

Video Conference Rental Business Application Design At Pt. Alfa Copies Android-Based Virtual Technology

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ABSTRACT

The purpose of this research is to determine the process of managing device rental data, tenant profiles, tenant transactions, device rental dates, payments, tenant data reports, product and price reports, sales transaction reports, bill payment reports at PT. Alfa Cipta Virtual Technology. The method used to process this activity is a qualitative method (System Life Cycle (SDLC)), namely to design, build, maintain and develop a system. After the author designs, builds and develops a device rental system, finally the author can draw the conclusion that management The device rental business becomes more dynamic and simpler so that it can improve sales and admin sales performance. Making sales transaction reports and tenant data reports is much faster because management can be accessed via an application on a smartphone.

Keywords: Android Application, Video Conferencing, Service Rental, PT. Alfa Cipta TeknologiVirtual

INTRODUCTION

In today's world, it is very important for people to be able to talk to each other easily and quickly using technology. One important technology for this is video conferencing, where you can see and talk to someone remotely through a screen. PT. Alfa Cipta TeknologiVirtual is a company that wants to help by providing video conferencing services that work on Android devices. Because, more and more people need to meet with other people who are far away. By utilizing internet technology, virtual conference rental business activities can be implemented to maximize the utilization of existing resources. This research aims to design an Android-based video conference rental business application that can make it easier for users to rent and use video conference services (Nurrachman, 2021).

To realize this goal, several online collaboration applications such as Google Meet and Zoom are used which can facilitate virtual communication and teamwork. These applications offer a video call feature with a capacity of up to 100 participants, as well as good video display quality (Urrohmah, 2022). On the other hand, chat applications such as WhatsApp can also be used for more personal and effective team communication, even though they are limited in the number of participants (Anagusti et al., 2023). Apart from that, the use of digital media in marketing communications can also help transform MSME businesses, as is done by Omah Ecoprint. Through the use of digital technology, organizations can increase effectiveness and productivity at work. Thus, the combination of video conferencing services and digital marketing communications is expected to be a solution for PT. Alfa Cipta Teknologi in developing a virtual conference rental business.

In this research, a virtual video conference rental application was designed by considering various factors, such as ease of use, security, and efficiency. This application utilizes virtual reality technology to provide users with a virtual travel experience. Apart from that, this application is also equipped with an electronic payment feature,

making rental transactions easier (Rabihi Awaludin, 2021). In designing this application, the Apostolico algorithm was used to speed up the process of searching and ordering virtual conference tickets. Apart from that, this application also uses augmented reality features to visualize virtual objects related to conferences such as conference rooms and equipment used. With this application, it is hoped that it can help companies maximize the rental of virtual conference services and can increase user satisfaction by providing new experiences in accessing virtual conference services.

PT Alfa Cipta Teknologi Virtual (ACTiV) is a company engaged in the sales and rental of goods and services, including software, hardware and other supporting accessories, which focuses on ICT (Information Communication Technology) and Education solution products. This company has resources with more than 10 years of experience in the ICT field and has an official partnership for rentals with multinational ICT brands to be able to provide the best solutions to customers. This company still has shortcomings, namely the ineffectiveness of the video conference rental system which is still typed manually using the Microsoft Excel application, which sometimes causes errors in recording data. This company still has shortcomings, namely the ineffectiveness of the video conference rental system which is still typed manually using the Microsoft Excel application, which sometimes causes errors in recording data. Therefore, a digital-based video conference rental system is needed to overcome this problem. This system is expected to make it easier for customers to make orders and payments online, as well as increasing efficiency and productivity for the company.

METHOD

In this research, the research method used is a qualitative method. The purpose of using qualitative methods is to understand and describe the character of the source in depth. The qualitative method is based on interviews or in-depth observation of the research subject. (Sugiyono, 2014) "Qualitative research methods are research methods based on the philosophy of positivism, used to research natural object conditions (as opposed to experiments) where the researcher is the key instrument, sampling data sources is carried out purposively and snowballing. The collection technique is triangulation (combination), data analysis is inductive/qualitative and the results of qualitative research emphasize meaning rather than generalization."

Method of collecting data

1. Observation

Observation is research carried out using direct observation of objects. Observations are carried out in order to find out directly about the procedures that are currently running and the problems that often arise related to rentals. In this research, researchers observed what information technology is suitable for rental flows. By making observations, researchers can understand how information technology is used in the rental process and how problems that arise can be overcome by using appropriate information technology.

2. Interview

The interview is a direct question and answer process, the researcher asks directly to interested parties, namely the leadership at PT. Alfa Cipta Teknologi Virtual and several employees to obtain primary data regarding objects used as research material. The results of the interview obtained were about PT. Alfa Cipta Virtual Technology which contains an overview and organizational structure, the rental data processing process that is currently running.

3. Documentation

Data collection technology is very simple, especially for those who are interested in penalization by preparing documents to identify objects in penalization.

System Development Steps

In system development, the author uses the waterfall SDLC (System Development Life Cycle) method. Waterfall is system development, which is the process of developing or changing a software system using methods or models that can be used by other people in developing software systems (Definisi dan Tahap-tahap Pelaksanaannya. (n.d)., n.d.)

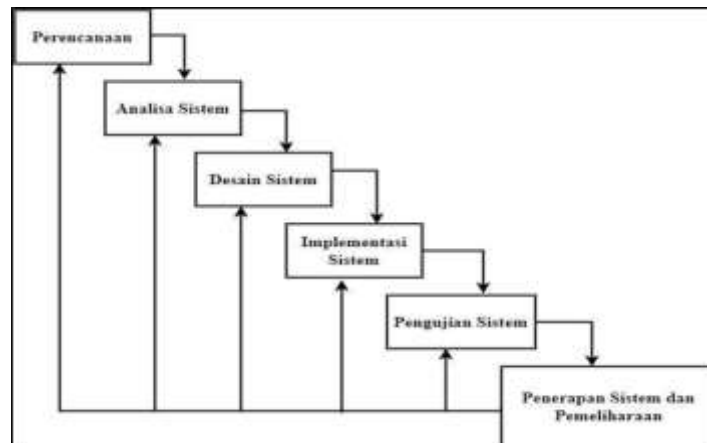


Figure 1. Waterfall method

The waterfall method in Figure 1. in developing this system is as follows:

1. Planning

The initial stage in making plans related to information systems projects. With planning, system development will be carried out in a sustainable manner, and the results of system creation will be on target.

2. System Analysis

This is the stage for carrying out the process of analyzing system requirements that will be created from users through observations and interviews so that the proposed system will be in accordance with user needs both in terms of design and process flow.

3. System Design

The requirements specifications from the previous phase will be studied in this phase and a system design is prepared. System design helps in determining hardware and system requirements and also helps in defining the overall system architecture.

4. System Implementation

In this stage, the system is first developed in small programs called units, which are integrated in subsequent stages. Each unit is developed and tested for functionality which is referred to as unit testing.

5. System Testing

All units developed in the implementation phase are integrated into the system after testing carried out by each unit. After integration, the entire system is tested to check for any failures or errors.

6. Program Implementation and Maintenance

The process of running a system that has been created from a logic system implemented in a structured application system (program) can provide the user with an idea of how to run the program so that it can produce the required data and undergo changes according to periodic requests.

RESULTS AND DISCUSSION

Use Case Diagram

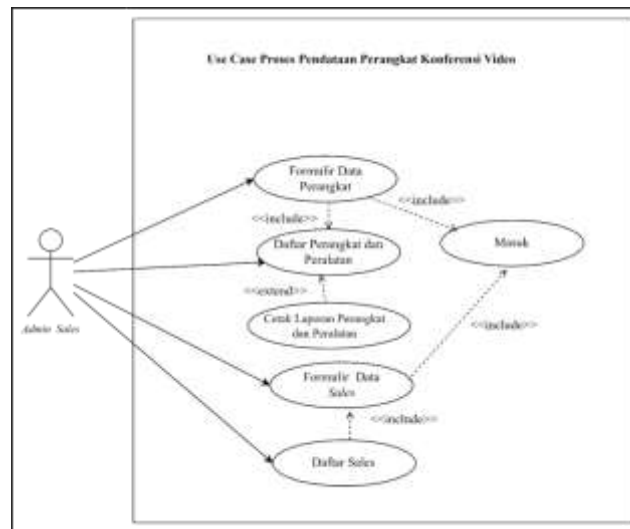


Figure 2. Use Case for Video Conferencing Device Data Collection

An interaction between one or more actors and the system being created. Use case diagrams are used to find out what functions exist in a system and who has the right to access them.

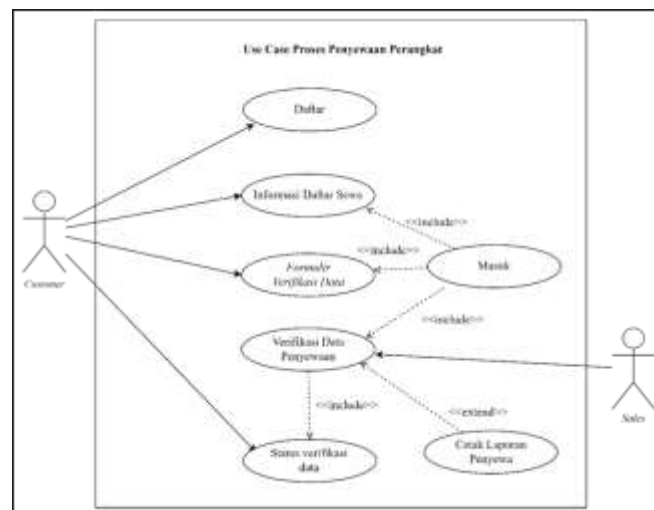


Figure 3. Use case Video Conferencing Equipment Rental Process

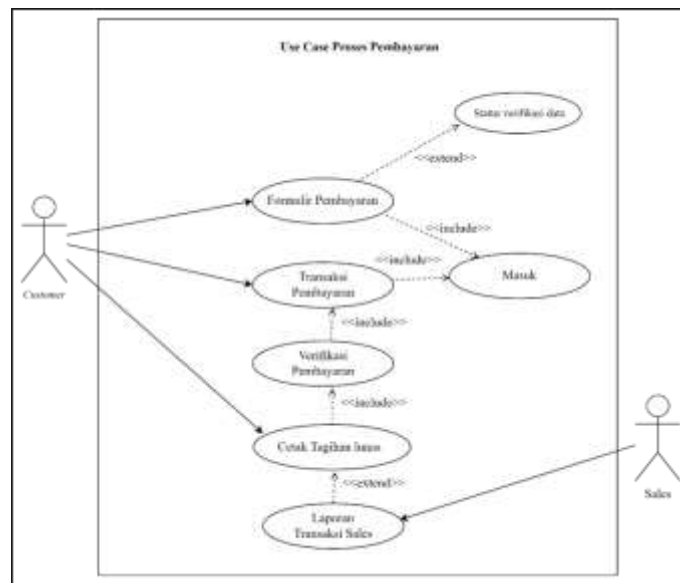


Figure 3. Use case Video Conferencing Equipment Rental Process

Activity Diagram

Activity Diagram is a description of the work flow or activities of a system or business process. The following is the proposed Activity Diagram of the system to be created and can be seen in the image below.

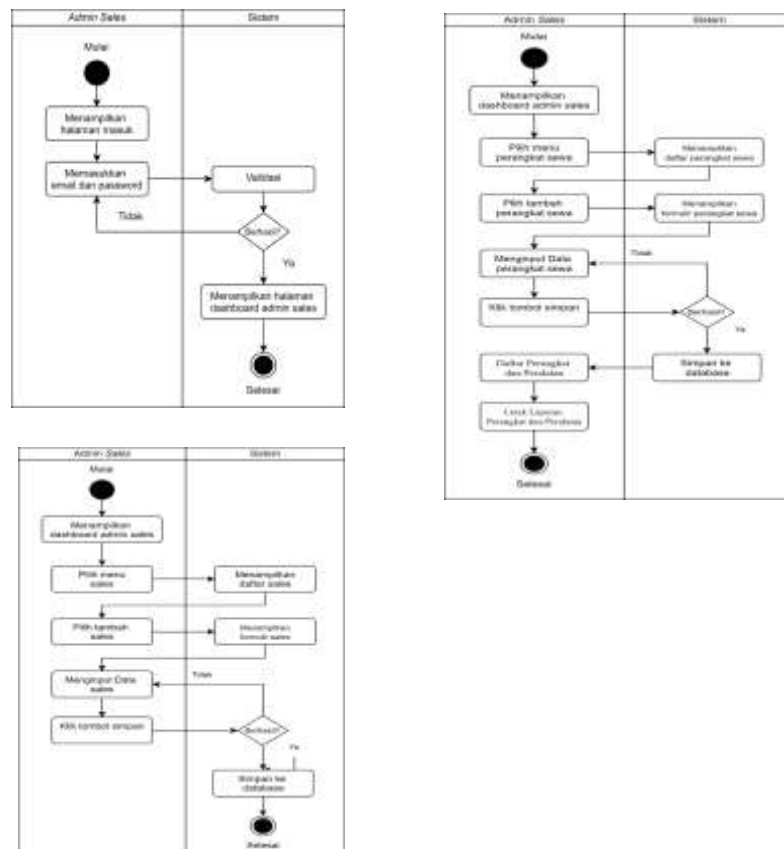


Figure 5. Activity diagram

Class Diagram

A class diagram is a diagram that is used to display several classes and packages in the system/software that we are using. Class diagrams give us an overview (static diagram) of the system/software and the relationships within it.

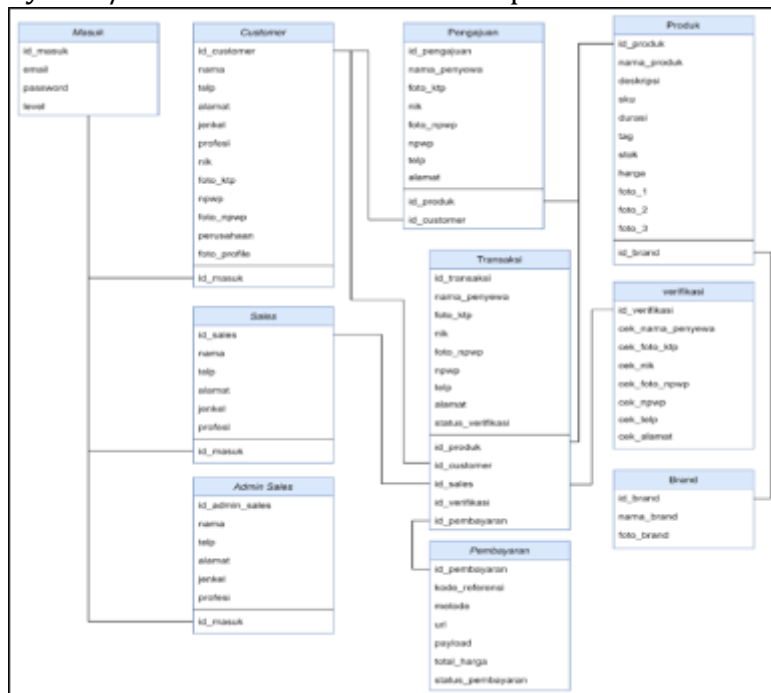


Figure 6. Class diagram

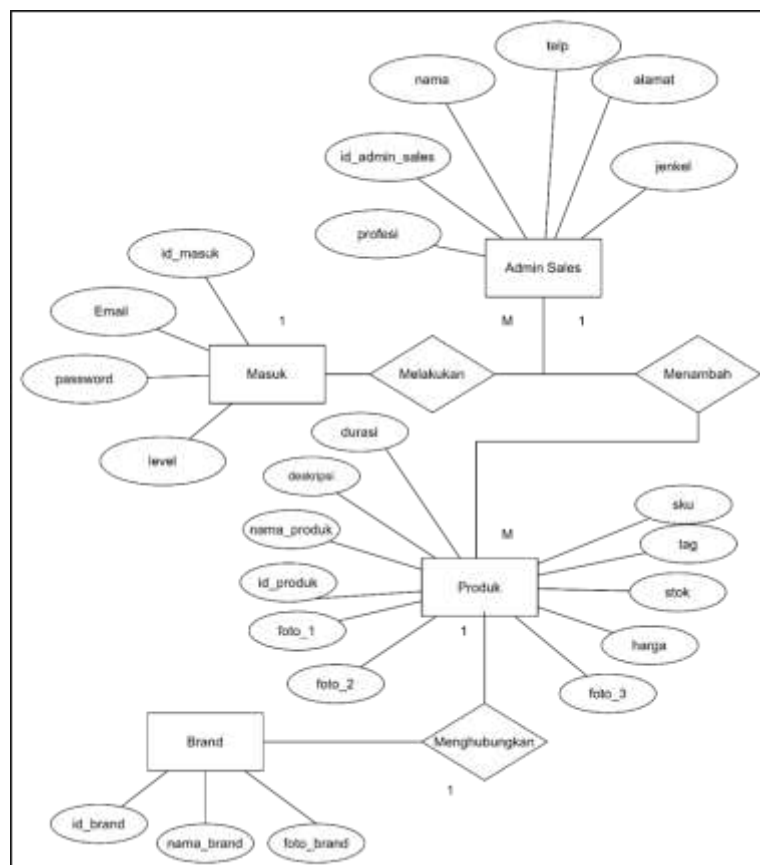


Figure 7. ERD (Entity Relationship Diagram)

Screen Display and Explanation

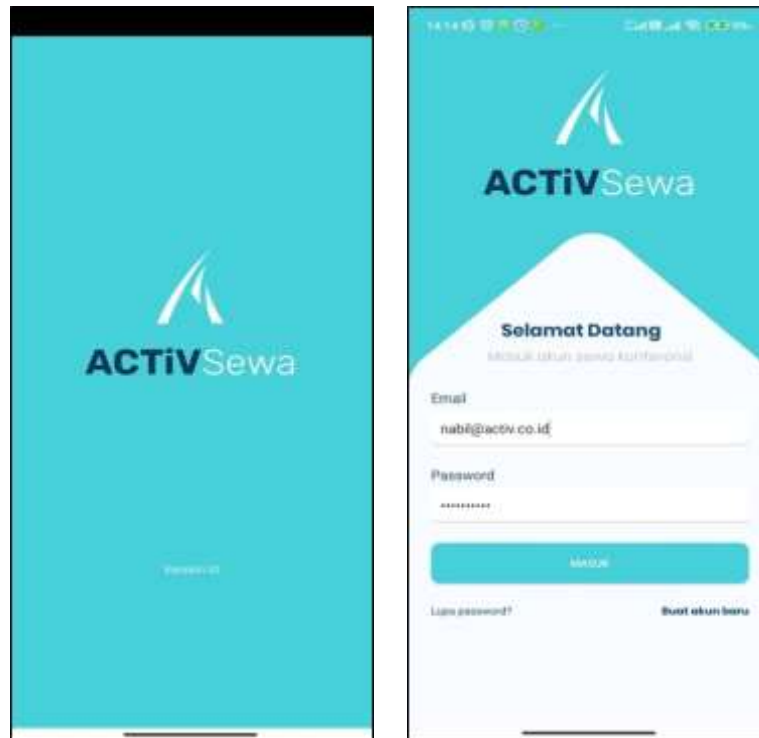


Figure 8. Display of the splash screen and login screen

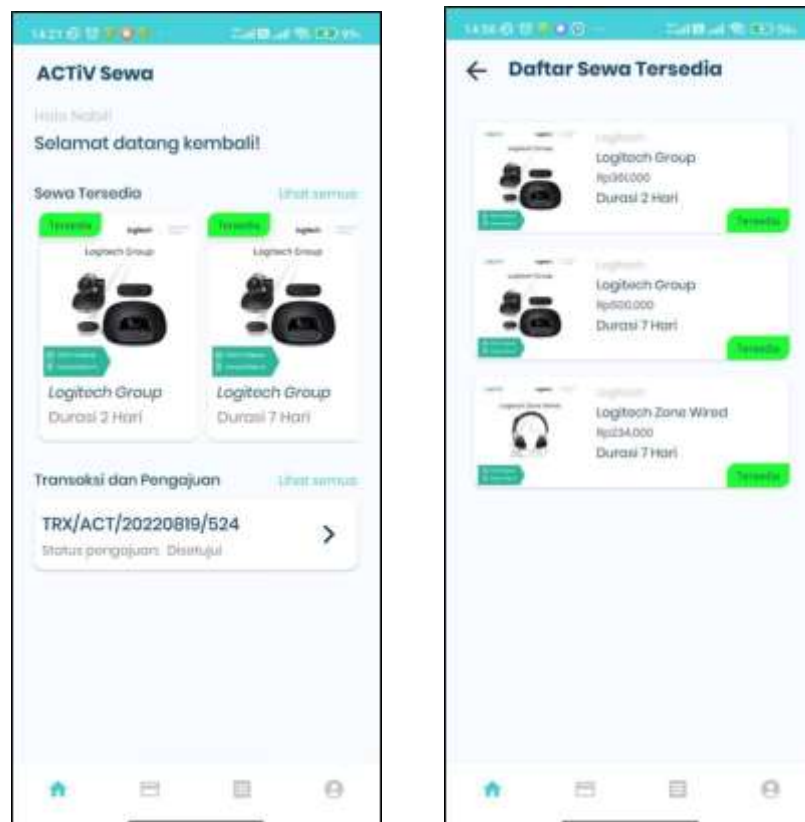


Figure 9. Main menu screen display and device list

Figure 9. provides a visual representation of how users can interact with the application and manage their video conferences easily. The user-friendly interface and complete features are designed to ensure an optimal user experience.

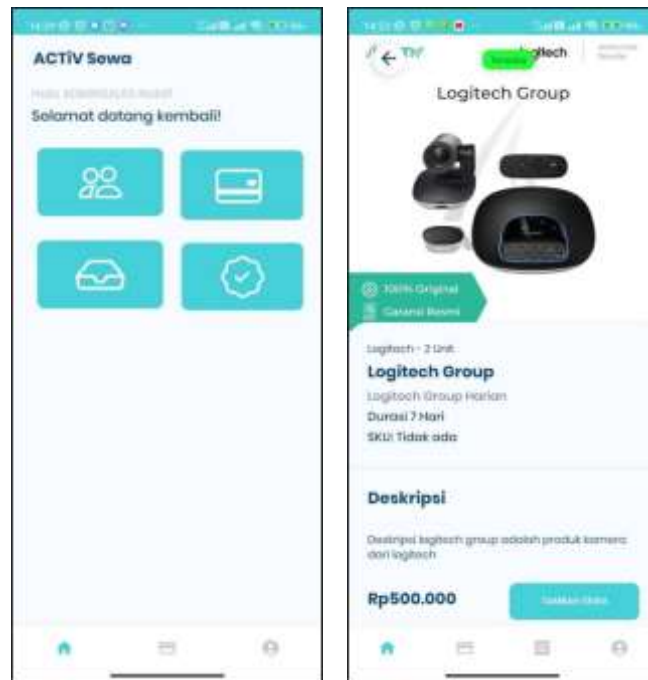


Figure 10. Sales admin screen display and device details

The image above provides a clear picture of how a sales admin can manage sales and device aspects in a video conference rental system. With an interface designed for ease of use and complete functionality, sales admins can efficiently manage sales, clients, and devices, ensuring operations run smoothly and efficiently.

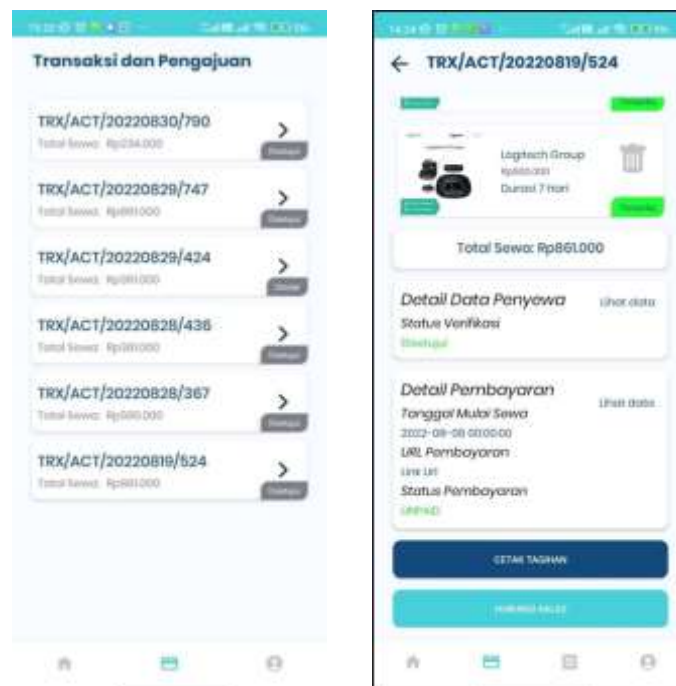


Figure 11. Transaction menu screen display and transaction details

This image provides an overview of how users and admins can manage transactions efficiently. The transaction menu view allows monitoring and management of transactions as a whole, while the transaction detail view provides in-depth information about individual transactions. With a user-friendly interface and complete features, transaction management becomes easier and more transparent.

Implementation of System Testing

System testing is the process of executing a software system to determine whether the system matches system specifications and runs in the desired environment. System testing is often associated with searching for bugs, program imperfections, errors in the program that cause failure in the execution of the software system. The testing system used is Black Box. Researchers tested the application by checking the links one by one using a testing table. The black box testing results are depicted in the following table:

Table 1. Implementation of System Testing

No	Link	Expected results	Accurate Results
1	Main page	Can display the main page.	Succeed
2	<i>Enter</i>	Can enter the main page.	Succeed
3	<i>List</i>	Can display a page for registering potential customers who want to log in.	Succeed
4	Select Device	Can display a list of devices and each button function works well	Succeed
5	Device details	Can display pages detail perangkat.	Succeed
6	Lease application	Can display the rental application form and each button function works well	Succeed
7	Print tenant data	Can print tenant data	Succeed
8	Data verification	Can display the data verification form and each button function runs well	Succeed
9	Payment	Can display payment form data and every button function works well	Succeed
10	Payment information	Can display status if payment has been processed	Succeed
11	Print bills	Can print payment bills	Succeed
12	Print transaction reports	Can print sales transaction reports	Succeed
13	List customers	Can display a list of customers	Succeed
14	Sales dashboard menu	Sales dashboard menu	Succeed
15	Sales admin dashboard menu	Can display the admin dashboard menu sales	Succeed
16	Device or product reports	Can print device or product reports	Succeed
17	Sales list	Can display sales list	Succeed
18	List of brands	Dapat menampilkan daftar <i>brand</i>	Succeed
19	<i>Search</i>	Can display the data you are looking for	Succeed
20	<i>Logout</i>	Can exit from the main menu	Succeed

CONCLUSION

From the results of the research that has been carried out, it is concluded that the video conference rental business that has been running at PT. Alfa Cipta Teknologi Virtual still carries out transactions manually, that is, consumers come directly to the place to make rentals. With this Android-based video conference rental application, customers can find out information about devices and equipment to be rented and can book devices via the application without having to come to the rental place. This video conferencing equipment rental business application is designed to reduce activities carried out by sales and increase employee performance in managing rental data. By using the application, customers can carry out the rental process anywhere without having to go to the rental place, and an attractive display can provide convenience and systemized data security to customers. Sales and customers can interact directly in the application, because this video conferencing equipment rental business application can be installed on each sales and customer's mobile phone which uses the Android operating system.

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