

# DRUG INVENTORY INFORMATION SYSTEM IN ASY-SYIFAA YUKUM JAYA ISLAMIC HOSPITAL

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## ABSTRACT

The drug inventory system at the Asy-Syifaa Yukum Jaya Islamic Hospital is still manual. The type and number of drugs that continue to grow with the outflow and entry of drugs are increasing. Handling data with this manual system has several obstacles, including causing errors in checking drug stock, each report has redundancy data and is not thorough in recording incoming and outgoing drug stocks so there is a mistake in recording the final stock. Overcoming this problem, the author designs a new system by utilizing network-based information technology. A new system designed using the PHP programming language and MySQL as a database. This research produced a program application that can control drug inventory and provide stock update reports. The inventory system program application can also monitor drug stock so that all drugs entering or exiting in the warehouse can be clearly identified without any errors that will interfere with the drug supply process. Thus, this research can improve efficiency and effectiveness in drug inventory in the Asy-Syifaa Yukum Jaya Islamic Hospital Pharmacy Installation.

**Keywords:** Information system, *inventory*, *database MySQL*, *PHP*

## INTRODUCTION

The progress of science and technology is growing very rapidly in the present era, increasing the need for a support system that is not only fast in processing and presenting reports, but also required accuracy. Computers as data processors and information producers are vital and can no longer be separated from human life. Frequent errors in processing and making reports make the leadership of a company difficult to control the things that happen in the company, then the application of an optimal computer system can be a solution to overcome this. The use of health services is one of the important needs, along with increasing public awareness of the importance of health. One of the institutions dealing with health services is an institution in the form of a hospital. Asy-Syifaa Yukum Jaya Islamic Hospital, which is a private hospital, which has a large inventory of medicines with different specifications. The inventory system on medicines at the Asy-Syifaa Yukum Jaya Islamic Hospital in data processing still uses a manual system. Handling data with this manual system has several obstacles such as causing errors in checking drug stock, each report has redundancy data, as well as inaccurate recording of in and out drug stock so that there is a mistake in recording the final stock. These things cause the work process to be ineffective and inefficient. A good inventory process of drugs

will reduce difficulties in controlling inventory and drug expenditure. With the design of an information system, it is expected that all drugs in and out the warehouse can be clearly identified without any errors that are disturbing in the process of providing drugs later. And by using the

web, it will be easier to present information and monitor the state of medical supplies at the Asy-Syifaa Yukum Jaya Islamic Hospital.

## Purpose and Benefit

The purpose and benefit of this research was to design and implement a drug inventory information system to achieve work efficiency.

## Literature Review

### Literature Study

Fadli Ardianto Faruq in the Final Project entitled Design and Implementation of Drug Inventory Control Information System at Beji Puskesmas with Visual Basic 6.0, designing a computer information system that is used in the drug warehouse in Beji Health Center with the results of input and consideration for Beji Puskesmas health warehouse overcome existing problems, as well as input in improving existing drug inventory information systems. Regorius Satia Budhi, et al. in the research

entitled Making Inventory System with Placement and Goods Position Visualization at UD Various Toys. The system was developed using Borland Delphi 6 and MySQL as a system database. For setting the placement of goods used backtracking and visualizing the position of the item using OpenGL. This research produced an application program that can control inventory and provide drug inventory reports. The program application also supports placement settings and is able to visualize inventory locations in three-dimensional form.

**Theoretical Basis**

**Basic Concept of Inventory**

Every company, whether it's a trading company, a manufacturing company or a service company always has inventory. In the absence of inventory, entrepreneurs will be faced with the risk that the company at one time cannot fulfill the desires of customers who need or demand goods / services. Inventory is held if the expected profit from the inventory should be greater than the costs incurred. As according to Sofjan Assauri (1993: 169) inventory can be defined as follows: "Inventory is an asset that includes goods belonging to the company with the intention to sell in a normal business period". So, inventory is a number of items provided to meet customer demand. In a trading company basically, there is only one inventory class, which has the same rotational nature, which is called the "Merchandise Inventory". This inventory is in the form of goods which are always in circulation, which are always bought and sold, which do not undergo further processing within the company which results in changes in the form of the goods.

**Data Base**

The definition of a database according to Bambang Hariyanto (2004) is: "a collection of data (elementary) that is logically related in presenting phenomena/facts in a structured manner in a particular domain to support applications in certain systems". From the definition above, it can be concluded that the database is a collection of data items that are interconnected with one another which are organized based on a particular scheme or structure, which can later be reused quickly and easily.

**Reasons behind database**

It is one of the important components in information systems in the form of a basis in providing information and determining the quality of information: accurate, timely and relevant.

Information can be said to be valuable if the benefits are more effective than the cost of getting it, reducing data duplication (data redundancy), the relationship of data can be improved (data relatability), and reducing waste outside storage

**Characters** : is the smallest part of the data, can be in the form of numerical characters, letters or special characters that form a data / field item.

**Field** : represents an attribute of a record that shows an item from the data, such as name, address and so on. A collection of fields forms a record.

**field name**: must be named to distinguish one field from another

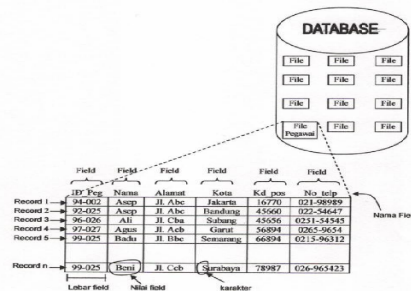
**field representation**: type of field (character, text, date, number, etc.), field width (the maximum space that can be filled with data characters).

**field value**: the contents of the fields for each record.

**Record** : A collection of fields forms a record. Records represent a particular individual data unit. A collection of records forms a file. For example, the personnel file, each record can represent the data of each employee.

**File**: The file consists of records that describe a similar set of data. For example, subject files contain data about all existing subjects.

**Database** : Collections of files / tables form a database.



**Figure 1. Basic Concept of Database**

## Methodology

### Context Diagram

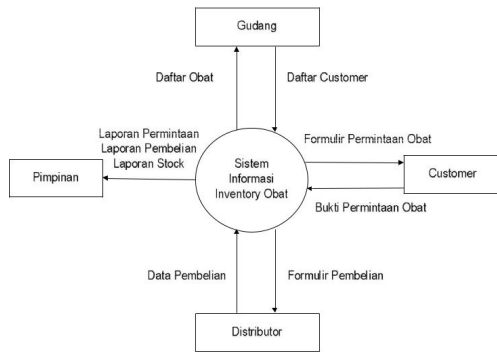


Figure 2. Context Diagram

From Figure 2 it can be seen that the drug inventory system involves 4 entities, namely:

1. **Warehouse:** Data collection of customers that will be sent, where customer data is inputted by the operator to be saved to the system. Then the system will send a list of drugs to be ordered by the warehouse.
2. **Customer:** The system sends a drug demand to the customer in the form and the customer returns the drug demand that has been sent to the system.
3. **Distributor:** Data collection of drugs purchased by the system to the distributor then the distributor will return proof of purchase.
4. **Leader:** Reports produced by the leadership system.

The web-based inventory system of the Asy-Syifaa Islamic Hospital has a distributor table, customer table, and two transaction tables, namely transactions to distributors and transactions to customers.

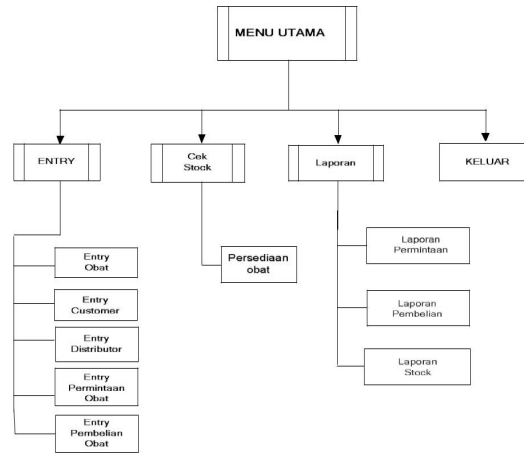


Figure 3. Design of Inventory Information System Web Pages

## Discussion

### Main Page

This page is the front page of the Drug Inventory Information System program at the Asy-Syifaa Yukum Jaya Islamic Hospital. On this page there is a login that works for operators and admin. Where operators are given access rights to input data and transactions, but to add new operators is only given to the admin. To access this page the admin and operator must authenticate on the login menu by entering a username and password. This menu is provided specifically for administrators who have the right to full access to all data.

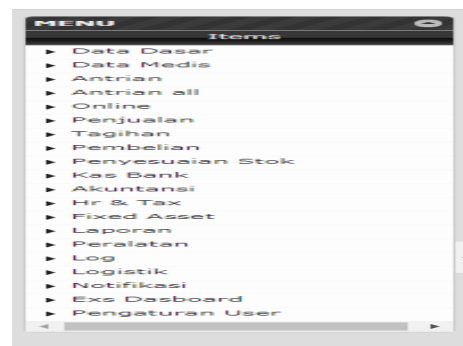
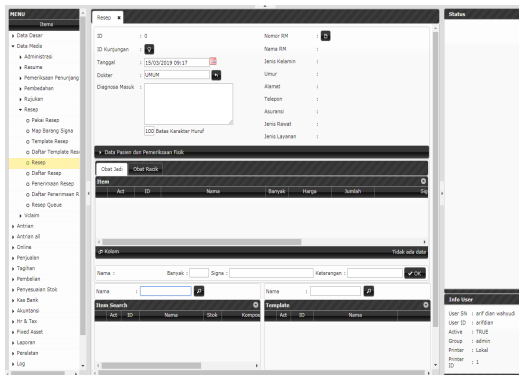


Figure 4 :Main Page

**Demand Transaction**

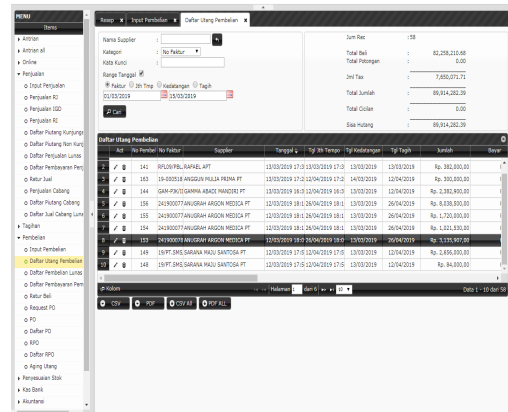
On the demand form, it is used to input transactions. For the customer transaction data entry operator page, see Figure 7.



**Figure 7: Drug Form**

**Customer**

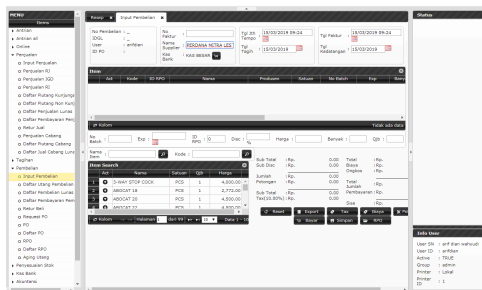
This page is used to input customer data (units) in the Asy-Syifaa Yukum Jaya Islamic Hospital can be seen in Figure 10.



**Figure 5: Customer Transaction Data Form**

**Purchase**

The purchase form is used to input drug purchase transactions. For operator pages, the transaction transaction data entry can be seen in Figure 8.



**Figure 8 Customer Form**

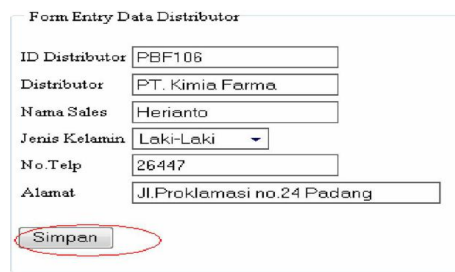
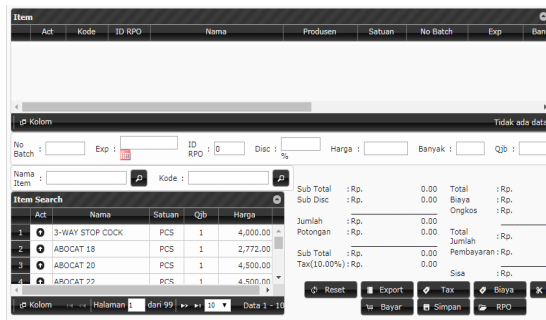
**Distributor**

This page is used to input data from distributors who supply drugs to the drug warehouse of the Asy-Syifaa Yukum Jaya Islamic Hospital can be seen in Figure 11.

**Figure 6: Purchase Transaction Page of Operator**

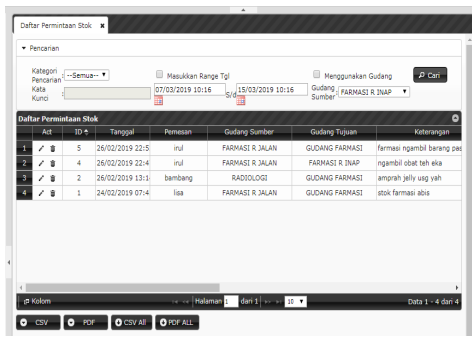
**Drug**

This page is used to input drug data from a distributor can be seen in Figure 9.

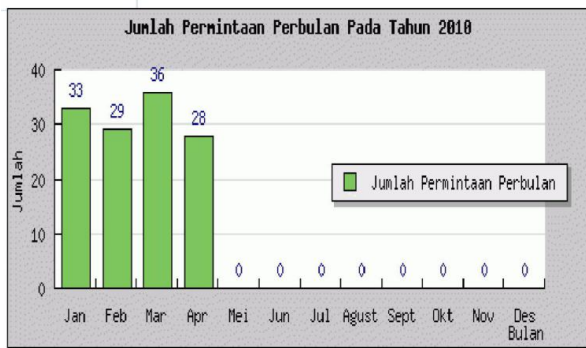


**Figure 9: Distributor Form**

**Demand Report**



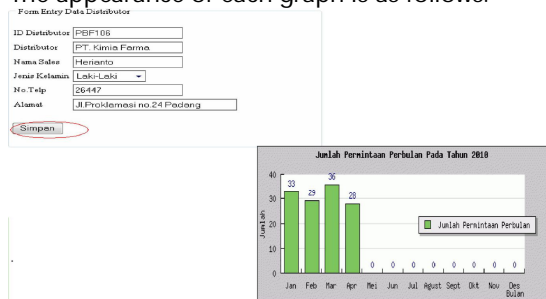
**Figure 10: Demand Report**



**Figure 11: Purchase report**

**Graph**

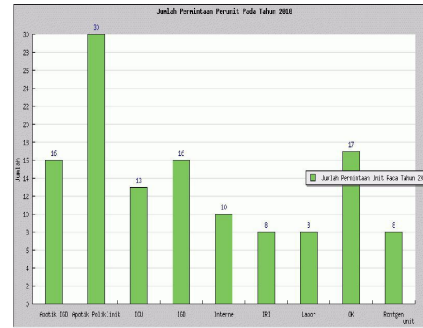
In this drug inventory information system at the Asy-Syifaa Yukum Jaya Islamic Hospital, the graphs shown are as many as three, namely a graph of the number of demands per month in the current year, a graph of the number of demands per unit in the current year and a graph of monthly drug demand. The appearance of each graph is as follows:



2. The graph of the number of demands per month in Figure 13 explains the number of monthly

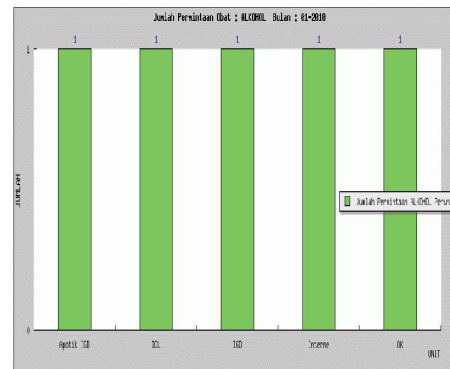
demand transactions in the current year in the Hospital Pharmacy Installation. Number of demands per unit graph

In figure 14 describes the number of demands per unit in the current year. It can be seen which comparison of units makes more demands to the drug warehouse.



**Figure 14: Number of demands per unit graph**

The graph of the monthly drug demand in Figure 16 describes the demand for the name of the drug from each unit per month.



**Figure 15: Graph of Monthly drug demand**

From a comparative analysis of the old system of various criteria, it is concluded that recording transactions from distributors and customers with the new system is faster than the old system because of the increasing number and types of drugs. Making reports caused by many processes in data entry with the old system is often too late, while the new system is on time. The difficulty of searching drug stocks in warehouses with old systems, while new systems become easy so that the work process becomes effective and efficient.

### Conclusion

Based on the results of the test it can be concluded that the new drug inventory information system can facilitate checking of incoming or outgoing drug stocks so that there is no mistake in recording the final stock. With this application program, the information generated can also be a graph of the transactions made so that computer operator officers can easily see the development of drug inventory carried out in each transaction so as to increase work effectiveness and efficiency, especially in producing reports. Besides that, it can also support and accelerate decision making.

### Suggestion

After evaluating the whole system, it is hoped that it can be further developed with the following development suggestions: Officers of the Pharmacy Installation Warehouse at the Asy-Syifaa Islamic Hospital Yukum Jaya should be given training in the new application program so that they can operate the new drug inventory system optimally and

effectively so that there are no errors in data collection and reporting. It is hoped that this new application program can be used as it should and continues to develop its performance with existing problems, both now and in the future.

### References

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