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Application of Car Rental Service Applications in the City of Subussalam Based on Android

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ABSTRACT

With the design of a car rental service application based on Android, it makes it easier for consumers to make car reservations. Nowadays information media with technology support is needed, especially with Information technology is increasing modern, the easier it is for each company to exchange information. Technological developments can be felt with more and more website-based services that make it easier for parties companies and customers only connected to a computer network or internet media. In the past, information and communication was carried out Simply put, with the support of this modern information media a lot. The company's management system has been supported by a website-based application. The development and construction of a new system can improve the company's performance in the car rental or rental process, namely the new system which is supported and designed specifically for car rental process management. With Android smartphone media, customers don't have to bother coming directly, simply by connecting via a network connection the order can be accepted by the company. For employees, it can automatically register because it has been supported by computerized database media to present reports and data entry.

Keywords : Car Rental, Android Smartphone, Website

INTRODUCTION

In this day and age, there are still many companies that provide car rental that still use the manual method, resulting in consumers experiencing problems in renting a car, which must visit companies engaged in these fields. By designing an android-based car rental service application, it is easier for consumers to make car reservations. In this day and age, information media with technology support is needed, especially with increasingly modern information technology making it easier for each company to exchange information. Technological developments can be felt with more and more website-based services that make it easier for companies and customers to only connect to a computer network or internet media. In the past, information and communication was done simply.

There are still many companies that have not utilized Android-based information technology. One of the companies engaged in business that has not utilized technology based on Android mobile phone devices is a company engaged in car rental. The existing rental system is still done manually where the system mechanism that runs is quite difficult for the company in particular

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employees of the company. In the case of the car ordering process, the order data is recorded on the invoice media and then the data is stored in an archive which is vulnerable to data loss or fraud by irresponsible parties.

The development and construction of a new system can improve the company's performance in the car rental or rental process, namely a new system that is supported and specifically designed for car rental process management. With Android mobile phone media, customers don't have to bother coming directly, just by connecting via a network connection, orders can be accepted by the company. Employees can record data automatically because it has been supported by a computerized database media to present reports and data entry.

METHODS

Mobile Application

The word mobile has the meaning of moving or moving. So that we get an understanding that a mobile application is an application that can be run even if the user moves or because the user moves. Mobile application programming is not much different from conventional programming on a PC. Characteristic aspects of mobile devices often affect the architecture and implementation of these applications. In mobile application programming, various technical aspects of the device are more prominent because it has many limitations compared to conventional computers or PCs. (Sesaria Kiki Tamara, Indriyati, Nurdin Bahtiar ; No. 6, Vol. 3 ; 2011: 34).

Android

Android is an operating system embedded in gadgets, be it mobile phones, tablets, also now has penetrated into digital cameras and watches. Currently, Android-based gadgets, be it tablets or mobile phones, are very popular. In addition to the increasingly affordable price, it also fits your needs and pockets. (Wahadyo, 2013)

Android is an operating system that contains middleware and basic applications. The base of the Android operating system is the Linux 2.6 kernel which has been updated for mobile devices. Develop android applications using the Java programming language. Which Java programming concepts are related to Object-Based Programming (PBO). In addition, the development of Android applications requires a software development kit (SDK) provided by Android, this SDK provides a way for programmers to access the application programming interface (API) on Android. (Muharom et al, 2013)

Car rental

Car rental is one of the profitable businesses and is closely related to services because with too many vehicle models, one can open a car rental business. This business also helps people who need car rental services for various purposes. The full moon rental car company is one of the car rental companies and in rental car rental activities that prioritize service to its customers. In order to give priority to service to its customers, the accuracy of the information and the ease of obtaining information about vehicle data is a necessity for car rental companies to be able to show the efficiency and effectiveness of their business. Therefore, the Management should be sensitive to all components of vehicle data information into accurate information. (Cahyono, 2014)

Car rental is a business that offers car rental services to parties in need, both individuals and companies. Renters are not responsible for car maintenance, but car rental owners are very important in maintaining the condition of the car because the key to successful car rental is to keep car maintenance costs lower. car rental company or party.Another advantage, people do not have to bother to buy a car. (Abdullah and Erliana, 2013)

Research Stages

Broadly speaking, the stages of the whole research are as follows:

1. Describing the Problem

Describing the problem clearly will help in designing and making an Android-based car rental service application that will be studied must be described first, because without being able to describe the problem, determine and define the boundaries of the problem to be studied, there will never be the best solution to the problem. . So this step is the most important first step in this research.

2. Problem Analysis
   The problem analysis step is a step to understand the problem that has been determined by its scope or limitations. By analyzing the problem that has been determined, it is hoped that the problem can be understood properly.
3. Setting Goals
   Based on the understanding of the problem from the problem, the objectives to be achieved in this study were determined. In this goal, targets to be achieved are determined, especially those that can overcome existing problems.
4. Studying the Literature Related to the Title
   To achieve this goal, several literatures are estimated to be used. Then the literatures studied are selected to determine which literatures will be used in this study.
5. Data collection
   The data needed is data that is in the car rental place in the city of Subussalam where the data taken is manual data.
6. System Analysis
   System analysis is very important to do, because here the author is required to know the weaknesses of the system, obstacles, constraints and opportunities that cannot be achieved by the current system in order to find alternative solutions to the problem.
7. System planning
   Users will make car rental reservations using an android-based car rental booking application.
8. Program Structure
   Program Structure Design is a design that describes the relationship between a program module and other programs.
9. Program Results
   In the implementation of this tool, it will be explained about the design of an Android-based car rental service application.

Data analysis

Data analysis in this study with descriptive analysis. According to Selltiz et al (1976) Analyzing the result of descriptive study, the process of analysis includes: coding the interview replace, observation and tabulating the data, which means that the descriptive analysis process includes providing interview answer codes, observation and tabulation of data.

Data Collection and Data Analysis Techniques

1. Study Literature, which is to collect and study previous studies and journals related to the simulation of the design and construction of an Android-based car rental service application
2. Observation, namely observing the running system, observing the variables and their development. Furthermore, the data that has been obtained is analyzed and then concluded the level of accuracy to determine the final result of the application

System Design

The following use case diagram describes the activities of actors or application users.
*use case*The designed application diagram can be seen in Figure 1.

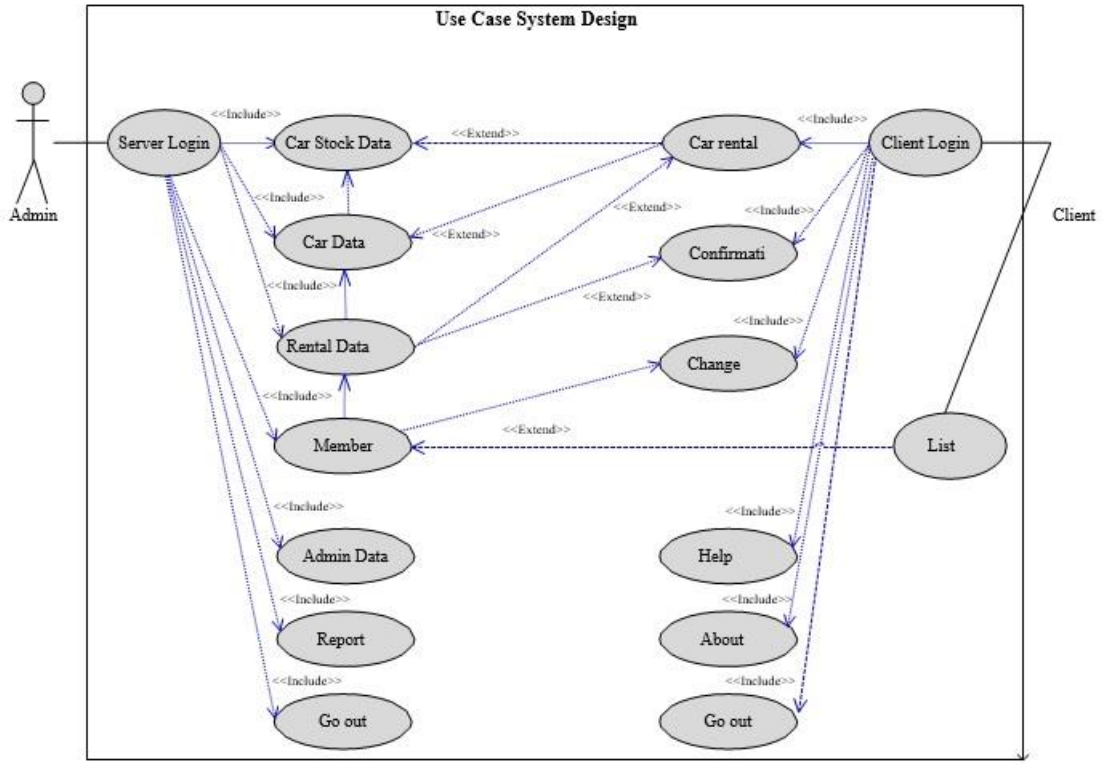


Figure 1. Use Case Diagram of the Designed System

The description of the Use Case Diagram above is:

1. To be able to access and place an order for a car, the customer must first become a member. After registering the customer can place an order by looking at the car data and the existing car stock.
2. As an administrator, the admin inputs data and checks car rental orders, the data input is admin data, member data, car data, and car stock data. All results of data processing, the leadership receives reports on admin data, member data, car rental data as the person in charge of all system mechanisms.

RESULTS AND DISCUSSION

The results of the system created are car rental applications based on Android mobile phones with client server access support so that data can be centralized and easily managed by companies that use them. The system created serves to provide information with the appearance and design of the application design for Android users, the admin application is a Desktop application with functions that can add and update car data, provide information that can be updated directly so that it presents good data.

Main Menu Display

The main menu display is the start page that will appear when the program is run. On this page as administrator. Main Menu display can be seen in Figure 2 below.

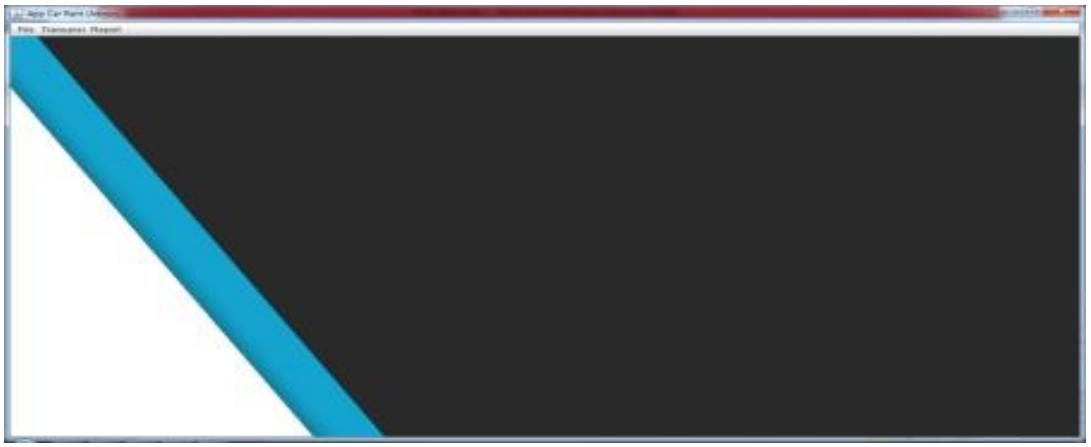


Figure 2. Main Menu Page

Admin Data Form

This page displays the design of the admin data form which functions to manage admin data. Such as adding new data, changing data or deleting admin data, which can be seen in Figure 2.

Figure 3. Design of Admin Data Form

Data Unit Form

This page displays the design of the Unit data form which functions to manage Unit data. Such as adding new data, changing data or deleting Unit data, which can be seen in Figure 3.

Figure 3. Data Unit Form Design

***Form*Rental Data**

This page displays the design of the rental data form that functions to manage rental data. Such as adding new data, changing data or deleting tenant data, which can be seen in Figure 4.

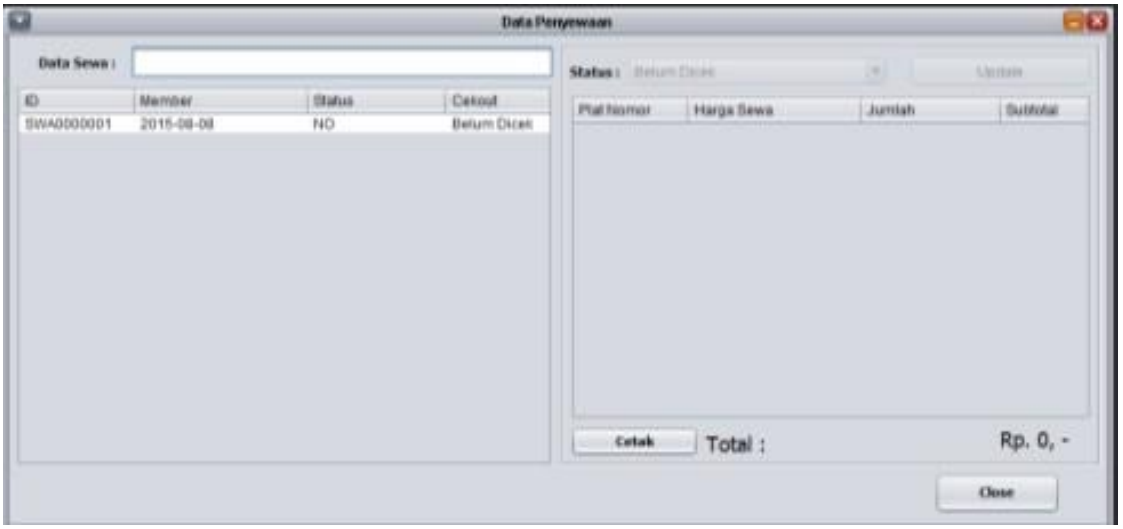
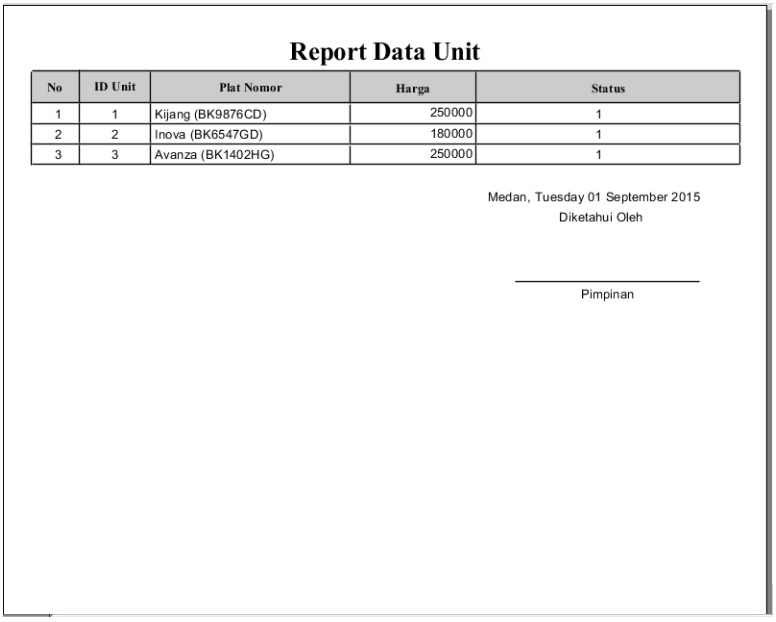


Figure 4. Rental Data Form Design

***Report Form*Data Unit**

This page displays the design of the data unit report form which functions to display unit data, which can be seen in Figure 5



Report Data Unit

No	ID Unit	Plat Nomor	Harga	Status
1	1	Kijang (BK9876CD)	250000	1
2	2	Inova (BK6547GD)	180000	1
3	3	Avanza (BK1402HG)	250000	1

Medan, Tuesday 01 September 2015
Diketahui Oleh

Pimpinan

Figure 5. Design of Data Unit Report Form

Client Screen Design

This design displays a client page that runs on an Android mobile phone application. Here are some of the designs that were made

Member Login

This page functions as an identification of user access rights, which can be seen in Figure 6 below:

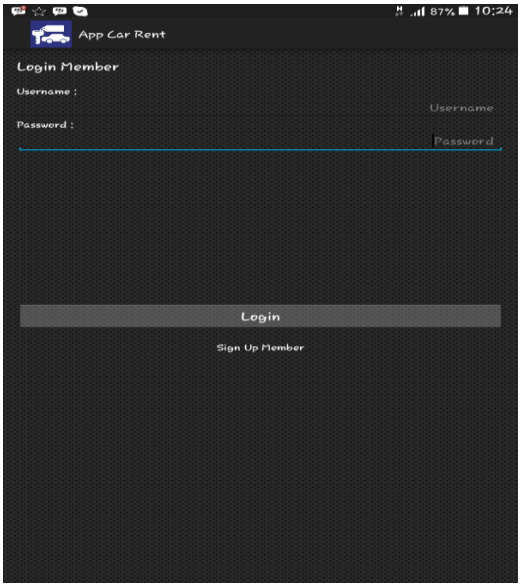


Figure 6. Member Login Form Design

Menu Form Ready Car Unit

This page functions as a car unit menu display in the client application, which can be seen in Figure 7 below:

Figure 7. Design of Ready Car Unit Menu Form

In Figure 7 above is a display available for members, this display is a display of some of the vehicles that are rented out at the listed rental prices.

***Menu Form*Transaction**

This page functions as a rental transaction menu display on the client application, which can be

seen in Figure 8.

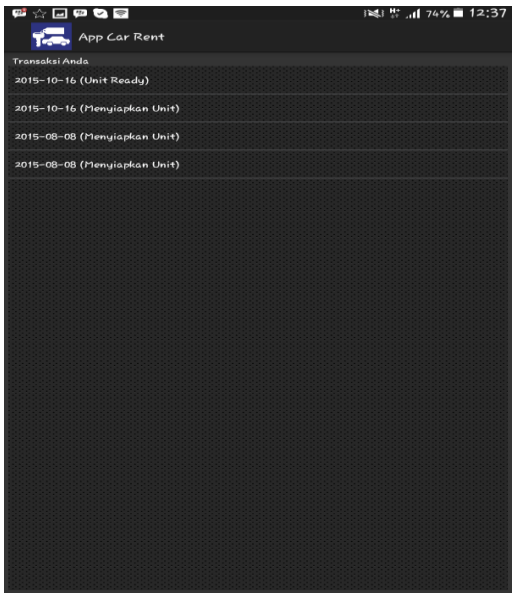


Figure 8. Transaction Menu Form Design

Blackbox Testing

In the following explanation, it is the stage where a test scenario will be carried out on the system that has been built. The system testing scenario that is carried out is by using a system testing method in the form of blackbox testing. Blackbox testing (blackbox testing) is one of the software testing methods that focuses on the functionality side, especially on application input and output (whether it is in accordance with what is expected or not). The testing or testing phase is one of the stages that must exist in a software development cycle (in addition to the design or design phase). The following is a system test using the blackbox testing method which is presented in the blackbox testing table as shown in table 1 below:

Table 1. Black Box Testing Results

No	Testing Scenario	Test Case	Expected results	Test result	Conclusion
1	Open Page Begi nningApplicatio n by logging in	*Loading login*	The application processes the Loading Form login and goes to Go to Main Menu	As expected	Success
2	To dobooking	*View*vehic le stock	Place an order by selecting a car to be rented	As expected	Success
3	Payment transactions	*View* transaction	The application can display transactions that have occurred so that clients can see transaction activities that have occurred conducted	As expected	Success

CONCLUSION

The following is a conclusion from the application that has been built and can be used. The conclusion is a summary of all the results of research that has been carried out by the author, some conclusions that are useful in the future for development and input for readers and writers themselves. The conclusions obtained from this study can be explained as follows: Java programming can be implemented in various forms of system support, this research produces an Android-based desktop and mobile phone application, with access to a Microsoft SQL Server database, Netbeans editor and Eclipse for Android application development. By adjusting the needs and objectives of the system, it can be concluded that computerized development that produces centralized, computer-based data, and is supported by Android mobile phone applications can be an alternative as a media for renting and presenting data and information that is better than the previous system. System development in an agency or company to produce a new system that is better, requires adjustments with the support of information technology that is currently growing. From the results of the application made, the user / member or customer can access the Android mobile phone service. By presenting available product information, as well as existing car stock and rental price information, as well as several other features that are quite easy for users.

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