

PUBLICATION MANUSCRIPT

**DEVELOPMENT
WEB BASED DRUG SALES SYSTEM
(Case Study: Pharmacy Basuki Jaya, sub district. Mlati, districts. Sleman)**

Informatics Study Program

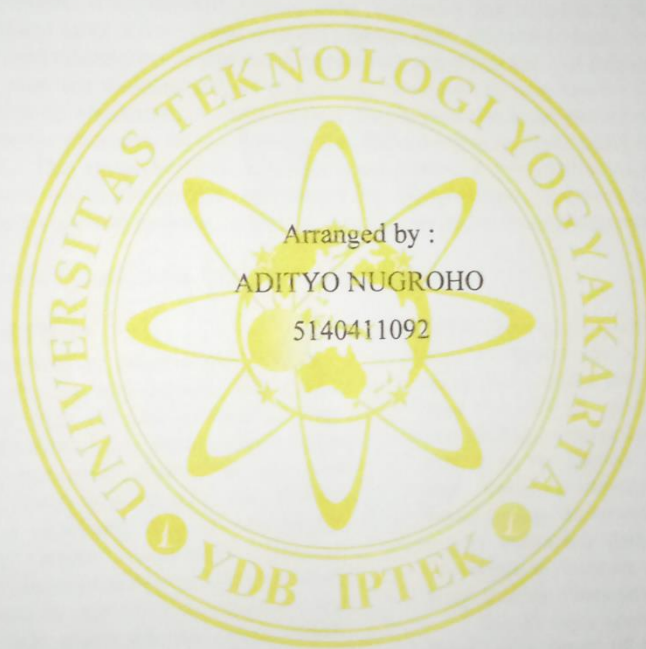


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**INFORMATICS STUDY PROGRAM
FACULTY OF INFORMATION TECHNOLOGY AND ELECTRO
UNIVERSITY OF TECHNOLOGY YOGYAKARTA
2020**

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Date, 10 - 9 - 2020

DEVELOPMENT WEB BASED DRUG SALES SYSTEM (Case Study: Pharmacy Basuki Jaya, sub district. Mlati, districts. Sleman)

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ABSTRACT

The provision of prescription or non-prescription drugs is an example of pharmaceutical practice found in pharmacies. In practice, there are still manual drug processing and supplies in pharmacies. Meanwhile, the current needs demand more effective and efficient management. To answer these challenges, one of them is by building a web-based information system for drug processing and supplies. An information system is expected to be able to help ease the management of pharmacies contained in pharmacies. The implementation of this research is to create an application that can connect the pharmacy with patients or customers by integrating the supply system into the pharmacy information system. This system is designed using the programming languages PHP and MySQL. This research produces a web-based pharmacy information system in which a prescription system is integrated which can provide information for administrators, pharmacists, pharmacy employees, and pharmacy members via a web browser, as well as assisting pharmacy data management.

Keywords: Pharmacy System, Sales, Management, Inventory.

1. INTRODUCTION

The development of information technology and science is growing very rapidly, and affects especially in the field of data processing using computers. On the other hand, developments in the medical world, especially pharmacies are also growing rapidly. Based on Permenkes No. 35/2014 explained that a pharmacy is a pharmaceutical service facility where pharmacists practice pharmacy. From the explanation of the provisions of the article, it can be stated that the pharmacy is a place to carry out pharmaceutical work which includes the distribution of pharmaceutical preparations and other medical supplies to the public. Pharmacy as one of the public service institutions in the medical world requires the existence of an accurate, reliable and adequate system to improve services to the public and the performance of the pharmacist itself.

According to KepMenKes RI No.1332 / Menkes / SK / X / 2002, it is stated that the requirements for a pharmacy are as follows, namely obtaining a permit from a pharmacy, pharmacist or pharmacist who collaborates with the owner of the facility who meets the requirements must be ready with the place, equipment including preparations, pharmacy and other pharmaceutical supplies which are one's own or that of other parties. Based on this regulation, the Basuki Jaya Pharmacy is located at Jalan Kebon Agung KM 3, Tlogoadi, Kec. Mlati Kab. Sleman Yogyakarta,

was founded in March 2018, although it is still a new pharmacy, Basuki Jaya Pharmacy has a fairly complete number of medicines and the presence of a pharmacy is also very helpful in providing medicines for the surrounding community. The drug data processing system at the Basuki Jaya Pharmacy is currently still using a manual system by means of bookkeeping in recording every drug sales and supply transaction data. The number of drugs that continues to increase and transactions are quite large, making Pharmacy employees

Basuki Jaya needs a lot of books to record them, as a result of the large number of books pharmacy employees need a lot of time to find transaction data and drug data. The next problem is that pharmacy employees also have difficulty controlling the expiration of existing drugs because there is quite a lot of drug data that must be checked regularly.

The rapid development of technology and information science encourages the community, both groups and individuals, both government and private institutions to take advantage of these developments in information technology and science. Donald. H. S (1985) Computers are electronic systems to manipulate data quickly and precisely and are designed and organized to automatically receive and store input data, process, and produce output under the supervision of a program instruction steps stored in its storage. The advantages of computers in processing data will

increase the effectiveness, productivity and efficiency of an information system.

In an ongoing system, the process of recording sales and purchase transaction data seems less convenient, especially for information system users, because in the sales or purchase transaction process, books and notes are still used for recipe sales transactions. The recording and storage of transaction data in the form of archives causes difficulties for employees in searching for transaction data, especially when there are more and more transaction data or documents. Another problem that occurs is the drug stock data. There are still many errors due to controlling drug supplies by checking data on sales and purchases of drugs from transaction books or by recording any drugs that are known to be empty during the sales transaction.

Therefore, obtaining drug supply information cannot be obtained at any time and requires a relatively long time. And in the end, drug procurement was slow and less effective. Apart from that, this situation also made the reports less effective. The report creation process takes a relatively long time, because it has to make a recapitulation of the transaction documents. However, even though the recapitulation process was carried out, the reports presented were often inaccurate. For example, if the employee wants to make a monthly report on drug sales, in which reports often make mistakes when the report is checked by the head of the pharmacy.

Therefore, the development of a new sales information system is very important for Basuki Jaya Pharmacy in the process of presenting and processing data so that it provides the information needed by the pharmacy leadership itself. Therefore, the quality of human resources is also an important factor, in addition, it is necessary to have good cooperation between employees and pharmacy leaders which will greatly assist in achieving a goal at the Basuki Jaya Pharmacy.

2. THEORY

2.1 Pharmacy

According to (Yulia & Susandri, 2019), the Regulation of the Minister of Health of the Republic of Indonesia No. 9 of 2017 concerning pharmacies, pharmacies are pharmaceutical service facilities where pharmacy practices are carried out. Pharmacies can cooperate with the Social Security Administration for Health and other insurance. The Regency / City Government can regulate the distribution of pharmacies in their area by taking into account people's access to pharmaceutical services. Management that is usually done in a pharmacy, among others:

1. Procurement.
Pharmacy uses a system of ordering salesmen who come directly to the pharmacy or via telephone to fulfill the procurement of goods. Problems that are often faced in pharmacies in procurement are delays in drug procurement caused by factory vacancies. Overcoming this problem is done by ordering medicines in advance and not waiting for the drug stocks to empty.
2. Storage
For the storage of drug preparations and medical devices in pharmacies, they are arranged alphabetically, the dosage form and the stability or temperature compatibility of the drug storage.
 - a. Drug class Drug
Storage is based on drug class, such as over-the-counter drugs, free limited-hard drugs and narcotic drugs. Not experiencing significant problems and in accordance with established standards.
 - b. Alphabetical alphabetical
Storage of drugs, such as drugs that are purchased over the counter to drugs that must be accompanied by a doctor's prescription. Not experiencing significant problems and in accordance with established standards.
 - c. Dosage forms
Drug storage is based on its dosage form, such as syrup, ointment, injection, liquid and others. Not experiencing significant problems and in accordance with established standards.
 - d. Temperature of Storage
Drugs is based on storage temperature so that drugs are not damaged, such as suppositories and insulin stored in the refrigerator, so as not to damage their shape and properties. In this case the author does not check the storage based on temperature.
3. Distribution
Distribution of drug in pharmacies is divided into 2 types, including :
 - a. Recipe
There are 2 recipes served, namely recipe and non recipe.
 - b. Non prescription
Drug purchases that are made do not use prescription or over-the-counter drug sales. The problem that is often faced is the distribution of Psychotropic drugs that are distributed freely without using a doctor's prescription or doctor's instructions, the distribution is not in accordance with applicable regulations.

4. Reporting

Reports at pharmacies include:

- a. The daily report is a report that contains items sold, expenditures and incoming drugs. Daily reports that are carried out are in accordance with the number of drugs that enter and leave each day.
- b. The monthly report usually contains reports of Narcotics and Psychotropic drugs that enter and leave for one month.

The daily report is usually made at the pharmacy before the drug is recorded in the morning, then the incoming and outgoing drugs are recorded in the stock book then the drugs are recorded again in the afternoon.

Medicines that have been given to patients must be recorded in the drug dispensing book, so that it is easier to record the final report of the month.

2.3 Sales

According to (Kurniawan et al., 2017), sales are a business or concrete steps taken to move a product, whether in the form of goods or services, from producers to consumers as the target. The main purpose of sales is to bring profit or profit from the product or goods produced by the producer with good management. In its implementation, sales alone will not be possible without the actors working in it such as agents, traders and marketing personnel. Making a sale is an activity aimed at finding buyers, influencing, and providing buyers so that purchases can match their needs with the production offered and enter into agreements offered and enter into agreements regarding prices that benefit both parties .. so the conclusion is that selling is an activity and a way to influence the person so that there is a purchase (delivery) of the goods or services offered, based on a price that has been agreed by both parties in the activity.

2.4 Inventory

According (Kurniawan et al., 2017), inventory (inventory) is a raw material, semi-finished products, finished products that are in production systems at a time, which act as a buffer (buffer) unused(idle)which has economic value in the future when active. Therefore, an inventory management information system is designed to be held to ensure the smooth running of after-sales service activities, as well as to determine the procurement schedule and the number of orders according to the company's needs. The function of inventory management : Planning: inventory determining the material requirements to meet the needs of production according to plan and production operations have been prepared, how much to order. Control Inventory : determining the level inventory appropriate at which orders must be re-ordered,

safety stock, and the conditions inventory associated.

3. STAGES OF PROBLEM SOLVING

Is a stage from start to finish in building a drug sales system at the Basuki Jaya pharmacy. The following are the steps for solving the problem:

3.1 Problem Identification

This is the stage of identifying problems that occur in checking incoming drugs from suppliers and providing information to the pharmacy owner if there is a problem drug.

3.2 Data Collection

The stages of data collection regarding the sales and incoming drug data used in building the system. Data collection is done by conducting literature studies using journals, other research and books that discuss the sale and purchase of drug stocks. Researchers also conducted interviews with the owner of the pharmacy, by asking questions about the process of drug entry until the drug was purchased by the customer.

3.3 System Design

The design stages are used to build the system after collecting data on sales and incoming drug data. Designing a knowledge database for understanding in solving problems used in the system. The database is used to draw conclusions from the problem of drug sales at the Basuki Jaya Pharmacy. Next, determine the programming language used in building the system and analyze the needs of the supporting devices used in building the system, including hardware and software.

3.4 Making the System

The stage of making the system is the stage of translating the data that has been analyzed and designed and then translated into a programming language to build a drug sales system.

3.5 System Implementation and Testing

The implementation of the drug sales system is based website. The next stage is carried out to determine whether the system that has been designed and built is in accordance with its functions and needs. Then system testing is used to determine whether the system being built can run well and as expected.

3.6 Results

Is the result of the entire system that has been built. Furthermore, an evaluation of the system that has been built and tested is carried out if the system has a function and is not as expected, then the research stage will be carried out again until the system works as expected.

3.7 Reporting

The next stage is the making of reports on the results of trials carried out in the previous stage, the contents of the report are the results of observations and activities from the trials that have been carried

out. The report is prepared as written evidence and documentation that the test has actually been carried out.

3.8 Research Flowchart

To assist in the preparation of this research, it is necessary to have a clear research flowchart in stages. This flowchart is the steps taken by researchers in building a drug sales system at the Basuki Jaya Pharmacy. The research flowchart used can be seen in Figure 3.4.

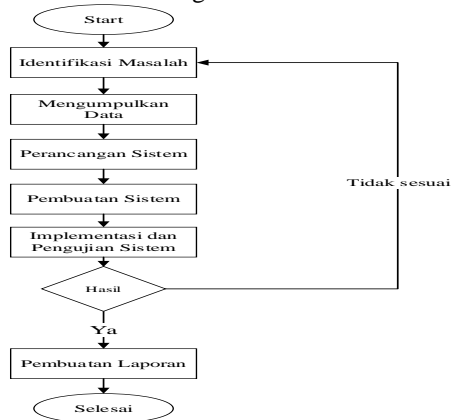


Figure 3. 1 Flowchart Research.

4. RESULTS AND DISCUSSION

4.1 System analysis

System analysis in research includes material that will be loaded and delivered in the application as material for consideration and reference in system design. Description of the stages of the analysis system or application to be built, including the research subject. The system analysis document can use standard document tools that are used and adapted to the theory of the system development method used. The system analysis presented aims to provide an explanation of the application description to be designed. System analysis discussion includes material that will be loaded and conveyed in the application as material for consideration and reference in system design.

4.2 Running System Analysis

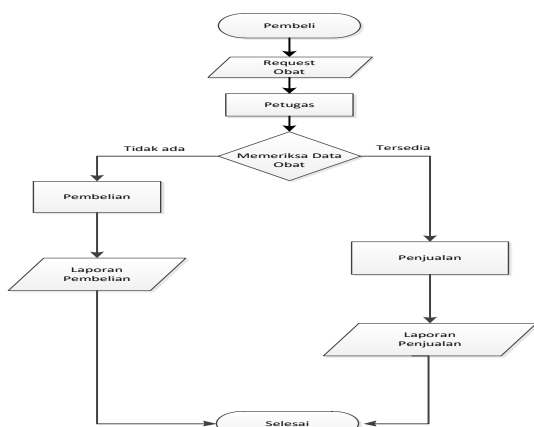


Figure 4. 1 Flowchart of the Running System

In the running system flowchart, it is explained that the flow of drug sales at the Basuki Jaya Pharmacy begins with the buyer asking for the drug purchased from the pharmacist who works at the pharmacy. After that the pharmacist looks for the medicine that the buyer asked for, if the drug is available then the buyer will be forwarded to the cashier to pick up the medicine and pay according to the total price of the medicine purchased. If the drug is not available, the pharmacy will record the unavailability of the drug in the catalog to place an order or purchase from the supplier.

4.3 Analysis of the proposed system

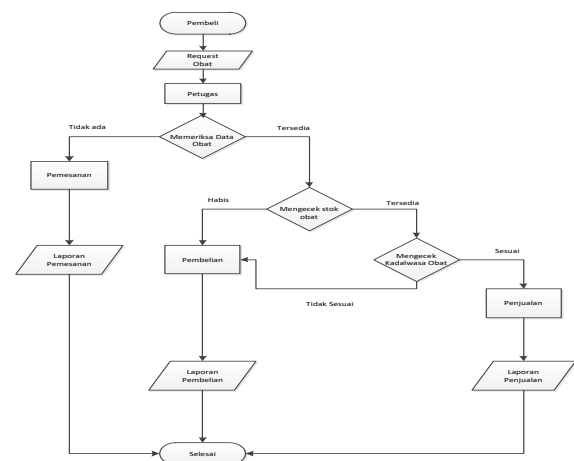


Figure 4.2 Flowchart of the Proposed System

In the flowchart the system proposed to the Basuki Jaya Pharmacy begins with the buyer asking the drug purchased from the pharmacist who works at the pharmacy. The pharmacist will check the availability of the drug, if the stock is available, it will proceed to the next process, namely the sale. If the drug is not available, it will be entered into the purchase process which will later be given to the supplier. If the drug is not available, it will be included in the drug order

a. Functional analysis

Analysis of functional requirements (features and capabilities of the system), including:

1. Adding drug data and Displaying drug data.
2. Adding data for pharmacy employees.
3. Displaying pharmacy employee data.
4. Adding supplier data.
5. Conducting drug sales transactions.
6. Displaying drug sales data.
7. Displaying drug ordering data and adding ordering data medicine drug.
8. Display purchase data drug purchase.
9. Add data display purchase and sales data sales.
10. Perform returns.
11. View expired drug data.
12. Display cash or sales profits

13. Print sales, purchase, ordering, and reporting reports of cash or profits

b. Non functional analysis

Requirements software and hardware System are:

1. Operating system Microsoft Windows 7, 8, or 10.
2. Browsers such as Google Chrome, Mozilla Firefox, or Microsoft Edge.
3. Application Xampp.
4. Sublime Text.
5. 1 LED monitor, mouse and keyboard.
6. Computers CPU with specifications:
 - RAM 2 Gb
 - Intel Core 2 Duo Processor
 - HDD 160 Gb.
7. Hosting with a capacity of 750 MB and a .xyz domain.

4.4 System Design

4.4.1 Context Diagram

In general, the processes contained in the system can be described through the context diagram following in Figure 4.3. External entities used are system users and pharmacy facility owners.

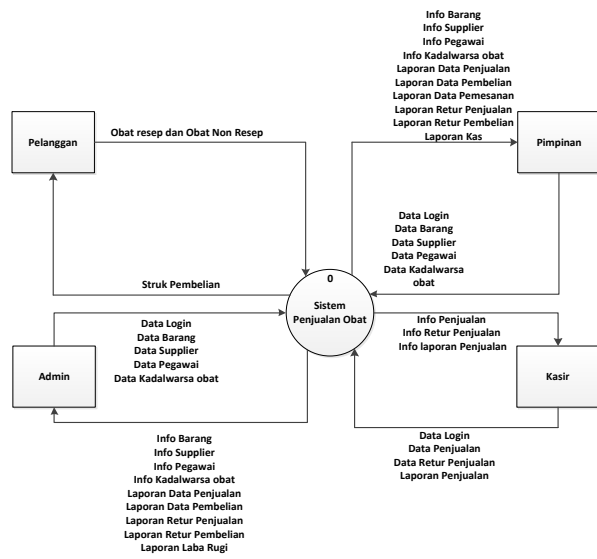


Figure 4.3 Context diagram The

User as an external entity here consists of admin / pharmacist, manager / manager and clerk / cashier. Users enter master data, namely data on goods, suppliers and employees into the system. The system will store the data into the database according to each data table. The time limit is needed for the process of finding data on items that have expired. Every transaction made by the user will be stored by the system in the database. Furthermore, the system will display each data to the user and a report to the owner of the pharmacy facility.

4.4.2 Hierarchy Diagram The

Hierarchy diagram of this system is divided into several processes, including the process of recording master data, process of expiry reminders, transaction processing, and finally the process of making reports. The hierarchy of the diagram system can be seen in Figure 4.4.

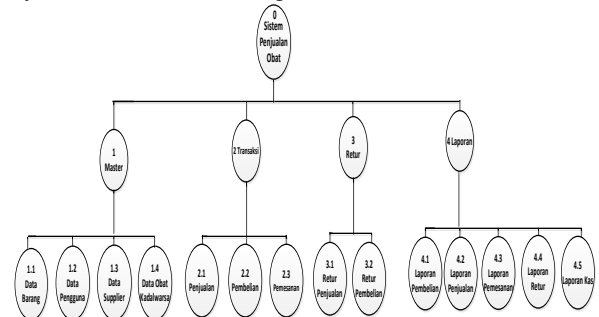


Figure 4.4 Hierarchy diagram

4.4.3 DFD Level 1

In this diagram will describe what the main processes that occur in the system. There are 4 main processes that occur, namely the process of recording master data, the process of expiry reminders, the transaction process, and the process of making reports. Figure DFD level 1 can be seen in Figure 4.5.

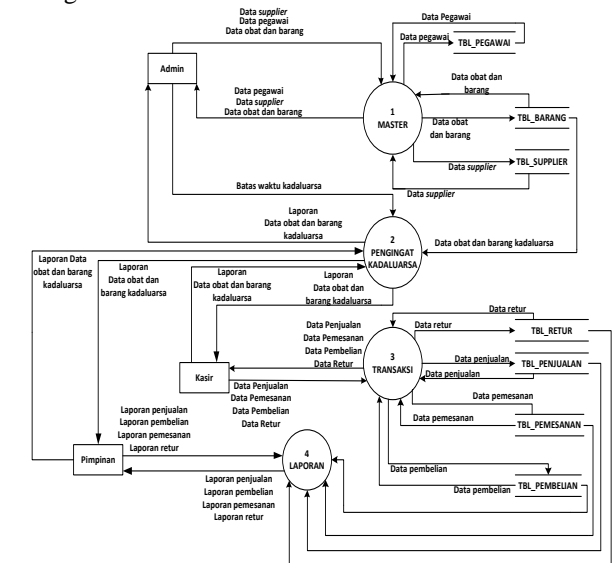


Figure 4.5 DFD level 1

4.4.3 DFD Level 2 Process 1

This diagram aims to describe process 1, namely the process of recording master data in more detail. There are 3 master data, namely employee data, supplier data and drug and goods data. Figure DFD level 2 process 1 can be seen in Figure 4.6.

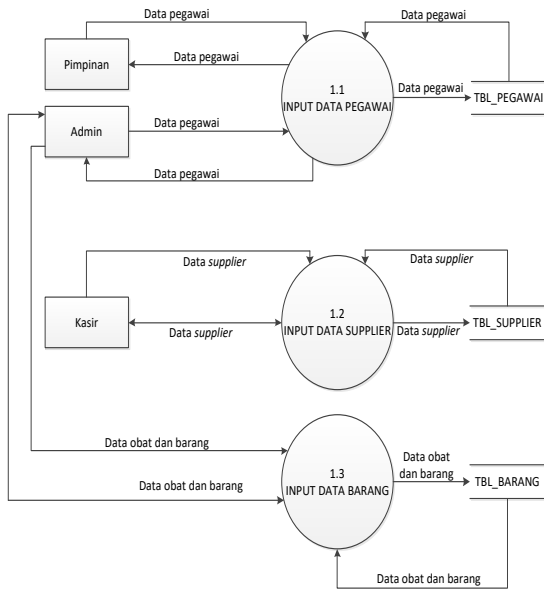


Figure 4.6 DFD level 2 process 1

4.4.5 DFD Level 2 Process 2

This diagram aims to describe process 2, namely the work process of the product expiration reminder feature. This feature works by the user entering the expiration time limit that you want to see. Furthermore, this feature will check the expiration period of the drug and provide data on the expired drug. Figure DFD level 2 process 2 can be seen in Figure 4.7.

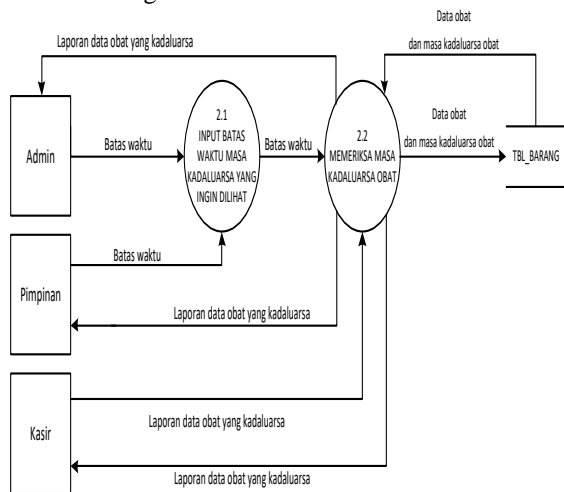


Figure 4.7 DFD level 2 process 2

4.4.6 DFD Level 2 Process 3

This diagram aims to describe process 3, namely the transaction process which consists of selling, ordering, purchasing and returning expired drug returns. The sales process records transactions when consumers want to buy drugs at the pharmacy. Medicines that have run out of stock will be ordered to the supplier. After placing an order, the supplier will provide a sales invoice and the pharmacy makes a purchase based on the sales invoice from the supplier. Pictures of DFD level 2 process 3 can be seen in Figure 4.8.

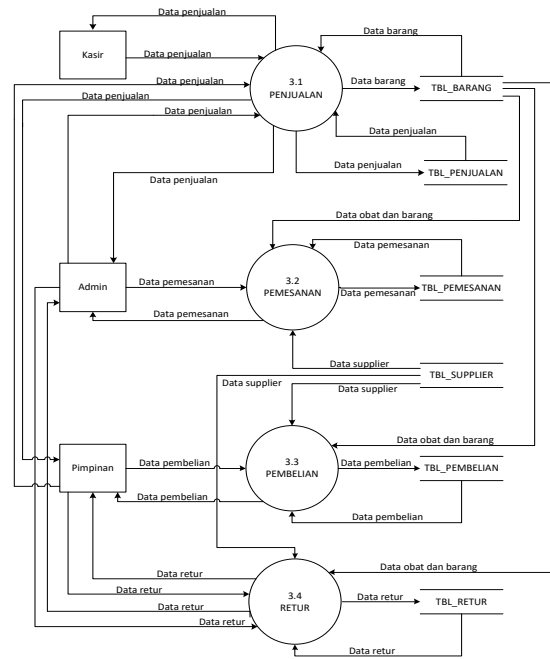


Figure 4.8 DFD level 2 process 3

4.4.7 DFD Level 2 Process 4

This diagram aims to describe process 4, namely the process of making transaction reports. There are 4 reports needed, namely sales reports, order reports, purchase reports and returns reports. These reports are made based on the data in the system. Figure DFD level 2 process 4 can be seen in Figure 4.9.

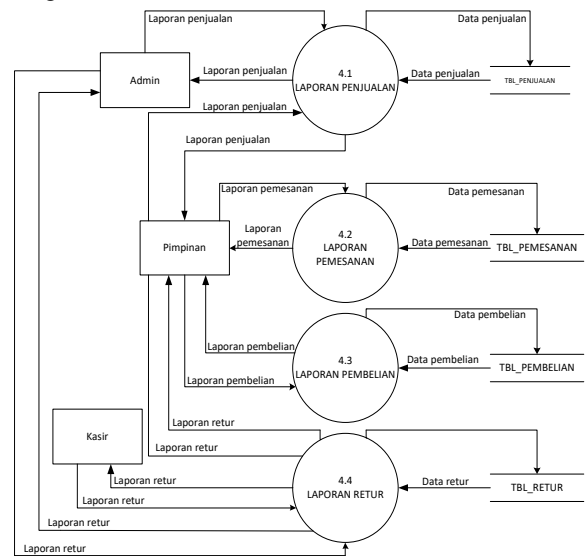


Figure 4.9 DFD level 2 process 4

4.4.8 Login Page Implementation

The login page is an implementation of a page web that appears when a user visits a URL <http://localhost/apotekbasuki/index.php> in the browser. Next, a login page will appear consisting of fields username and password which must be filled in according to the access rights of each user

according to the user level that has been determined in the database system. In the pharmacy information system, system access rights are divided into 3, namely system administrators, officers / cashiers and pharmacy leaders. There is a Login button which is used to log into the system. The following is a web-based pharmacy information system login page display shown in Figure 4.10.

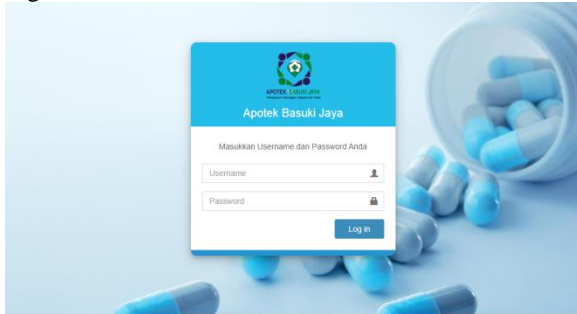


Figure 4. 10 Display LoginPage Display login

4.4.9 Implementation of Homepage

Pages The homepage is an implementation of a page web that will appear when the user successfully logs into the system. The home page of each user access rights varies based on the level of each user. The following is the implementation of the home page shown in Figure 4.11. up to picture 4.15.



Figure 4. 11 Home Page Views

Admin User access menu:

- Drug
- Employee
- Supplier
- Data Data expired drug
- Sales Transaction, Purchase, Order
- Sales Return, Purchase
- Cash
- Sales Report, Purchase, Order, cash report



Figure 4. 12 DisplayAdmin Home page

Menu User Access Register (Transaction):

- Sales
- Sales report
- Returns Sales
- report sales returns



Figure 4. 13 Cashier Home Page Views

Access menu Lead User:

- Drug
- Employee
- Supplier Data
- Data expired drug
- Sales, Purchase, Ordering
- Sales Return, Purchase
- Cash
- Sales Report, Purchase, Order, cash report



Figure 4. 14 Views of the Leader's Home Page

4.4.10 Implementation of Drug Data Pages

The category page is an implementation of the page web used by the admin to store the categories / types of drugs available at Basuki Jaya. Drug category data can be added and changed according to the needs of the pharmacy by pressing the Add button to add a drug category and the Edit button to change the drug category. The following is a display of the pharmacy information system category page shown in Figure 4.15.

No	Kode	Barang	Stok	Satuan	Harga	Status Stok	Opsi
1	00038120223	ACTIFED 80 ML ALL	44	Botol	65000	KURUP	[+]
2	00031893732	ACYCLOVIR 400 MG	10	Tablet	1650	KURUP	[+]
3	82962398932	ACYCLOVIR 6%	44	Tube	6875	KURUP	[+]
4	80230212000	AKURAT	36	Pis	13125	KURUP	[+]
5	83767822000	ALKOHOL 70% 100ML	22	Botol	7500	KURUP	[+]
6	06281220035	ALKOHOL 70% 300 ML	11	Botol	20000	KURUP	[+]
7	82786120036	ALLERIN SIRUP 60ML	33	Botol	15625	KURUP	[+]

Figure 4. 15 Display of Drug

4.4.10 Implementation of the Add Drug Data

Page The added page is an implementation of the page web used by the admin to store data on goods (drugs) available in Basuki Jaya. Item data can be added and changed according to the needs of the pharmacy by pressing the Add button to add drug data. The following is a display of the pharmacy information system drug data page shown in Figure 4.16.

Figure 4. 16 Add Drug Data Page Views

The following page adds item details, which can be done by pressing the Details button on the action used to input the unit of each item in the same item code, the pharmacy information system shown in Figure 4.17.

No	Kode	Barang	Stok	Satuan	Harga	Status Stok	Opsi
1	08700029	ACNES FACIAL WASH	6	Tube	375.00	KURUP	[+]
2	08700030	ACTIFED 80 ML ALL	44	Botol	65000	KURUP	[+]
3	08700031	ACTIFED 400 MG	10	Tablet	1650	KURUP	[+]
4	08700032	ACYCLOVIR 6%	44	Tube	6875	KURUP	[+]
5	08700033	AKURAT	36	Pis	13125	KURUP	[+]
6	08700034	ALKOHOL 70% 100ML	22	Botol	7500	KURUP	[+]
7	08700035	ALKOHOL 70% 300 ML	11	Botol	20000	KURUP	[+]
8	08700036	ALLERIN SIRUP 60ML	33	Botol	15625	KURUP	[+]

Figure 4. 17 Views Add Item

4.4.11 Implementation of Supplier Page

Page is an implementation of a page web used by admin to store data for drug suppliers in collaboration with Basuki Jaya. Supplier data can be added and changed according to the needs of the pharmacy by pressing the Add button to add supplier data and the Edit button to change supplier data. The following is a display of the pharmacy information system supplier page shown in Figure 4.18.

No	Kode Supplier	Nama	Alamat	Kota	Kontak Person	Opsi
1	SP001	PT Vita Farnasi	Jl. Soediman No. 14 Km 5 Klaten, Jawa Tengah	Klaten	082225004040	[+]
2	SP002	Health Indonesia	Jl. Pramuka No. 12, Komplek Perumahan Anugrah, Yogyakarta	Yogyakarta	08533355765	[+]
3	SP003	Kimia Fama	Jl. Bandung No. 11, Catur Tunggal, Yogyakarta	Yogyakarta	082225450273	[+]
4	SP004	PT Desa Medica	Jl. Gedong Kuning No 32, Kotagede, Yogyakarta	Yogyakarta	082225450273	[+]
5	SP005	PT Meditana	Jl. Affendi no 23, Caturtunggal, Depok, Sleman, Yogyakarta	Yogyakarta	081235040012	[+]

Figure 4. 18 Supplier

The following is the add new supplier page which can be done by pressing the Add button shown in Figure 4.19.

Figure 4.19 Page Views Add Supplier

4.4.12 Implementation of Employee Page

Page is an implementation of a page web used by admin to store employee data (employees) who work at Basuki Jaya. Employee data can be added and changed according to the needs of the pharmacy by pressing the Add button to add employee data and the Edit button to change employee data. The following is a display of the pharmacy information system employee page shown in Figure 4.20.

No	ID Pegawai	Nama	Posisi	Tanggal Lahir	Jenis Kelamin	Opsi
1	PGW004	Tika	manager	1990-04-20	Perempuan	[+]
2	PGW005	Adka Melinda	kasir	1994-05-24	Perempuan	[+]
3	PGW007	desy	kasir	2019-11-18	Perempuan	[+]
4	PGW008	adli	apoteker	2019-11-18	Laki-laki	[+]

Figure 4.20 Employee

The following is the add new employee page that can be done by pressing the Add button which is shown in Figure 4.21.

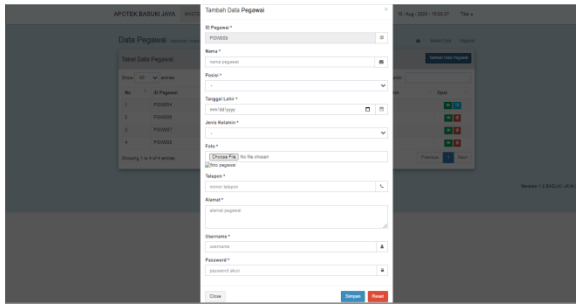


Figure 4.21 Add Employee

4.4.13 Sales Page Implementation

The sales page is an implementation of the page web used by officers to store and process sales services to customers who make purchases at Apotek Raya. The following is a display of the pharmacy information system sales page shown in Figure 4.22.

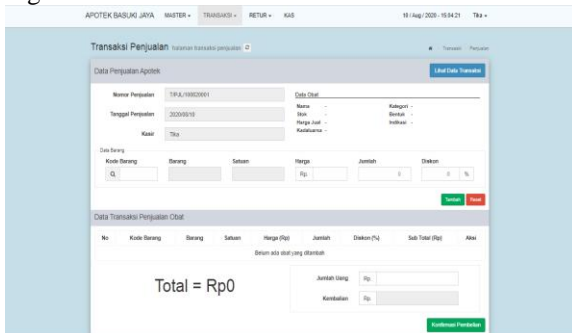


Figure 4. 22 Sales Page Views

The following is a sales data page that can be made by pressing the View Transaction Data button shown in Figure 4.23.

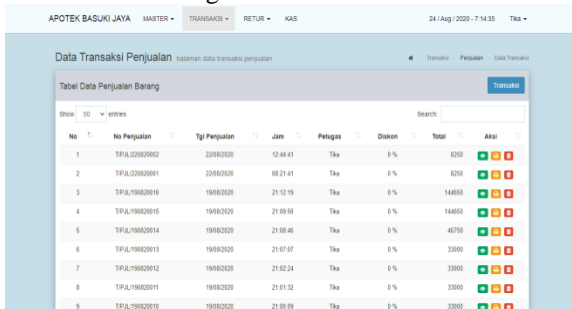


Figure 4. 23 Views of Transaction Data Page

4.4.14 Purchase Page Implementation

The purchase page is an implementation of a page web used by officers to store and process data on purchases of goods from pharmacies to suppliers as distributors of goods in collaboration with Basuki Jaya. Every time a pharmacy buys and receives a shipment of goods from a supplier, purchase data will be recorded in the system as a track record of purchasing goods which will later be reported to the leadership to cross-check the actual conditions at the pharmacy with the system purchase report. The following is a display of the pharmacy information system purchase page shown in Figure 4.24.

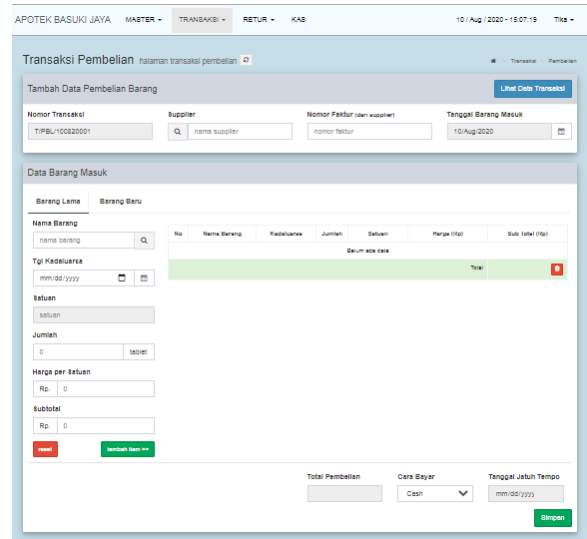


Figure 4. 24 Purchase Page Views

4.4.15 Implementation of Sales Returns Page

The sales return page is an implementation of a page web that is used by officers to store and process data on sales returns of goods from customers in the event of an item error, packaging defects or expired to be exchanged for new goods. The following is a display of the pharmacy information system sales return page shown in Figure 4.25.

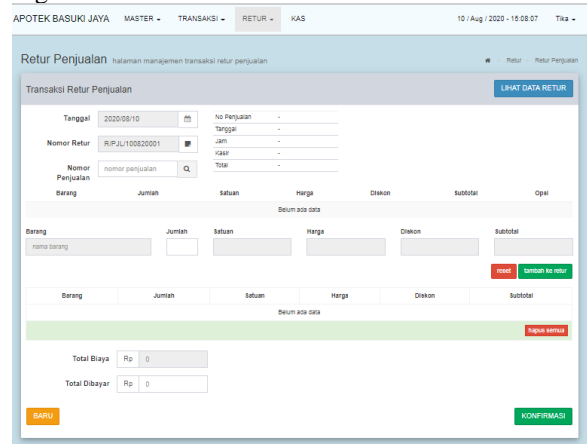


Figure 4. 25 Sales Returns Page Views

The following page adds a new sales return that can be done by pressing the new return button shown in Figure 4.26.

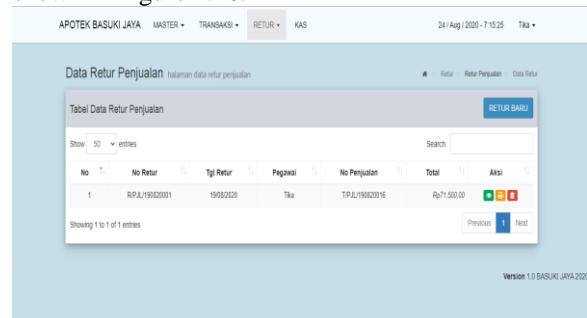


Figure 4. 26 Page Views Add Sales Returns

To process detailed sales return data, first input data on sales items by selecting the name of the item and inputting the number of items returned then clicking the Sales Return Process button. Then the processed data will appear on the sales form in the bottom column. Sales data such as sales return numbers and sales numbers will be filled automatically, to process sales return details click the detail button.

4.4.16 Implementation of Purchase Returns Page

The purchase returns page is an implementation of a page web that is used by officers to store and process data on returned goods purchases to suppliers if there is a defective, boxed or expired item to be exchanged for new goods. The following is a display of the pharmacy information system purchase return page shown in Figure 4.27.

Figure 4.27 Add Purchase Returns Page Views

Select one of the purchase data that will be processed to the purchase return page by pressing the Return Process button. Then the officer will be directed to the detail page of the purchase return as in Figure 4.28.

Figure 4.28 Purchase Return Page Display

Select one of the purchase data that will be processed to the purchase return page by pressing the Return Process button. Then the officer will be directed to the detail page of the purchase return as in Figure 4.29.

Figure 4.29 Views of Purchase Return Details Page

4.4.17 Implementation of Goods Report Page

The goods report page is an implementation of a page web that can be accessed by the leadership to view the records data of goods available at Basuki Jaya. The following is a display of the goods list page and print the pharmacy information system goods report shown in Figure 4.30 and Figure 4.31.

Figure 4.30 Report Page Views

Figure 4.31 Print Sales Report Views

4.4.18 Implementation of Purchase Report Pages

The purchase report page is an implementation of a page web that can be accessed by the leadership to view the records data of goods purchases made by Basuki Jaya to suppliers. The following is a page display of a list of purchases of goods and a printed report on the purchase of a pharmacy information system as shown in Figure 4.32 and Figure 3.33.

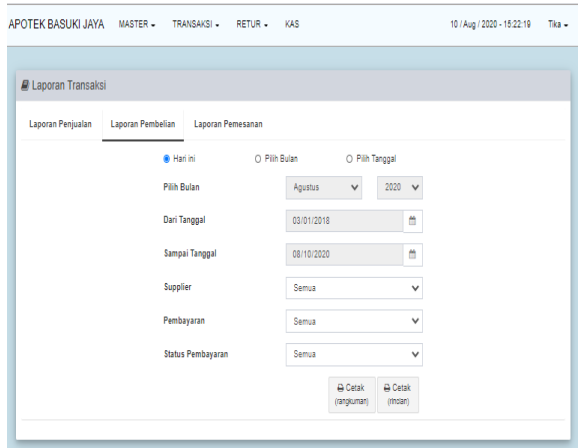


Figure 4.32 Display List of Purchase Items

Apotek Basuki Jaya
Jln. Kebon Agung KM. 3, Tilogodadi, Kec. Mlati, Kab. Sleman, Daerah Istimewa Yogyakarta.
Telp : (0274) 433 133 2

Laporan Pembelian
Bulan 08 / 2020
Supplier : (semua)
Pembayaran : (semua)
Status : (semua)

No	Faktur	Tanggal Pembelian	Supplier	Cara Bayar	Tanggal Jatuh Tempo	Status	Total
1	65656565	21/08/2020	Health Indonesia (Yogyakarta)	Cash	-	lunas	Rp260.000
2	90909090	21/08/2020	Kimia Farma (Yogyakarta)	Cash	-	lunas	Rp372.500
3	888888888	21/08/2020	Health Indonesia (Yogyakarta)	Utang	2020-08-28	belum lunas	Rp375.500
4	888888888	21/08/2020	Health Indonesia (Yogyakarta)	Utang	2020-08-29	belum lunas	Rp375.500
5	3333333	21/08/2020	Kimia Farma (Yogyakarta)	Cash	-	lunas	Rp10.000
6	1234567	21/08/2020	PT Meditama (Yogyakarta)	Utang	2020-12-30	belum lunas	Rp50.000
7	1234567	21/08/2020	PT Meditama (Yogyakarta)	Utang	2021-01-30	belum lunas	Rp50.000
Total							Rp1.493.500

22/Aug/20, Apotek Basuki Jaya
Penanggung Jawab

Figure 4.33 Print Display of Goods Purchase Reports

4.4.19 Implementation of Order Report Page

The sales report page is an implementation of a page web that can be accessed by the leadership to view records of the sales data made by Basuki Jaya to customers. The following is a page display of a list of goods sales and a print report on the sales of goods for a pharmacy information system shown in Figure 4.34 and Figure 4.35.

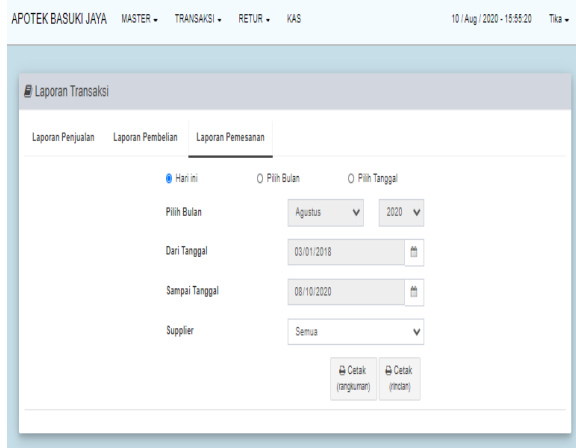


Figure 4.34 Display List of Goods Ordering

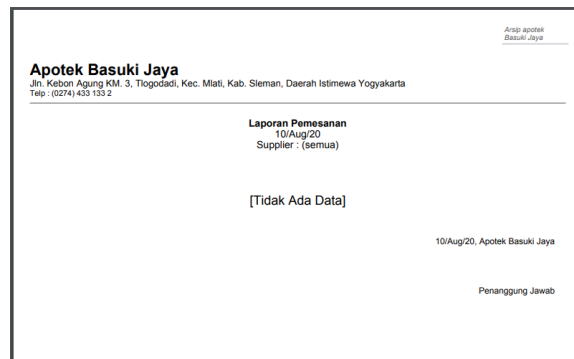


Figure 4.35 Display Print Goods Order Report

4.4.20 Implementation of Purchase Return Report Page

The purchase returns report page is an implementation of a page web that can be accessed by the leadership to view the records data of the purchase returns of goods made by Basuki Jaya to suppliers. The following is a page display of a list of goods purchased returns and a printed product purchase return report for a pharmacy information system shown in Figure 4.36. and Figure 4.37.

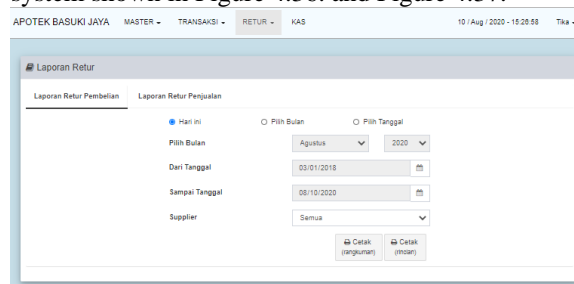


Figure 4.36 Display of Goods Purchase Return List

Apotek Basuki Jaya
Jln. Kebon Agung KM. 3, Tilogodadi, Kec. Mlati, Kab. Sleman, Daerah Istimewa Yogyakarta.
Telp : (0274) 433 133 2

Laporan Retur Pembelian
10/Aug/20
Supplier : (semua)

No	No Retur	Tanggal	Supplier	Total	Jumlah Bayar
Tidak ada data					

10/Aug/20, Apotek Basuki Jaya
Penanggung Jawab

Figure 4.37 Print Display of Goods Purchase Returns Report

4.4.21 Implementation of Sales Returns Report Page

The sales return report page is an implementation of a page web that can be accessed by the leadership to view the records sales return data made by Basuki Jaya to customers. The following is a page display of a list of goods sales returns and a printed sales return report for a pharmacy information system shown in Figure 4.38. and Figure 4.39.

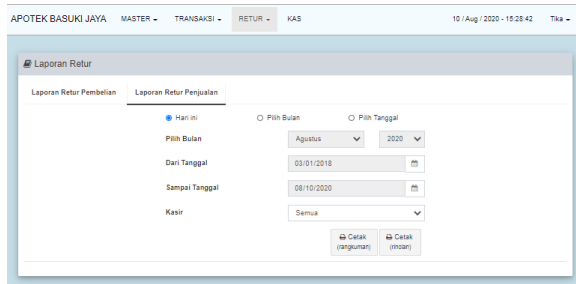


Figure 4. 38 Display of Sales Returns List of Goods



Figure 4. 39 Print Display Sales Returns Report Print

4.2.22 Implementation of Cash Report Pages

The cash report page is an implementation of a page web that can be accessed by the leadership to view cash income and expenditure data made by the Basuki Jaya Pharmacy. The following is a display of cash income and expenditure pages and a printed cash report on the pharmacy information system shown in Figure 4.40.

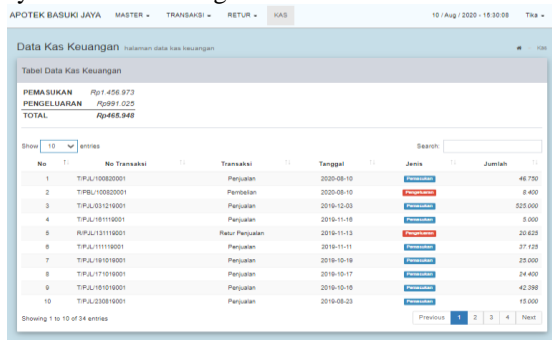


Figure 4. 40 Display of Cash Statements

4.5 Equivalence Partitioning

With the method Equivalence Partitioning to test the data inputted is the same as the data contained in the database or that has been defined by the developer and produces the same response. The modules tested are the login module, Drug Data, Employee Data, Expired Drug Data, Transactions, Returns and Reports.

1. Login testing

Here you can see the test from the login with cases and the results of the data tests are valid and invalid then observed and produce conclusions from the test. The login test can be seen in the following table.

Table 4. 1 Equivalence Partitioning Log

Input Data	Test Scenario	Estimated Results	Results	Information
Username, Password	Input the same username and password to the database.	Valid, go to the main page	T	Success
	Input a username and password that is not the same as the database.	Invalid, the error message appears	T	Success

2. Drug Data Testing

The following can be seen in drug data testing with data cases and test results valid and invalid according to the limitations or format of the test scenario, then observed and produced conclusions from the test. Drug Data Testing can be seen in the following table.

Table 4. 2 Equivalence Partitioning Drug

Input Data	Test Scenario	Estimated Results	Results	Information
Name of goods	Only numbers and letters	Data can be stored.	T	Success.
	When entering characters or symbols.	Error message appears according to the format requested.	T	Success
Batch	Numbers are only numbers, letters.	Data can be saved.	T	Success
	If you enter a character or symbol,	An error message appears according to the format requested.	T	Success
Price Per unit	Only numbers	Data can be stored	T	Success
	If you enter a character or symbol,	An error message is displayed. Enter the number	T	Success

3. Employee testing

Following can be seen testing employee data with data cases and test results in valid and invalid accordance with the limits or format of the test scenario then observed and producing conclusions from the test. Employee testing can be seen in the following table.

Table 4. 3 Equivalence of employee

Input Data	Test Scenario	Estimatd Results	Results	Information
Name	Only letters and numbers	Data can be stored.	T	Success
	Blank data, not according to format.	An error message appears that the field must be filled in.	T	Success
Phone	number Only numbers	Data can be stored.	T	Success
	Blank data, not according to format.	An error message appears that this field must be filled in.	T	Success
Address	According to standard rules	Data can be saved.	T	Success
	Blank data, not according to format.	An error message appears that this field must be filled in.	T	Success
Photo	Type must be JPG / PNG	Data can be saved.	T	Success
	Blank data, not according to format.	Can be stored, image data is blank.	T	Success
Username	Only letters, and numbers	Data can be saved.	T	Success
	Data is blank, you must fill in this field.	An error message appears that the field appears an error message according to the format requested	T	Success.
Password of	letters, numbers and symbols.	Data can be stored.	T	Success
	Blank data, must fill in this field.	Can not be saved An error message appears according to the format requested	T	Success

4. Testing of Supplier Data.

In the following, we can see the testing of the Supplier Data with data cases and test results valid and invalid according to the limits or format of the

test scenario then observed and produce conclusions from the test. Input data for operator testing is almost the same as for participants, only the username is different. Supplier data testing can be seen in the following table.

Table 4. 4 Equivalence Partitioning Data Suppliers

Input Data	Scenario Testing	Estimated Results	Results	Information
Names of	Letters and numbers	Data can be stored.	T	Success
	Blank data, not according to format.	An error message appears that the field must be filled in and must match the format.	T	Success
Address	Characters, letters and numbers	Data can be stored.	T	Success
	Blank data, not according to format.	An error message appears that this field must be filled in.	T	Success
City	only input letters	Data can be saved.	T	Success
	Blank data, not according to format.	An error message appears that the field must be entered in this field.	T	Success
Phone No.	Only input numbers	Data can be saved.	T	Success
	Blank data, not according to format.	An error message appears that this field must be filled in.	T	Success
Contact person	Only input numbers	Data can be saved.	T	Success
	Blank data, not according to format.	An error message appears that this field must be filled in.	T	Success
Email	Entering letters, characters, and numbers	Data can be saved.	T	Success
	Blank data, not according to format.	An error message appears that this field must be filled in.	T	Success

5. Testing of sales transactions

In the following, we can see the testing of sales transactions with data cases and test results in valid and invalid accordance with the limits or format of the test scenario, then observed and produce conclusions from the test. Transaction testing can be seen in the following table.

Table 4. 5 Equivalence PartitioningSales transactions

Input Data	Scenario Testing	Estimated Results	Results	Information
Goods Code	Letters, numbers and character	Data can be stored.	T	Success
	Blank data.	A Message appears error Sorry the drug has not been selected.	T	Success
Price	Only input numbers	Data can be stored	T	Success
	Blank data.	A Message appears error Sorry, the drug price has not been filled.	T	Success
Sum	Only input numbers	Data can be stored	T	Success
	Blank data.	A Message appears error Sorry, the drug amount has not been filled.	T	Success

6. Testing of Purchase Transactions

In the following, it can be seen that purchases from transactions with cases and test results are data valid and invalid according to the limits or format of the test scenario, then observed and produce conclusions from the test. Transaction testing can be seen in the following table.

Table 4. 6 Equivalence Partitioning Purchase Transaction

Input Data	Scenario Testing	Estimated Results	Results	Information
Supplier	Letters, numbers and character	Data can be stored.	T	Success
	Blank data.	Message appears Error Sorry you have not entered the supplier name.	T	Success
Invoice	number Letters and numbers	Data can be saved	T	Success

	Blank data.	A Message appears error Sorry you have not filled the invoice number.	T	Success
Name	ItemLetters and numbers	Data can be saved	T	Success
	Blank data.	Message appears Error Sorry you have not entered the name of the item.	T	Success
Sum	Only input numbers	Data can be stored	T	Success
	Blank data.	A Message appears error Sorry, the data is not complete.	T	Success
Price Per Unit	Only input numbers	Data can be stored	T	Success
	Blank data.	A Message appears error Sorry, the data is not complete.	T	Success
Sub total	Only input numbers	Data can be stored	T	Success
	Blank data.	A Message appears error Sorry, the data is not complete.	T	Success

7. Ordering Transaction Testing

The following can be seen: the testing of the order transaction with the data cases and test results valid and invalid according to the limits or format of the test scenario then observed and produced conclusions from the test. Transaction testing can be seen in the following table.

Table 4. 7 Equivalence Partitioning Transaction Booking

Input Data	Scenario Testing	Estimates Results	Results	Information
Supplier	Letters, numbers and character	Data can be stored.	T	Success
	Blank data.	Message appears Error Sorry you have not entered the supplier name.	T	Success
name	ItemLetters and numbers	Data can be saved	T	Success
	Blank data.	Message appears Error Sorry you have not entered the	T	Success

		name of the item.		
Sum	Only input numbers	Data can be stored	T	Success
	Blank data.	A Message appears error Sorry, the data for the amount of medicine has not been filled in.	T	Success
Description	Letters, numbers and characters	Data can be stored.	T	Success
	Blank data.	Data Can Be Added	T	Success

8. Testing Sales Returns In

The following, we can see the testing of Sales Returns with data cases and test results in valid and invalid accordance with the limitations or format of the test scenario then observed and produce conclusions from the test. Returns testing can be seen in the following table.

Table 4. 8 Equivalence Partitioning Sales Returns

Input Data	Scenario Testing	Results Estimated	Results	Information
Number of Sales	Letters, numbers and character	Data can be stored.	T	Success
	Blank data, not according to format.	An error message appears that the field is sorry no items selected yet.	T	Success
Sum	Only numbers	Data can be stored.	T	Success
	Blank data, not according to format.	An error message appears that the field is sorry to enter the appropriate amount.	T	Success
Total pay	Only numbers	Data can be stored.	T	Success
	Blank data, not according to format.	An error message appears that the field is sorry to enter the appropriate amount.	T	Success

9. Testing for Purchase Returns

The following can be seen from the testing of Purchase Returns with data cases and test results in valid and invalid accordance with the limitations or format of the test scenario then observed and

produced conclusions from the test. Returns testing can be seen in the following table.

Table 4. 9 Equivalence PartitioningPurchase Return

Input Data	Scenario Testing	Estimates Results	Results	Information
Purchase Number	Letters, numbers and character	Data can be stored.	T	Success
	Blank data, not according to format.	An error message appears that the field is sorry no items selected yet.	T	Success
Sum	Only numbers	Data can be stored.	T	Success
	Blank data, not according to format.	An error message appears that the field is sorry to enter the appropriate amount.	T	Success
Description	Letters, numbers and characters	Data can be saved.	T	Success
	Blank data, not according to format.	An error message appears that fills you in all data correctly?	T	Success
Amount to be paid is	Only numbers	Data can be stored.	T	Success
	Blank data, not according to format.	An error message appears that the field is sorry to enter the appropriate amount.	T	Success

5. CLOSING

5.1 Conclusion

Based on the observations and research conducted by the author on Basuki Jaya, the following conclusions can be drawn:

1. The design of the sales system model that has been made can help minimize errors in the process of recording goods, sales transactions and purchasing drug stocks at Basuki Jaya pharmacies.
2. The system that has been built can help report drug expiration, making it easier for cashiers and pharmacists to collect data on drugs at the Basuki Jaya Pharmacy.

3. The results of the program that have been created can be hosted to help the owner monitor online sales results, the amount of drug stocks and bills that must be paid to suppliers.

5.2 Suggestions

In general, the system that has been built has overcome the existing problems, but there are several things that the authors recommend for future system development, namely:

1. Can be developed with the sale of goods media online to the customer that is equipped with a courier service to send orders. Customer.
2. Can be integrated with system inventory pharmacy so that it can record pharmacy assets outside of drug purchase and sale transactions.

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