JURNAL MANAJEMEN TEKNOLOGI INFORMATIKA
ISSN 2988-0645 (*print*) dan 2987-8691 (*online*)
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SAUDARA PHARMACY SALES INFORMATION SYSTEM USING ANDROID

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Article Information

Accepted : 03-03-2024
Reviewed: 16-03-2024
Approved: 18-04-2024

Keywords

DFD, Pharmacy, Android, Information Systems, Apothecary Applications

Abstrak

To meet the needs of Saudara Pharmacy, there will be an Android-based sales information system that uses the Waterfall method to manage the sales of medicines and other health products.
Need analysis, system design, implementation, testing, and maintenance are the stages of the Waterfall method, chosen because of its systematic and sequential approach. This method makes it easy for the developer team to ensure that each stage of development is well completed before proceeding to the next stage.
Information is collected about the operational needs of Saudara Pharmacy at the stage of needs analysis. This data is used to create a system that can monitor the stock of drugs, automate the sales process, and provide direct sales reports.
The easy-to-use Android application to implement allows pharmacy employees to perform sales transactions quickly and accurately. Drug barcode scanning, inventory management, sales transaction recording, and the creation of daily sales reports are the main features of this app.
The system is tested to ensure that the application works properly and has no errors. In addition, user feedback is collected and studied to enable improvements and features.
It is expected that the Android-based Sales Information System at Saudara Pharmacy will improve operational efficiency, reduce sales recording errors, and provide accurate data for management to make decisions. Moreover, the system will increase customer satisfaction by providing faster and more accurate services.

A. Introduction

In this era, human information needs are very high, which drives the development of information technology in society. Drugs and prasarana, as well as evolving technologies, support human information needs.

Computers, as we know, have been widely used by various agencies, both governmental and private, to assist their activities. Computers are very helpful in producing information that is very accurate, relevant, and accurate. Nowadays, many industries, including the health sector, have been affected by information systems. Health is very important in human life because one's health can affect everything they do every day. For example, if our bodies are sick or unhealthy, it can interfere with our daily activities and can also affect how well one does his job.

A business that operates in the field of drug sales is called a pharmacy. A pharmacy should use tools such as hardware and software that can manage data quickly and accurately due to the amount of data that needs to be processed and the high level of routine.

Saudara pharmacy is in JL. Diponegoro Block D No.15, emergency district, district. Although Brother Pharmacies are very popular and regular, data processing is still done manually. As was the case during the drug sale process, everything is still recorded in the sales book. The entry and exit data is recorded in the book, which is part of the recording process of the drug stock. One of the most common mistakes is a mistake in calculating the quantity of medicines or stocks, which can occur due to the large number of transactions and types of drugs available at Brother's Pharmacy. If you still keep a record of all your purchase transactions and stock of medicines with the books, it can also cause data search difficulties as the data or archives become more and more abundant.

Identification Problem

The researchers tried to identify problems as follows:

1. The drug sales system is still done manually;
2. It is difficult to find drug sales data due to irregularities in the recording and storage of transaction data;
3. Verification of stock data of goods at this pharmacy by conducting one-by-one checks of drug stock data, which makes the checks inefficient;
4. Processing of data of sales transactions and stock goods.

Based on the background and identification above, the following problems can be formulated: 1. How do I build an android-based drug purchase and sale information system for Saudara Pharmacy?

2. How can the Android-based sales and purchase information system improve the efficiency of drug inventory checks and facilitate the creation of sales and purchases reports at your pharmacy?

In order for the problems encountered in this study not to be too widespread, it is necessary to limit the following problems:

1. The author created an Android-based drug sales application at Brother's Pharmacy;
2. the system included drug sales, drug stock, and drug sale transaction reports; and

3. The author used the PHP programming language and MySQL database when building an Android based drug sales system.

B. Research Methods

System analysis is the disaggregation of an integrated information system into its components with the aim of identifying and evaluating problems, opportunities, obstacles, and the need to make improvements. The purpose of this analysis is to obtain a definition of the problem and an overview of what the problem represents.

Analysis of running systems

System analysis is an early step in the system development process to find a problem, create alternative solutions to the problem, develop a system, and make a new or proposed system specification. This stage is very important and brief, so it requires an analytical approach to prevent possible errors at the next stage, namely the design of a new system. According to Dani Anggoro (2015) The software was developed dynamically with the aim of being re-developed at any time. This allows the administrator to keep the entire content up-to-date, which helps the instance.

First of all, analyzing the running system reviews the ongoing sales and purchasing processes at the Saudara Pharmacy. The aim of analysing the operating system is to find an obstacle in the system that interferes with the operational operation of the Saudara pharmacy before the creation of the Android system.
So it can be used as a guideline for conducting the design of the new system, especially in the process of sale and purchase at the Saudara Pharmacy, in addition to evaluating the obstacles faced by Saudara Pharmacies, it is also necessary to look at how the system operates and the form of the reports presented.

In the information system of sale and purchase of pharmacy brothers, some activities take place systematically, as follows:

1. The consumer comes to the pharmacy and gives the list of medicines to be bought to the admin.
2. The admin checks the availability of drugs to be purchased by the consumer.
3. If the drugs are available, the admin will hand over the drugs to the consumers, otherwise, the transaction is completed.
4. The manager makes a two-part sales note: one to be given to consumers along with the medicines purchased and another to be archived.
5. The manager creates a three-part sale report based on the sales note archive, which is then handed over to the warehouse and management department.
6. The warehouse department checks availabilities of drugs on the basis of the sales report and makes a report about the avails of medications to be delivered to the leader.

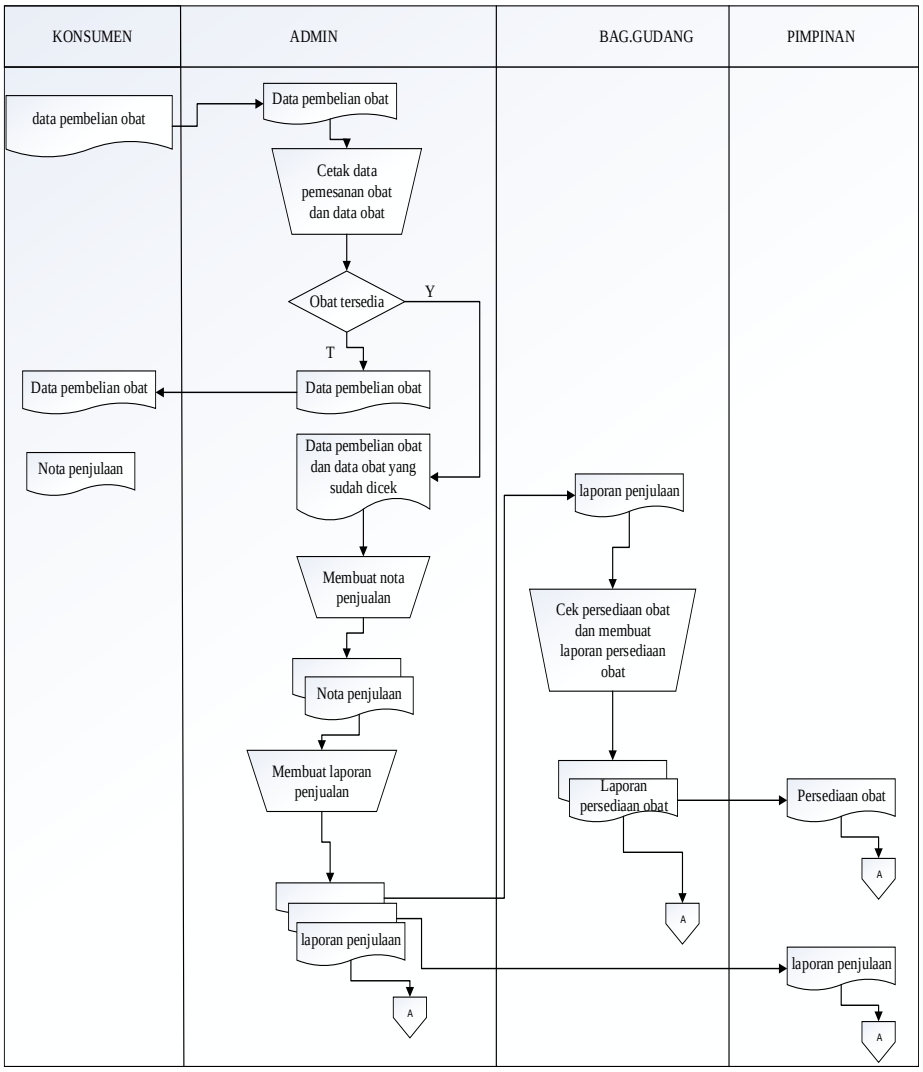

Figure 1 of the current sales system stream

New System Design

System Design is described as "step-by-step analysis of the system development cycle, definition of functional requirements and preparation for design build implementation".

The main objectives of the system design phase are as follows:

1. Meet the needs of system users;
2. Give computer programmers and other engineers a clear picture and complete construction plan.

System design is the description, design, and design of a scheme or arrangement of several elements separated into an integral unity, with the functions and purposes of each element designed with the purpose of being communicated to the user. In system development, this can mean that the system development process covers several stages, ranging from system implementation, operation, and maintenance. If a critical problem in a system that has been developed arises again and cannot be solved during the maintenance phase, then the system must be re-developed to

address the problem. In this case, the process goes back to the system design stage. The life cycle of the system is another term for this cycle.
The objectives of the new pharmacy information system are as follows:
a. facilitate the sale of medicines;
b. provide the ability to store sales data in accurate report results; and
c. make it easier to understand the medicines stock available in the DFD planning.

Context Diagram

Context diagram consists of a transformation process circle, data source, and destination data that is received and sent directly from transformation. Figure 2 shows the context design of the diagram.

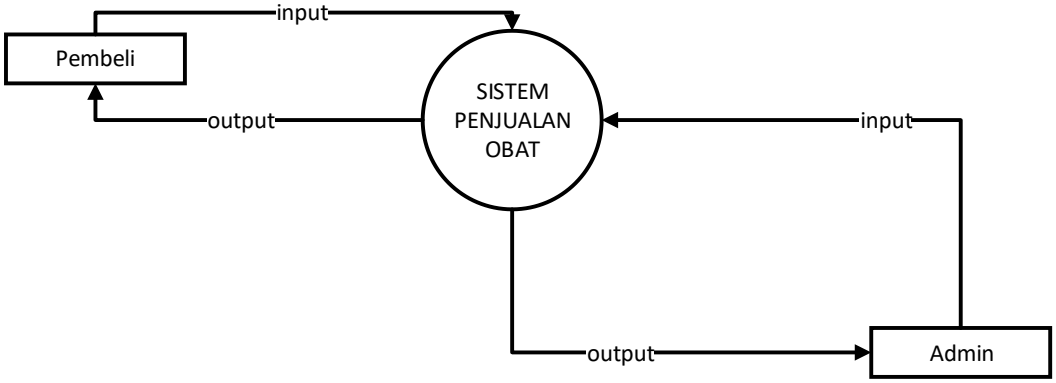

Figure 2 Context Diagram

The buyer and administrator, as the pharmacy owner, are external entities used in the context of the diagram.

Data Flow Diagram

The Data Flow Diagram (DFD) is a diagram that shows the system's data flow with notation. Using DFD helps to understand a system logically, structured, and clearly.

Data Flow Diagram Level 0

The 0 level DFD data flow diagram provides an overview of the global data flow.

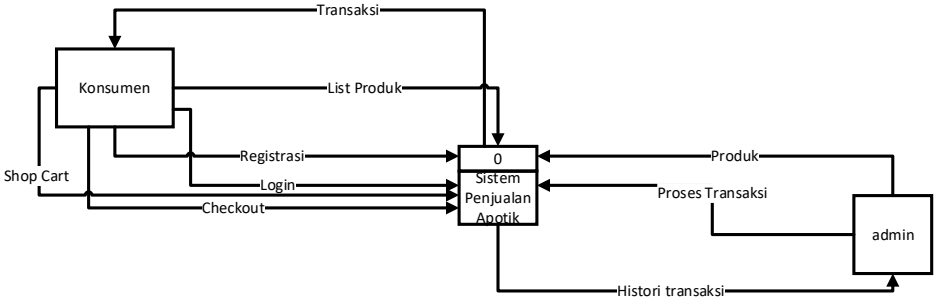

Figure 3 DFD Level 0

Data Flow Diagram Level 1

The purpose of the DFD Data Flow Diagram Level 1 is to provide a more in-depth view of the system as a whole. The current main process will be divided into subprocesses. In addition, the warehouse data used in the main process is also identified in DFD level 1.

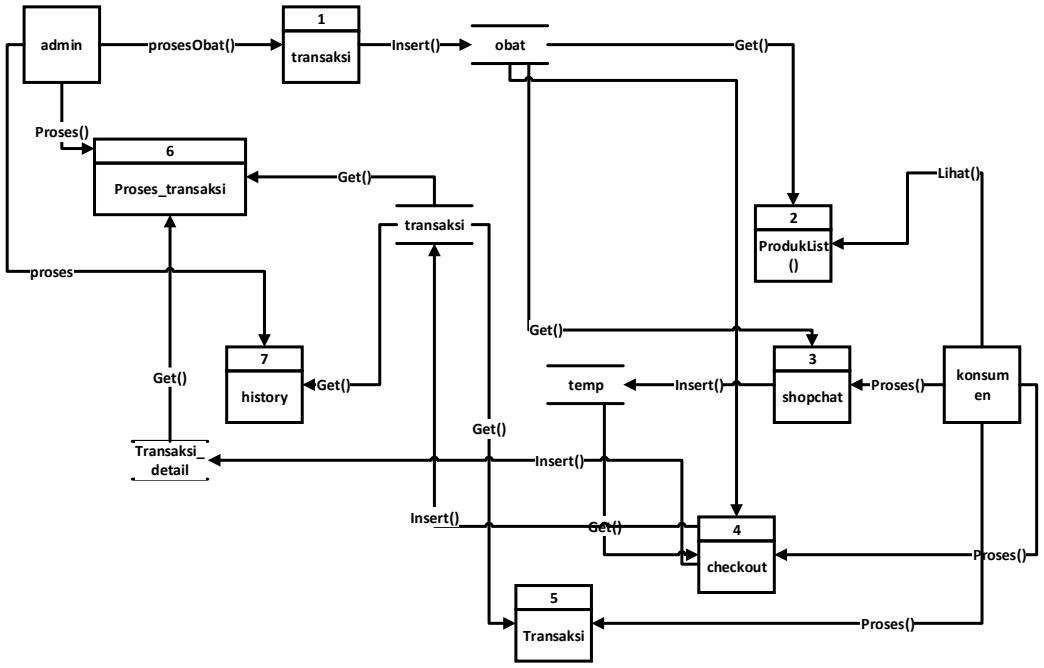

Figure 4 DFD Level 1

The drug process registration will be stored on the drug source data. Consumers can access and view the product list, which has data from the drug sources data.

Diagram Entiti Relasi (ERD)

The Entity Relationship Diagram (ERD) is a model for compiling a database that shows the data that has a relationship to the database to be designed. The ERD typically connects directly to the data flow diagram to display the contents of the data warehouse, and both are useful for constructing a relationship database. For this system design, the researchers will create an ERD design, as shown in Figure 5.

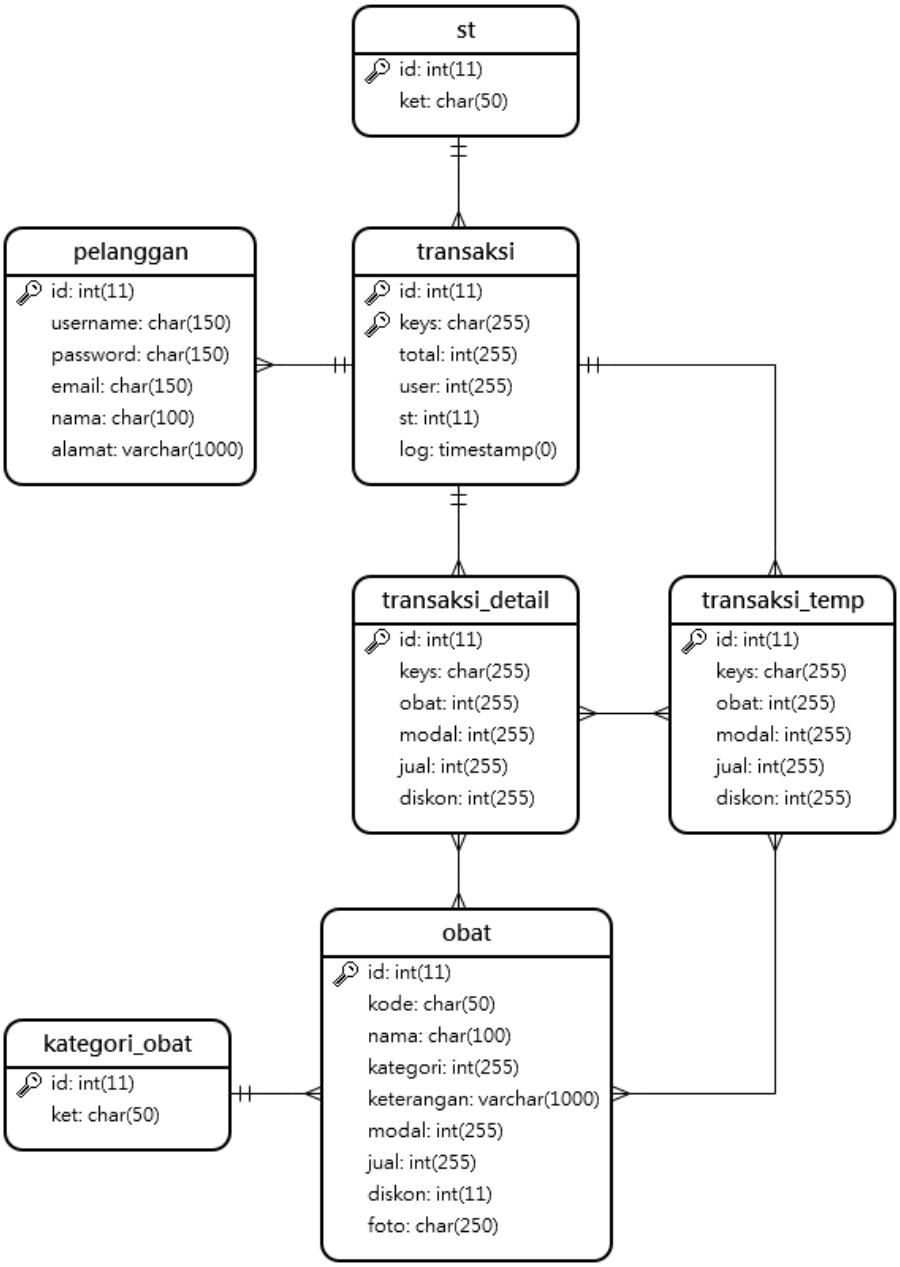

Figure 5 Diagram Entiti Relasi (ERD)

C. Results and Discussion

This Android-based sales information system is built using HTML5, PHP, and Java programming languages, as well as Android Studio IDE and MariaDb database applications stored on web servers. A writer uses JavaScript Object Notation (JSON) as an intermediate medium to send data from a web server to a Java language environment.

Implementation Limitations: The author has set some restrictions on the use of this Android-based sister pharmacy sales information system:

1. This android-based scholar registration information system is designed specifically for mobile devices running Android operating system version 2.3 (Gingerbread).
2. This android based sister drugstore sales information systems are specifically designed for mobile device operating Android version 2.3.

Face Interface Implementation

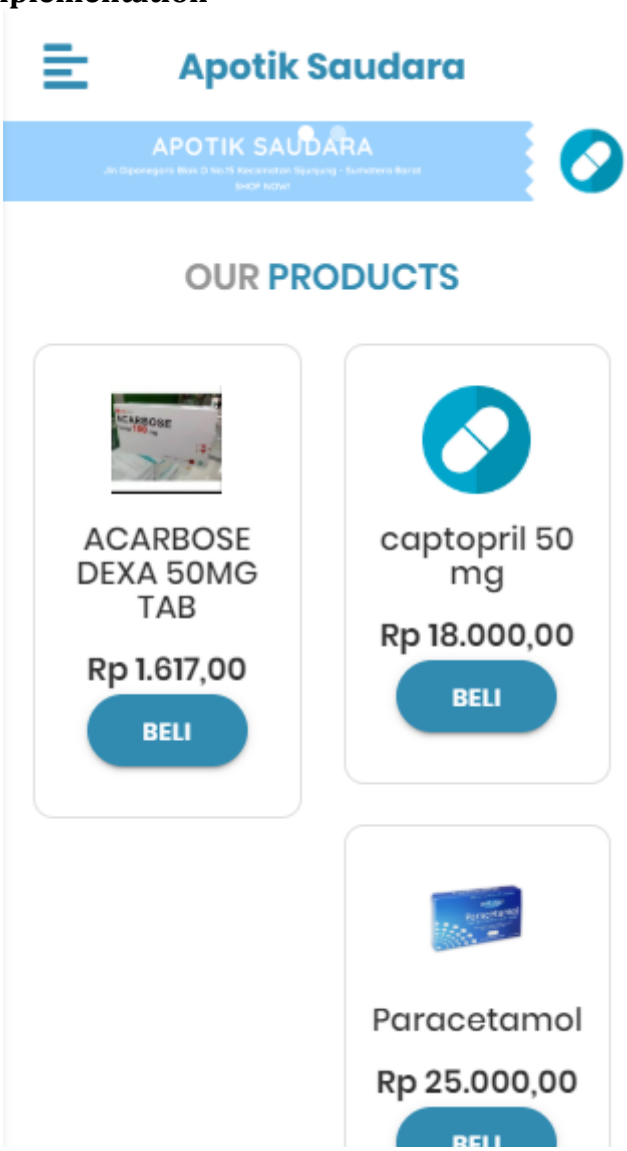

Figure 6. Home Page

Consumers are allowed to view data about the medicines they are going to buy on this page.

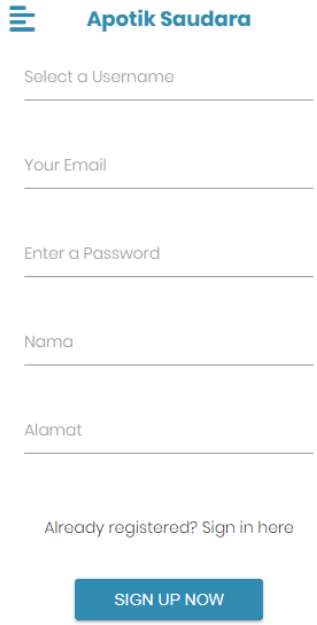

Figure 7. Registration page

The client can start the next process by registering on this page.

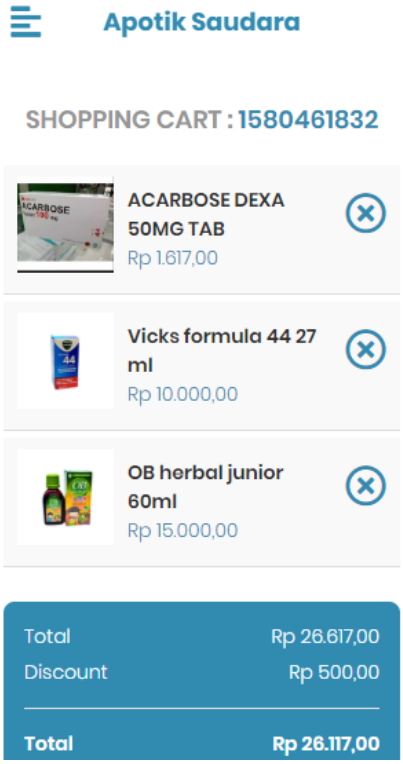

Figure 8. Shoping Cart Page

Consumers can buy the medicine and resume payment.

D. Conclusion

Based on the analysis and discussions in the development of the sales information system on android based pharmacy, so the author can draw the conclusion

1. Development of the information system of sales on android-based pharmacy can be done online so that potential buyers can easily make the purchase of drugs.
2. Consumers can make payments by making payments with the COD system so that they are more confident in payment.
3. Consumer can easily buy drugs wherever they are.

In order to improve the effectiveness of this system, the author gives the following suggestions:

1. This system could not be uploaded to the google play store
2. The system has not yet used the OneSignal API, the authors hope that future researchers will be able to take advantage of the oneS Signal API.
3. The system is newly supported for Android devices, the authors expect to be developed to OSX mobile devices.
4. This system does not support a bank payment gateway.

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