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Android Based Porter Application on PT Jerindo Jaya Abadi

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Abstract - *In the era of globalization of information, there emerged an intelligent communication device, Smartphone. Smartphone users are very much in Indonesia, and this is a new lifestyle. The lifestyle of electronic life or abbreviated as e-life has become a habit for people in Indonesia. So that many things that affect the activities and activities with the e-life style, one of which is ordering a porter for the need to carry goods or deliver goods. The inhibition of the porter search process is certainly a problem for porter service users. In the process of searching the porter, it also takes a lot of time when the service user must come to the base. This porter application is an online ordering application for porters. This application was built to make it easier for porters with users to carry out transaction activities. In this study the authors used the SWOT analysis method, for the design using UML, and the SDLC development method. The application is built using an Android base so that it can be accessed anywhere and anytime. The hope, this porter application can help users in the process of finding porters, thus saving search time.*

Key Words: **Android, Aplication, Order, Porter, SWOT**

1. INTRODUCTION

Many human activities related to information systems. Not only in developed countries, in Indonesia, information systems have been applied everywhere; at the office, at the supermarket, to the airport and even at home when users chat with the internet or via cellphones. Whether realized or not, information systems have helped many people [1]. Along with the progress of the information system formed a new era in the world of information globalization. In the era of globalization of information, there emerged an intelligent communication device, Smartphone. Smartphone users are very much in Indonesia, and this is a new lifestyle. The lifestyle of electronic life or abbreviated as e-life has become a habit for people in Indonesia. So that many things that affect the activities and activities with the e-life style, one of which is ordering a porter for the need to carry goods or deliver goods. According to Rikky (2014) entitled "Ordering is a way for someone to place an order. Ordering is a process of action, how to order or order " [2]. Whereas according to Nurhalida (2015) "Ordering is the result of achievement 3 activity activities related to the flow of goods and services from producers to consumers" [3]. Based on an interview with one of the porters, the data obtained as below with the calculation of the average annual order is divided into months for one porter.

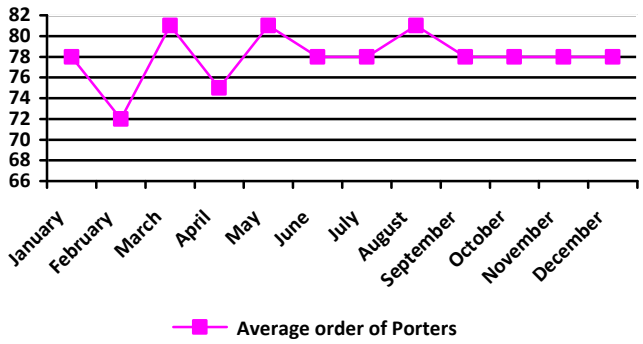

Chart - 1: Porter Order Data

For systems that are running at this time, customers are still ordering a manual porter by coming directly to the porter base, besides that there are other options, namely by waiting for the porter to offer his services to each customer, or by sending messages via WhatsApp or SMS to the porter number already a subscription. This is considered ineffective because if the porter is on holiday or is receiving other orders, the customer must find a new porter to send to the expedition or deliver the goods to another place. In the process of finding a porter, it certainly spends less time. From these problems, it requires an application that can make it easier for customers to order porters for the need to deliver ordered goods to the expedition or to the customer's vehicle, in addition customers can also determine the shipping place according to what they want.

1.1 Research Problems

Based on the description of the background described above:

1. How do you design a porter application that can bridge between customers and porters?
2. How to build a porter application so that customer goods can be delivered by the porter and recorded and monitored properly?
3. How is the process flow in ordering and getting the porter in accordance with the time you want?

1.2 Objectives and Benefits

In general, the purpose of research is to find, develop and prove knowledge. Whereas specifically the purpose of research is to find [4]. The expected goal of this research are:

1. Design a porter application that bridges customers with the porter itself.
2. Build a porter application that has been designed before.
3. Applications are expected to facilitate transactions between customers and porters.
4. Applications can help customers get porters as soon as needed.
5. Applications help porters in offering services they have.
6. With the application, the customer will not confuse finding porters.

And the benefits of this research are :

1. Can understand more about a system and can build applications or systems based on Android and gain experience and insights related to ordering porters.
2. Can use this application to facilitate the process of channeling their services
3. With this application, it is expected that the ordering process for porters can be easier, effective and efficient.

2. RESEARCH METHOD

In doing this research the authors take steps taken systematically so that what is desired can be achieved [5].

2.1 Android

According to Kasman (2013) "Android is a mobile phone operating system and touch screen tablet computer based on Linux. But along with its development, Android has turned into a platform that is so fast in innovating" [6]. Another definition according to Fitri (2014) "Android is a comprehensive open source platform and is designed for mobile devices. It is comprehensive because Android provides all the complete tools and frameworks for developing applications on a mobile device" [7].

2.2 SWOT

According to Siti (2016), analysis "SWOT is an analysis consisting of micro-environmental analysis that aims to determine the strengths and weaknesses of the company, and analysis of the macro environment that aims to determine opportunities and threats for the company" [8]. Another definition according to Prastiawan and Ranggadara (2018), "SWOT analysis is a strategic planning method used to evaluate strengths, weaknesses, opportunities, and threats in projects or business speculation" [9]. SWOT is a method that can be used to evaluate strengths, weaknesses, opportunities, and threats that are both from within and outside the company.

2.3 SDLC Waterfall

Sahara (2016) suggests that the waterfall model is often also called a linear (sequential linear) model or classic life cycle [10]. Whereas according to Dennis (2015) SDLC (systems development life cycle) Waterfall is an original structured design methodology that is still used today. With Waterfall-based development methodology, analysts and users continue sequentially from one phase to the next. This methodology is called the development of Waterfall because it moves forward from phase to phase in the same way as a waterfall [11]

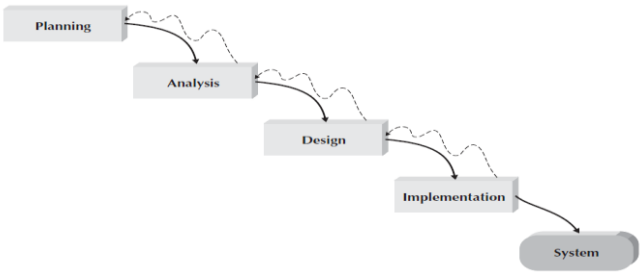

Fig - 1: SDLC Tipe Watterfall

1. Planning

Phase Planning is a fundamental process for understanding why a system must be built and determining how the project team will build it.

2. Analysis

During this phase, the project team analyzes the current system, identifies opportunities for improvement, and develops concepts for the new system.

3. Design

This phase decides how the system will operate, in terms of hardware, software, network infrastructure, user interfaces, forms, reports, program specifics, databases, and files that will be needed.

4. Implementation

The final phase in SDLC waterfall is the implementation phase, where the system is built. This is the phase that usually gets the most attention, because for most systems it is the single most expensive part of the development process.

3. EXISTING AND PROPOSED SYSTEM

3.1 Existing System

Fig - 2: Existing System

Explanation from the picture above:

1. Customers make transactions with porters.
2. Customers with porters agree with the transaction.
3. Porters deliver goods in accordance with the agreement.
4. The customer pays the porter after the goods have been delivered at the agreed price.

3.2 Problem Analysis

Identifying problems found in the current porter ordering activity, can be done by analyzing performance, information, economy, application security, and efficiency. From this analysis, there are usually several problems and finally, can find the main problem and some solutions to the problem. The SWOT analysis stage on the current porter ordering activity that will be used is by comparing the old system with the application that will be made.

	Existing	Proposed
Strengths	- Helping customer work. - The number of porters allows customers to choose.	- With the application, customers are made easier in ordering porters whenever they want. -Porters don't need to go around offering services.
Weakness	- Sometimes customers still have trouble getting a porter. - Searches that are still manual are time consuming.	- Streamlining the relationship between porters and users. - Minimize porter search time which is fairly long if by manual method.
Opportunities	- From the average data of the porter's order, it can be concluded that the porter is needed. - Creating jobs.	- Making porter needs reports easier. - With the details of the order in the application, it makes it easier for the porter to know the type of item he is going to transport.
Threats	Porters often fight over customers.	Porter is more organized in serving.

3.3 Proposed System

This application is an online porter ordering system that is needed. This android application allows end users to register in the application, select the type of porter order as needed with the android application. By using this application, the user is facilitated by not having to come to the porter's base. Another benefit is that porters do not need to offer their services just waiting for orders from the android application. The user is given a Username and Password to Login.

3.3.1 Use Case Diagram

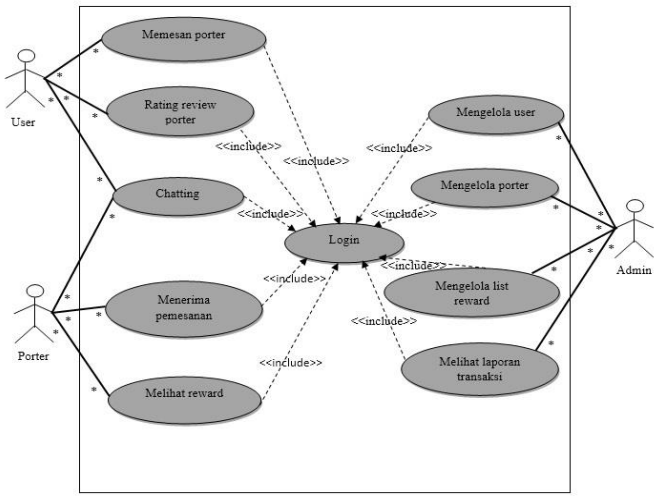

Fig - 3: Proposed Use Case

In the use case above, the actors are admin, user and porter. The tasks of each actor vary, and are included in the existing use case. But before being able to do the task there is an include that requires them to log into the system.

3.3.2 Activity Diagram

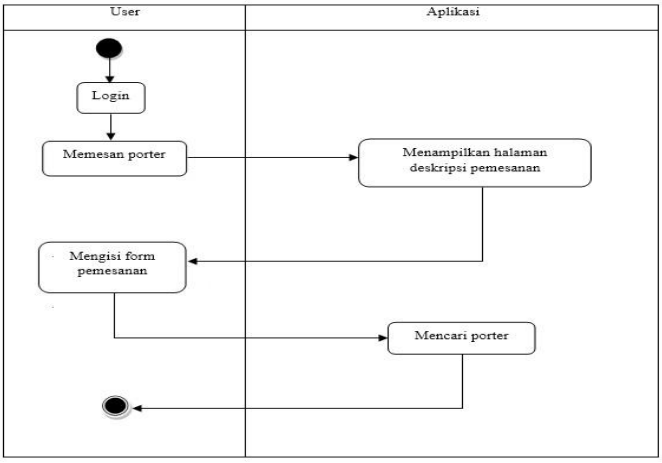

Fig - 4 Activity Diagram Order Porter

In the activity diagram above, the actor is the user. Where the user does the activity in the form of ordering a porter. After the user logs in to the application, the user fills out the order form. After completing and posting the search, the application will enter the order data into the list of transactions that are open, the porter will accept the order or leave it.

3.3.3 Sequence Diagram

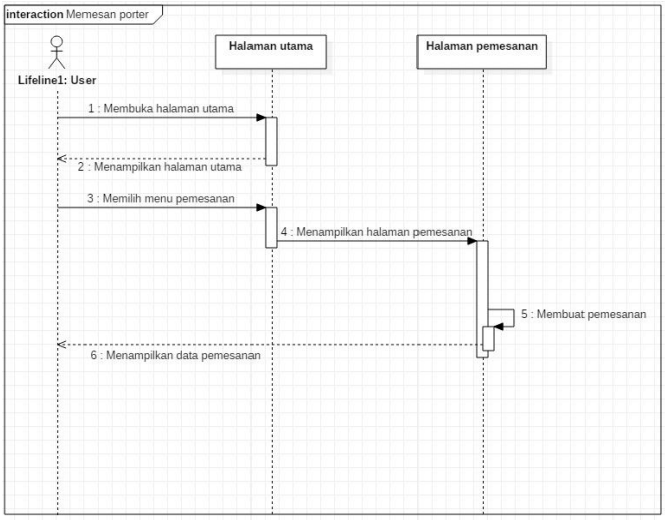

Fig - 5 Sequence Diagram Oerder Porter

The process for ordering a porter, the user accessing the application and opening the main page then selecting the order menu, then making the order. User waits for order to be confirmed.

3.3.4 Class Diagram

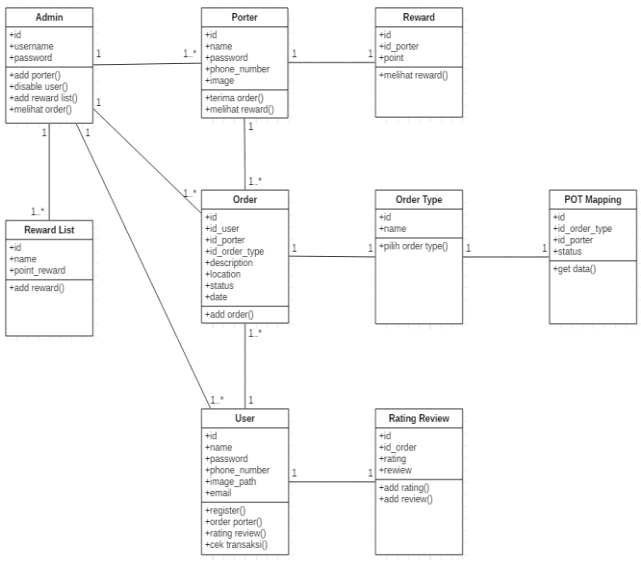

Fig - 6: Class Diagram

In the class diagram the diagram above shows the relationship between existing classes and the number of classes available.

4. IMPLEMENTATION

4.1 Android Application

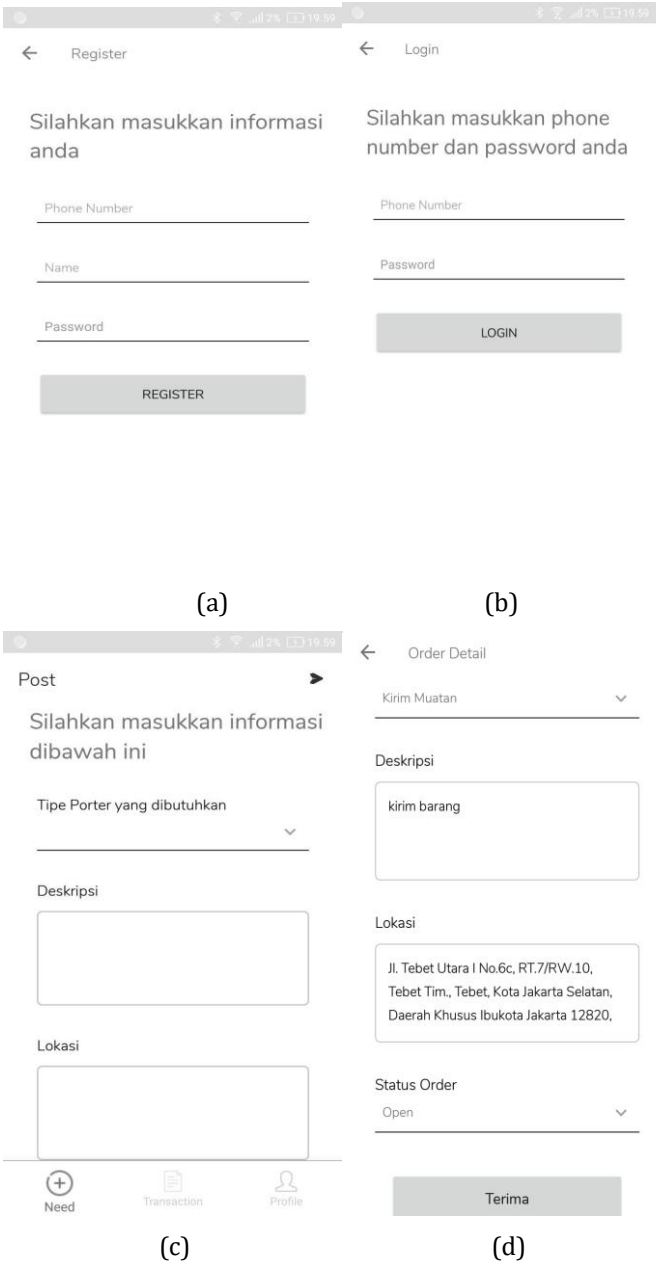

Fig - 7: Mobile Application Screenshots

(a) Register to have an account : Users register to get an account that can later be used to order porters

(b) Login an existing account : After registering the user is logged into the application using the account that has been registered

(c) Make an order to get porter : The user fills out the order form to get the porter

(d) Porter accept order : The porter accepts incoming orders from the user

4.2 Test Result

Based on the testing that has been done on this information system, it can be concluded that:

1. The testing process that has been carried out gives the output as expected.
2. The application business process runs in accordance with the design.
3. The application was successfully executed properly.

5. CONCLUSIONS

By implementing this Porter application, it can be concluded as follows:

1. This application bridges between user and porter so that both transactions become easier.
2. With this application, searching for porters no longer takes a lot of time where the user has to go to the base as before.
3. With the rating review and reward features for porters added, this application can increase the performance of the porter to work more optimally and better in handling orders.

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