

“Get Haircut” Application based on Mobile Android Using React Native Framework

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ABSTRACT

Salon or Barbershop is one of the businesses that engaged in services. At this time, hair care is one of the appearance factors that are often considered by both men and women. This is further strengthened by the increase in the salon or barbershop business in Cirebon. Every time the number of customers at the salon or barbershop is increasing and of course it creates problems, such as, regarding reservations (Booking) and also incoming transaction reports. From these problems, we need a system that can handle these problems. Get Haircut Application is an android-based application built using the React Native framework with the PHP programming language that can make it easier for salons or barbershops to receive orders from customers online. In addition, this application is able to process queue number data, service data and related data. This application is made using the Rational Unified Process (RUP) development method.

INTRODUCTION

The development of information and telecommunications technology is currently very fast along with the times. Everyone definitely needs a telecommunications tool that is super fast and sophisticated as is widely used by society in general[1] . This need is what makes mobile technology growing. Mobile devices such as mobile phones used to be only used for simple activities such as calling and sending short messages, a new generation of mobile devices called smartphones has changed the lifestyle of its users[2]. One of the most widely used smartphones today is an Android-based smartphone, where Android provides an open platform for developers to create their own applications[3]. In addition, the rapid development of information technology from year to year encourages every sector of the organization, both formal and informal or other institutions to be able to use it as a support for work activities so as to produce fast, precise and accurate information[4]. To achieve this, other supporting resources are needed, such as software that reliable capabilities and human resources who must master the capabilities of information technology itself. Cirebon City is an area located in West Java Province. This area has the majority of the population whose main livelihood is as fishermen and farmers. However, in the area there are also many other business sectors that are running quite well and become one of the livelihoods, namely the salon or barbershop business[5]. Both salons and barbershops are business sectors that provide public service facilities for hair, nails and skin health. This business is spread in all areas in the city of Cirebon. However, this effort had problems, namely when there were many visitors so that there were quite a lot of queues and they had to wait for a difficult time to be sure. Of course, this is a waste of time for visitors who come. In addition, the current pandemic conditions have prevented this business from operating and caused workers in this business sector to have no income[6]. Not only that, the uneven distribution of visitors has also resulted in some salon or barbershop businesses not going well and may even have to go out of business.

REVIEW OF LITERATURE

1 Application

Sugiar (2014:83), an application is a program created to carry out certain tasks required by computer users (users). Sutabri (2012:147), an application is an applied tool that functions specifically and is integrated according to its capabilities. From the two definitions above, it can be concluded that the application is a program created as an applied tool to carry out certain tasks required by the user (user).

2 Mobile Android

The word mobile has the meaning of moving or moving so that a mobile application according to Rangsang Purnama (2010) is an application that runs on a mobile device. One of the well-known mobile devices is Android. According to Nazruddin Safaat H (2012: 1), Android is an operating system for Linux-based mobile devices that includes an operating system, middleware and applications.

3 Framework

Framework is a set of scripts or basic functions that have been created so that developers do not need to create an application from scratch so that developers can shorten the time in terms of creating an application. In other words, a framework is a set of basic code or scripts that are made in such a way with the aim that developers can use the code or script efficiently in creating or developing an application.

4 Web Service

Web service is a software system designed to support interoperability and interaction between systems on a network (Predede, et al, 2013). Web services provide communication standards between different software applications, and can run on various platforms and frameworks (Hartono, et al, 2012). Web service is actually a collection of functions and methods contained on a server that can be called by clients remotely, then to call these methods we are free to use applications that will be made in any programming language that runs on any platform (Marthasari, 2010). Web service is used as a facility provided by a web to provide services (in the form of information) to other systems, so that other systems can interact with the system through the services provided by a system that provides web services (Predede, 2003). et al, 2013).

5 Unified Modelling Language (UML)

“Unified Modeling Language (UML) is a standard specification language used to document, specify and build software. UML is a methodology in developing object-oriented systems and is also a tool to support system development” (Windu and Grace, 2013).

According to Rosa A.S and M. Salahuddin UML consists of 13 types of diagrams which are grouped into 3 categories, namely:

- a. Structure diagram is a collection of diagrams used to describe a static structure of the system being modeled. Consists of: Class Diagrams, Object Diagrams, Component Diagrams, Composite Diagrams, Package Diagrams and Deployment Diagrams.
- b. Behavior diagram is a collection of diagrams used to describe the behavior of the system or a series of changes that occur in a system. Consists of: Use Case Diagrams, Activity Diagrams, State machine Diagrams.
- c. Interaction diagrams are a collection of diagrams used to describe the interaction of the system with other systems and the interaction between subsystems in a system. Consists of: Sequence Diagram, Communication Diagram, Timing Diagram, Interaction Overview Diagram.

In this study the author will only use 4 diagrams, namely Usecase Diagrams, Activity Diagrams, Sequence Diagrams, and Class Diagrams. The following is an explanation of the four diagrams.

METHODOLOGY

The research method in this research is to perform system analysis[7]. System analysis is the definition of a system into several parts with the aim of identifying a problem and evaluating it in order to obtain a system that meets the needs [8].

RESEARCH FINDINGS

Based on the data that has been obtained, then an analysis of the current system is carried out, the weaknesses of the current system, and the desired system analysis and system requirements analysis[9].

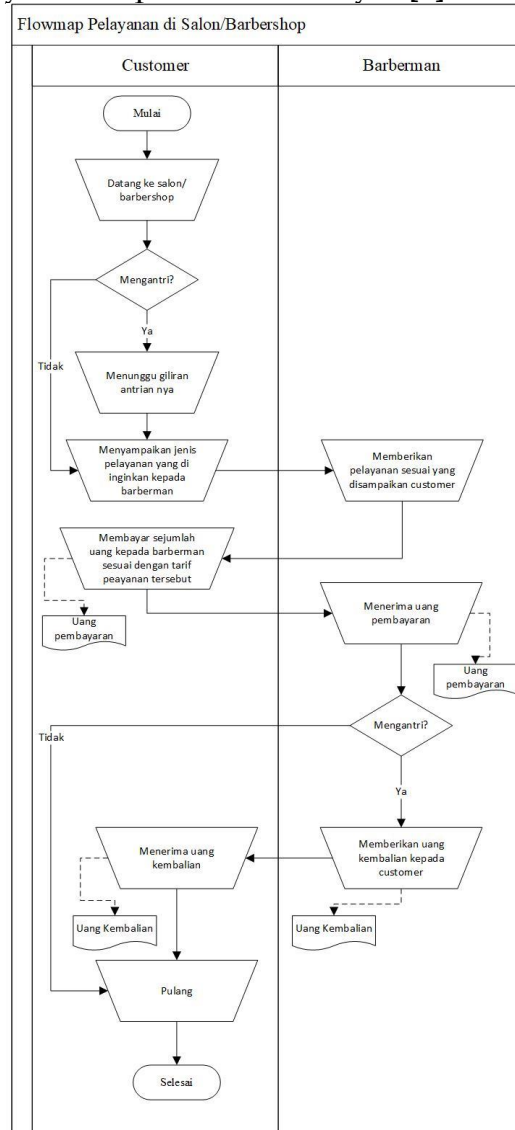


Figure. 1. Current System Flowmap

From Figure 1. The system that is running is the system that is being used so far, while the analysis of the ongoing system is the author's way of understanding the system that is running, if the author already understands about the system that is running, the author will think about what is needed to build a system which facilitates and helps the current system. One of the benefits of ongoing analysis is to define the functional requirements of the system and

find out what needs are needed by the user and the weaknesses of the current system[10]. The following are some of the weaknesses of the current system based on the analysis that has been done: (1) There is no queue number provided so there could be an error in the queue order. (2) There is no estimated time when it will be a turn for each customer (3) There is no SOP (Standard Operating Procedure) specifically for customers so that customers can suddenly add types of services which make queue times longer and unpredictable (4) The more customers who come, the more famous the salon/barbershop is, as a result, the longer the queue while there is no limit for the number of customers who come per time[11].

The next step is system requirements analysis. Needs analysis consists of: (1) Functional requirements analysis (2) Non-Functional Requirements Analysis. Functional requirements analysis An application is needed to reduce errors according to the results of the previous analysis[6]. Where the application has the following capabilities: (1) Displays the closest salon/barbershop to the customer's address (2) Provide related information such as queue number, estimated waiting time, tariffs to be paid, and others (3) Provide the fastest route and path from the customer's address to the salon/barbershop (4) The application is able to adapt and is personal to its users [12].

The design of this mobile application uses an object-oriented design using an object-oriented method approach. To assist the object-oriented system design process, 4 (four) diagrams are used, namely Use Case Diagrams, Activity Diagrams, Sequence Diagrams and Class Diagrams[13].

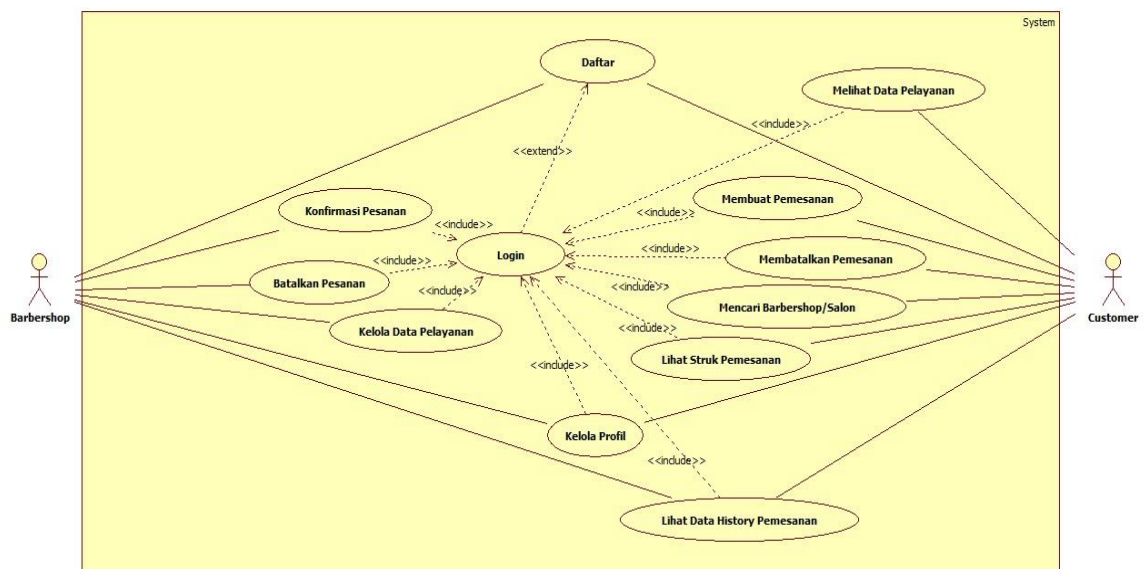


Figure. 2. Use Case Diagram

The use cases made in this study consist of: (1) Use Case Specifications List. (2) Use Case Specification Login. (3) Use Case Specification See Order History Data. (4) Use Case Specifications Manage Profiles. (5) Use Case Specification View Service Data. (6) Use Case Specifications Looking for a Barbershop/Salon[14]. (7) Use Case Specifications Make an Order. (8) Use Case

Specifications Cancel Order. (9) Use Case Specification See Order Receipt. (10) Use Case Specification Order Confirmation. (11) Use Case Specification Cancel Order and (12) Use Case Specification Manage Service Data[5].

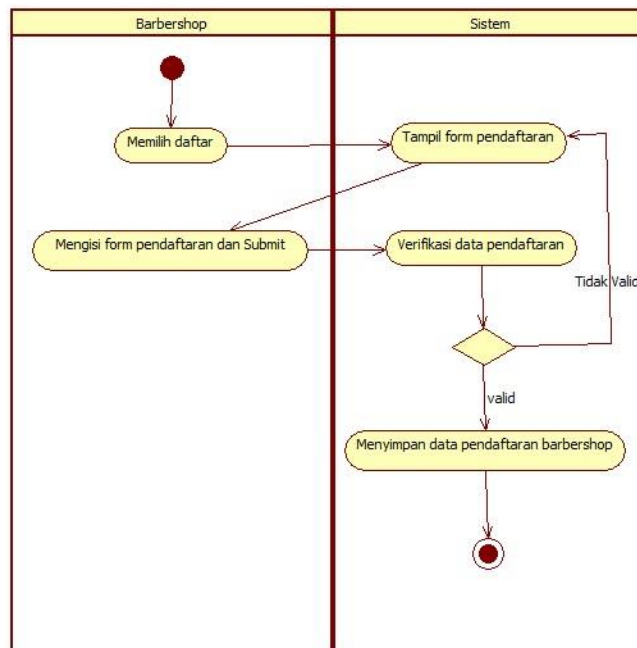


Figure. 3. Activity Diagram Registration

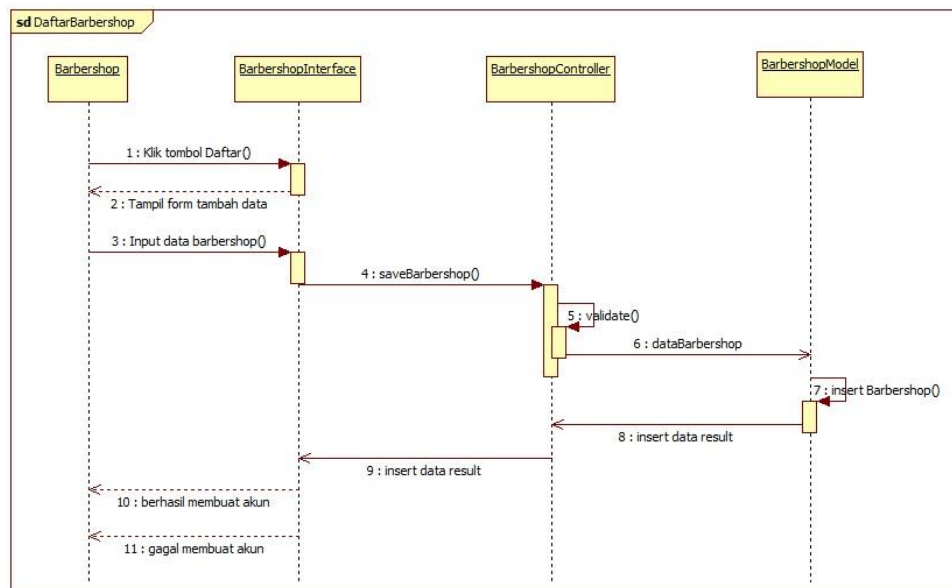


Figure. 4. Sequence Diagram Registration

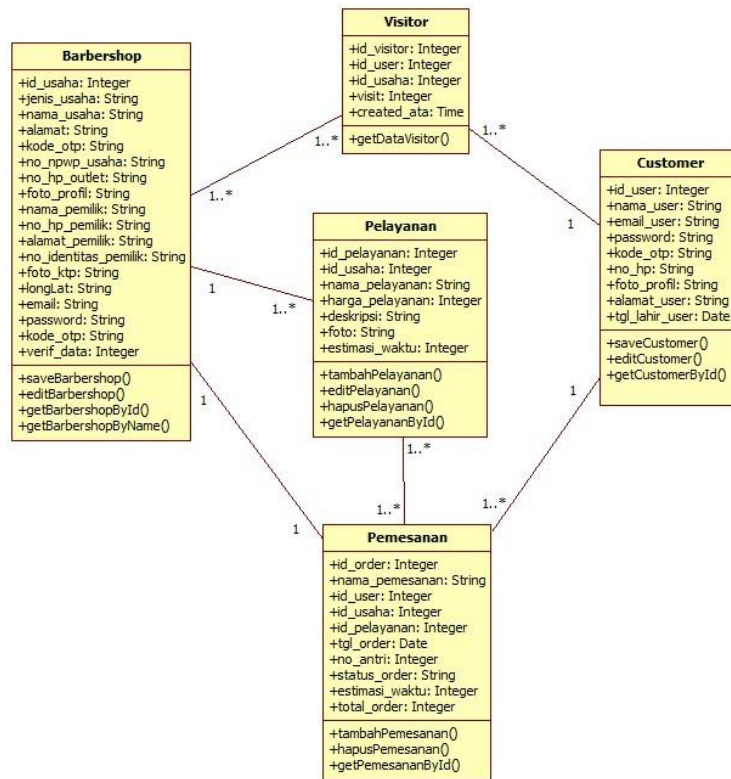


Figure. 5. Class Diagram

DISCUSSION

Next is the implementation part of this application. The following are instructions for using the get haircut application used by the Customer [15]. The first page is the page that first appears when the application is first opened (don't have an account and haven't logged in). The appearance is as depicted in figure 6 below:



Figure. 6. Application Loading

After clicking the "Start" button on the first page, the customer login page will appear. If you already have an account, then directly enter your email and password and then click the login button.



Figure. 7. Login Page Customer

If you have successfully logged in, the next page that will appear is the home menu page. The appearance of the application can be seen in figure 7.



Figure. 8. Home Menu Customer

CONCLUSION

Get haircut applications can be a medium that connects salons or barbershops with customers. It is hoped that this application can increase digital marketing and increase revenue for salons or barbershops who use this application. Customers who use this application also find it easy to find the desired salon or barbershop service.

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