-Complaint technology was developed through the Waterfall method containing Literature Study, Observation, Interview, Documentation, UML, Waterfall Formation, and Coding Writing. This software wass tested with Black-box testing in order to obtain the accurate results originated from the users' need. The last step was socializing this application to the public so that people understood the way to use and know the function of this software. The result of this study was in the form of A Mobile-Based E-Complaint Technology Application for the Government of Bandar Lampung. This application facilitated the people of Bandar Lampung to report all their complaints or aspirations directly to the Government of Bandar Lampung.

Keywords: E-Complaint, Mobile-Based Application

1. INTRODUCTION

Bandar Lampung was the capital city of Lampung Province. It was a part of the center of government, social, political, educational, and cultural activities. Bandar Lampung was also the center of economic activity in Lampung Province. It was located in a strategic place as a transit area for the economic activity between the islands of Sumatra and Java so that it was beneficial for the growth and development of Bandar Lampung as a center of trade, industry, and tourism. Bandar Lampung was geographically located in the bay of Lampung at the southern tip of the island of Sumatra.

The city of Bandar Lampung had an area of 192 km^2 consisting of 13 sub-districts and 98 sub-districts. The city of Bandar Lampung was administratively bordered by the Natar sub-district, South Lampung Regency in the northern side; Padang Cermin District and Katibung District, South Lampung Regency and Lampung Bay in the southern side; Tanjung Bintang District, South Lampung Regency in the eastern side; and Gedung Tataan and Padang Cermin District, South Lampung Regency on the western side.

The city of Bandar Lampung was carrying out a lot of public infrastructure development that needed to be developed and maintained. In this study, the damaged infrastructure needed reparation so that the society must also be involved in reporting the infrastructure development.

2. LITERATURE REVIEW

Every company was not separated from the name of customers' complaints. There were several theories about the customers' complaints.

a. According to Azzahra (2015), a complaint was a customers' complaints against producers. Complaints were important inputs to help improve the customer satisfaction. [1]
b. According to Putri (2013: 64), complaints were expressions as a result of differences between customer perceptions (what was seen) and expectations (what was expected).

From the two statement above, the authors concluded that a complaint was arising complaints due to differences in perceptions and expectations. [2]

Moreover, these statements above were also concluded that a complaint was feedback given by consumers on goods or services from which the consumers received. Both company and government were not able to avoid complaints because the complaints were a part of consumer interactions with companies or the government to continue maintaining the quality of services provided by the government or companies.

Public services were chosen as a right way to realize good governance because the implementation of public services involved all elements of governance e.g., government, civil society, and market mechanisms so that they were considered to have a major effect on certain aspects of government functions.

According to (Sinambela, 2014). [3] E-Government facilitated the public to get information related to all types of services needed by the community and to convey aspirations and complaints.

Since the administration of public services in a country or region was only able to be carried out by the government itself, the government must continue to improve the quality of public services and development in order to meet the needs of the community.

E-government was the use of information technology that improved the relationship between the government and other parties. There were four classifications of the relationship between this new form of the use of information and communication technology (Aprianty, 2016), [4]:

1. *Government to Citizens* (G-to-C)
   This e-government application was the most common application in which the government built and implemented various portfolios of information technology to interact with the public.

2. *Government to Business* (G-to-B)
   This e-government application was a form of providing information services for businesses. The circle of businesses i.e., private companies needed data and information from the government. In addition, the interactions between businesses and government agencies were also related to the rights and obligations of these businesses as a profit-oriented entity.

3. *Government to Government* (G-to-G)
   This E-government application was also needed in interacting between one government and another (government to government) to facilitate cooperation among countries or the cooperation among state entities in carrying out matters related to the trade administration, political processes, social and cultural relations, and so forth.

4. *Government to Employees* (G-to-E)
   This E-government application was intended internally for the staffs in government agencies.

People who were not satisfied with the service complaint about the service they received. The complaint itself was carefully filtered by the organization whether the complaint was constructive or not. For this reason, it was necessary to identify the definition of the complaint itself.

In submitting their complaints, the public had several options in making complaints depending on the public complains to the organization and the organization received the complains. Whatever media was chosen by the public, it was input from the dissatisfied public. The channels for submitting complains were usually carried out through three channels, e.g.:

1. Through Direct Person
   The complaints were made in the direct manner by customers or the publics who made transactions due to their dissatisfaction. This type of complaints was usually received and handled immediately by the authorized party.

2. Through Mass Media
   The complaints were made by customers or the public who were dissatisfied or had difficulty to meet directly with the authorized party through the existing mass media. This type of complaints was regarded as an expression of dissatisfaction so that this type of the complaints was not frequently and adequately addressed to the authorized party.

3. Through Third Parties
   The third parties were referred to individuals or institutions outside the public or customers who did not directly feel dissatisfied. This type of the complaints had a strong effect on the organization because it aimed directly to the party who received the complaints.

The information system was the application in an organization in which its use was to support the organization in collecting, processing, and providing useful information in planning, utilization, and control. The organizations that growed and became more complex made their management need to use information system. They needed data used to be accessed anytime and anywhere in an easy, accurate, consistent, and fast manner in the mid of changing conditions. According to Kadir (2014: 9), an information system was a series of formal procedures in which data was grouped, processed into information, and distributed to users. [5]

3. METHOD

The type of the data used in this study was in the form of primary and secondary data.

a. The primary data was obtained from the secretary of the Public Works Office of Bandar Lampung City
b. The secondary data was in the form of the main tasks and functions of the Public Works Office of Bandar Lampung City.

To obtain the data in accordance with this problem, the authors use the following method :

a. Literature Review
   Searching for information through the internet about materials related to the issues.

b. Observation
The observation was conducted to collect data from the subject of the study.

c. Interview
The interview was carried out to collect data by asking questions (direct questions) and answers from the sources related to the issues. In this study, the authors conducted a direct interview with the Public Works and Spatial Planning Officers of Bandar Lampung City.

d. Documentation
The documentation was implemented to collect data by taking pictures of the subject of the study.

The problem-solving method used in this study was the waterfall method. The waterfall method was one of the methods used in developing the system. The stages in the waterfall method were as follows:

- Analysing Requirements
  Analysing requirement described all constraints and objectives and was defined as a desire to develop the system. The data collecting technique was carried out as a reference for translating needs into a programming language.

- Designing System
  This stage required a process of designing the system. In this stage, the system interface and the system flow were developed. This stage illustrated a system that was able to work from the initial display, button functions, and the generated output.

- Implementing System
  In this stage, the entire design was converted into program code. The code and scripts were put in the system design so that the design of the system was run well and smoothly. The final code was in the form modules which was integrated into a complete system.

4. RESULT AND DISCUSSION

a. Use Case
Use Case diagrams described in a more detail. The functions of a user or admin were able to perform through a computer or Smartphone.

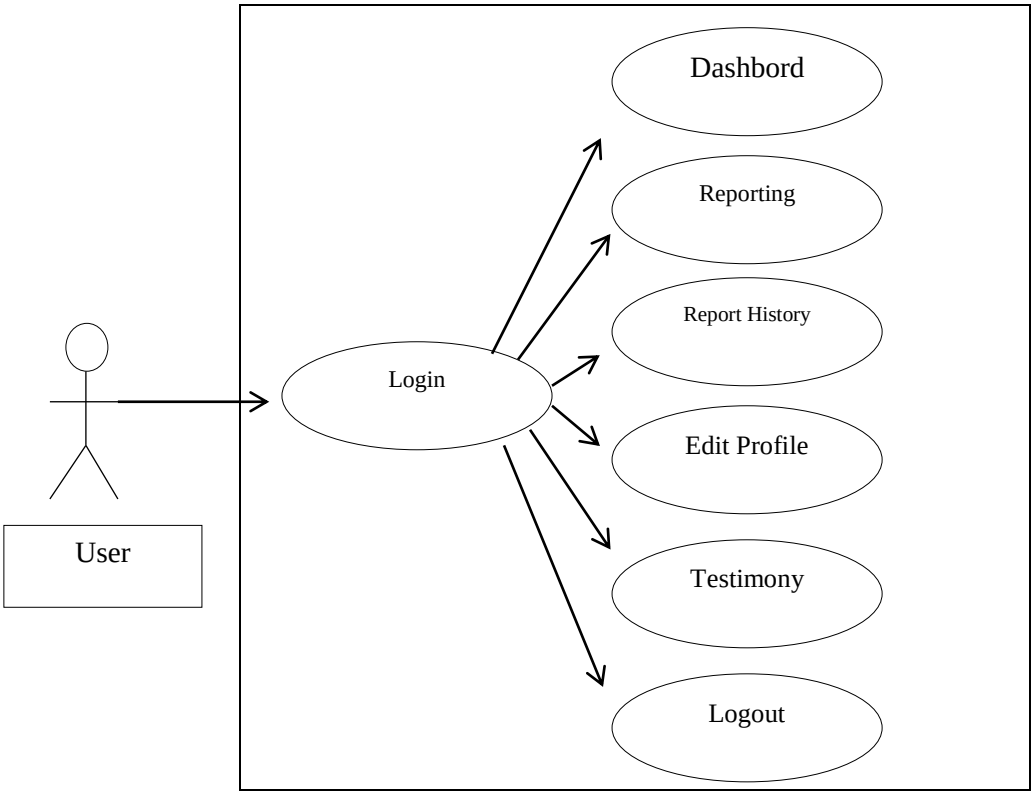

Figure 1. Usecase Diagram for User

The admin system analysis was designed starting from the admin logging in using the menu.

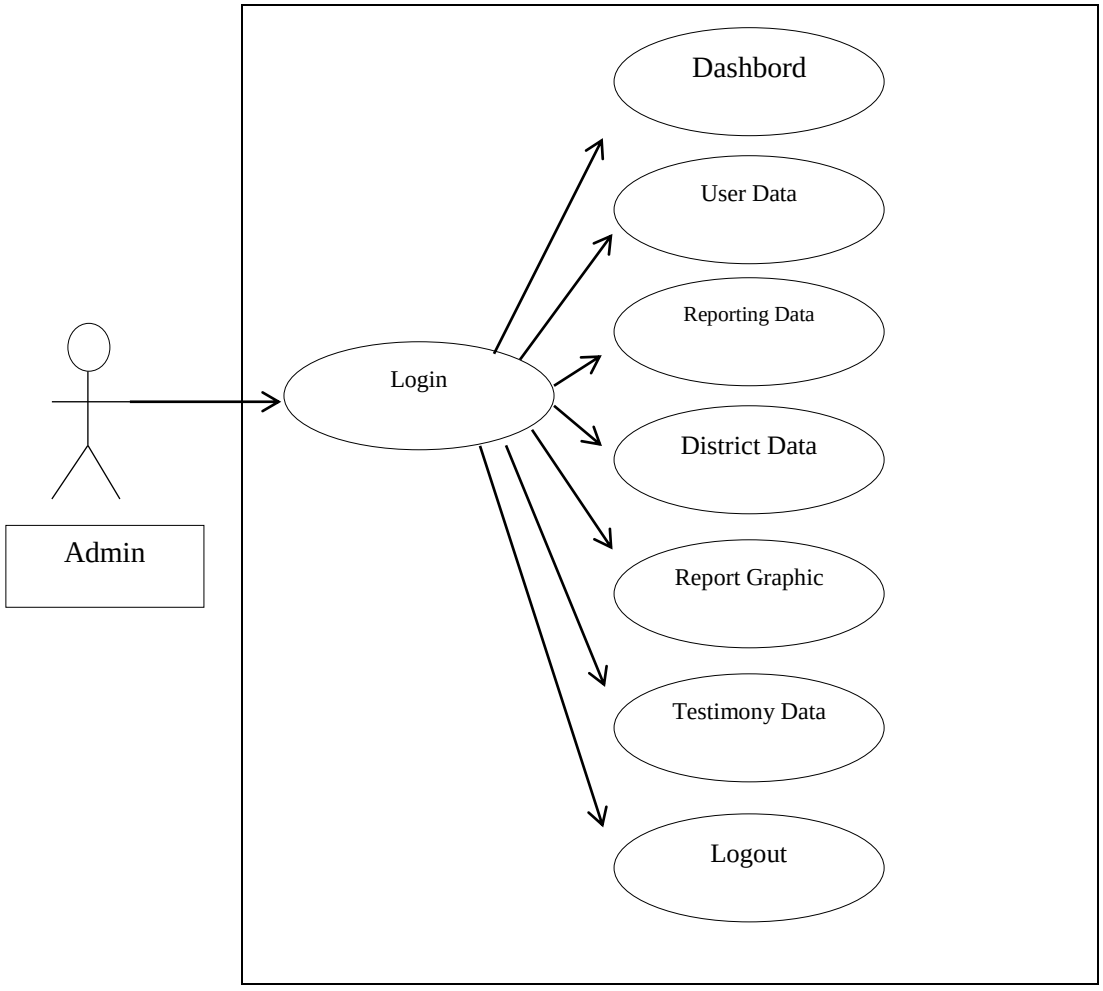

Figure 2. Usecase Diagram for Admin

b. Implemetation

Designing Interface
Designing Interface was the design for a software application that focused on the users' experience and interaction. The use of this interface design was used to make interactions with a computer through the interface on the computer screen.

The interface design of E-Complaint Technology for the Government of Bandar Lampung City was:

1. **Display the main page of the system**
   The user accessed the application page. The user was able to be directed to the main web page as it was shown on Figure 3 below:

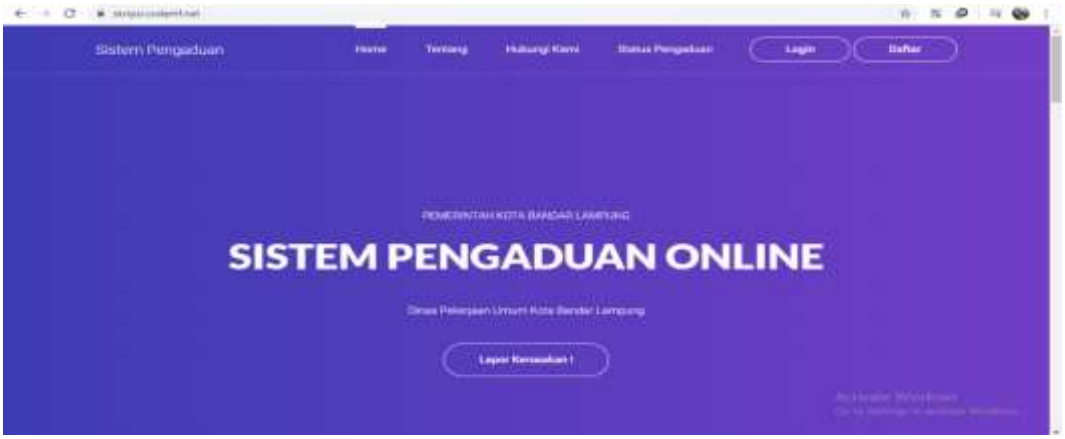

Figure 3. E-Complaint application homepage

2. **Display user registration menu**
   After accessing the system, the customers were required to register or register first by filling in their ID, full name, date of birth, address, religion, status, occupation, and creating a password in the column that had been provided then click submit, notification of my creation was able to appear successfully as it was shown below:

Figure 4. User registration page

3. **Main menu display on admin page**
   In this stage, the administrators had finished logging in on the login page. The users were able to be directed to the main admin dashboard page which containd menu tools e.g., the user data menu, report data, sub-district data, report charts, and testimonial data as it was shown below:

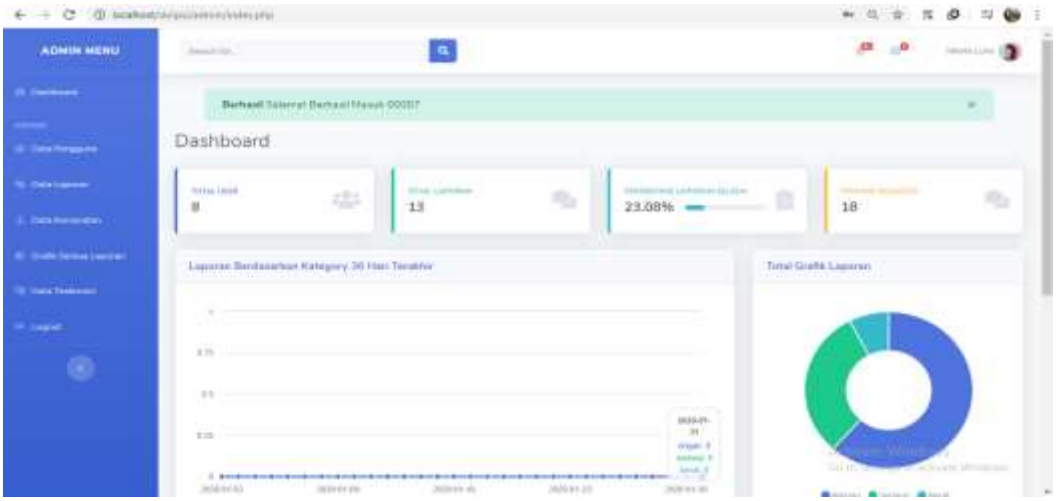

Figure 5. Main menu page on system for admin

4. **Report data page on the admin menu**
   In this stage, the system was able to load report data from users. The administrator was able to send the community report directly to the relevant team to do/disposing of the community report. In this menu, there was an attached image of the initial report and an image after being successfully followed up by related agencies.

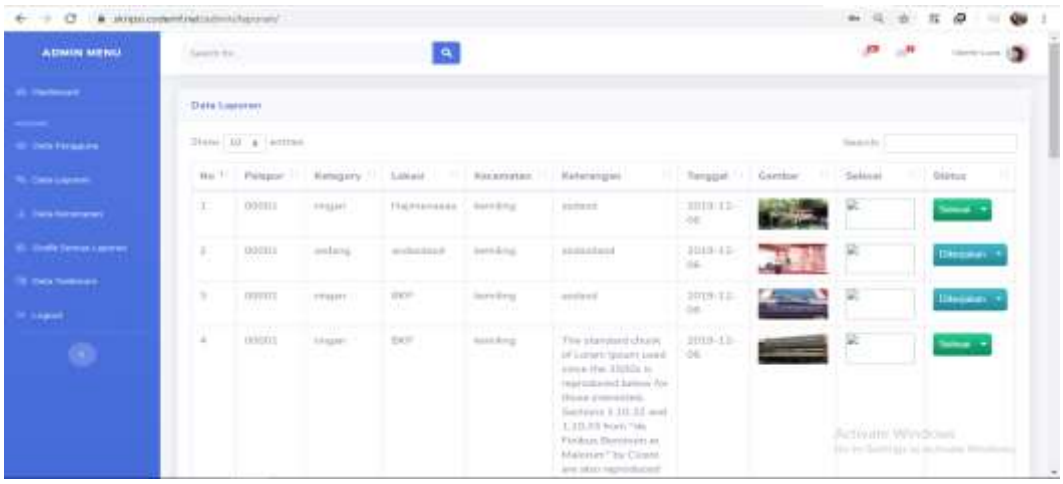

Figure 6. Report data page on the admin menu

5. **Report creation page in user menu**
   There was a Report menu as a main part the community seen on n the user page. It was able to provide a report related to all issues in the city of Bandar Lampung as it was shown below:

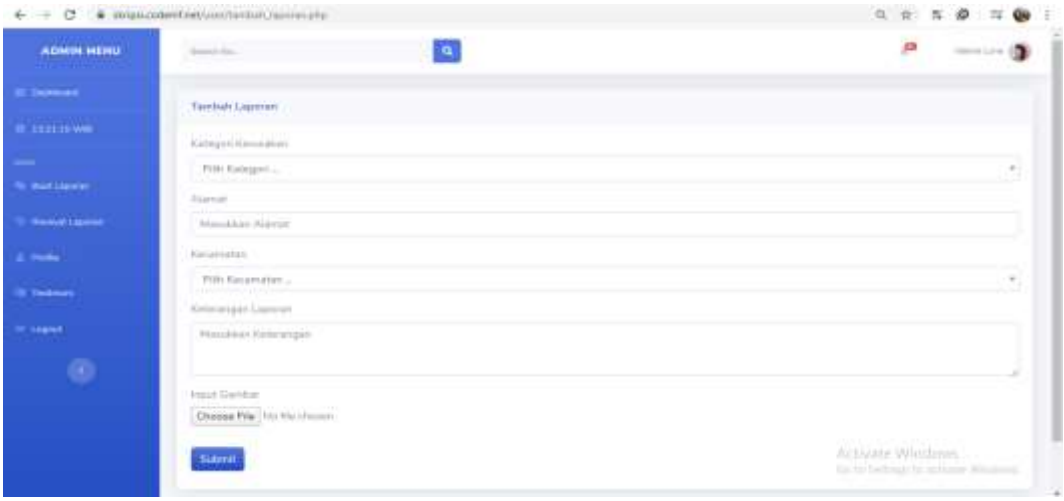

Figure 7. Report creation page in user menu

In this stage, the author tested it on the login page. The result of this test was seen on the table 1 below:

Table 1. Login test

No	*User*	Action	Note
1	Admin and User	• If the user entered the correct username and password • If the user entered an incorrect username and password	• The user was able to be directed to the main page automatically • The user was able to be directed back to the login page

Furthermore, the author tested it on the customer register page. The result of this test was seen on the table 2 below:

Tabel 2. Customer Register Testing

No	*User*	Tindakan	Keterangan
1	User	• If the user filled in the register form completely	• Users was able to be directed to the main login page and login automatically

The users were able to register the customer account in the E-Complaint Technology web system by filling in the registration form according to the format. Further, the users clicked the submit

button and the users were immediately directed to the customer dashboard page as it was shown below :

Figure 8. Register Page Testing

There was a report menu on the home page. It was a report generator form in the E-Complaint Technology web system. It was tested in its application as it was explained in the following table:

Table 3. Test Report menu

No	Device	Note
1	Asus X455LN Laptop	• Buttons run well and smoothly.
2	Android Xiaomi Redmi Note 4x Smartphone	• It worked well and smoothly.

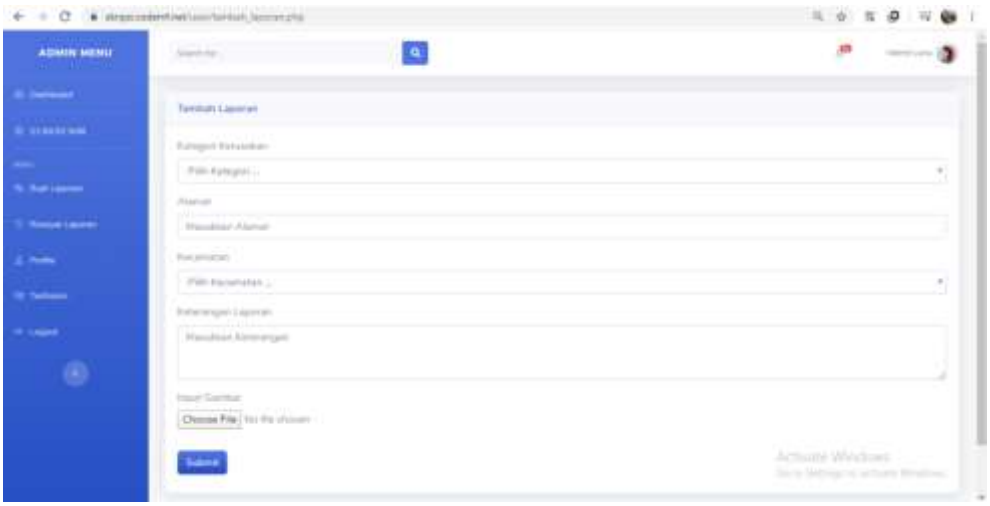

Figure 9. User report page on pc / laptop

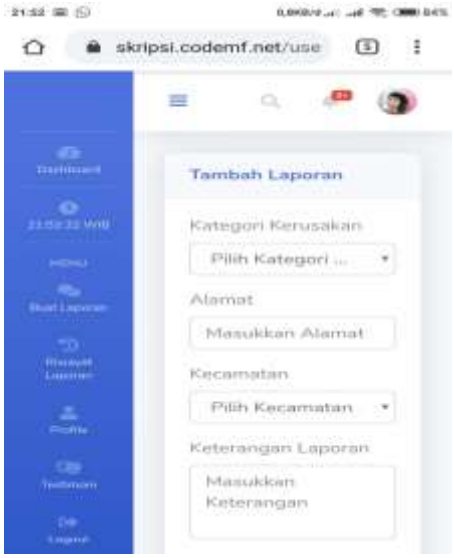

Figure 10. User report page on Android smartphone

5. CONCLUSION

From the results of this study, it was concluded that:

a. This E-Complaint Technology system is able to provide benefits and ease of fast service in solving problems of infrastructure damage and problematic public services
b. This E-Complaint Technology system is able to interact between the government and the public in an easy and integrated manner so that monitoring and public services are maintained.
c. Produce applications contained in Playstor so that people can use them as needed

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