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Information System of PT ABC Sales Report

Yosua Novembrianto Simorangkir[1*], Adi Widodo[2]
[1,2]STMIK Insan Pembangunan
**Corresponding e-mail: yosua.simorangkir@rocketmail.com*

Abstract *- In compiling the sales report of the PT ABC branch requires a system that can be used in compiling a report. Usually, the preparation of sales of philately objects is done manually, which is implemented in the form of bookkeeping. The preparation of sales reports that still use the manual system makes the Office take a long time in compiling and making reports. The design of this sales report information system uses a structured analysis model, namely FOD (Flow Of Document) with a data model plus DAD (Data Flow Chart) to describe the functional model and Zero Diagram in describing the reality of sales. The software used is Microsoft Visual Basic 6.0 with Microsoft Access database. The data processed in this system include cashier data, customer data, goods data, and so on. Infield testing with the conclusion of the test results, that the system is considered good, can be learned, easy to use, with an attractive appearance, and has been following the needs of the office.*

Keywords: *Data Flowchart (DAD), Flow Of Document (FOD), Visual Basic (VB).*

I. INTRODUCTION

Background

PHILATELY is a hobby of collecting or collecting and learning all things about Stamps and other postal items. Not just a hobby, but PHILATELY activities can broaden your horizons and knowledge. PHILATELY is one way to invest. For this purpose, PT. ABC will faithfully provide all the needs of Philatelists (Stamp Collectors) by producing stamps and serving the sale of Indonesian Philatelic objects through several Post Offices and Jakarta Philatelic Offices.

The Philatelic items available at the Post Office and Jakarta Philatelic Office include various series of stamps, booklets, postal certificates, postcards, first-day covers.

At this time " PT ABC" still uses a data processing process that is not neatly arranged and inaccurate. so that errors often occur in processing data and also experiencing difficulties quickly, precisely, and accurately. From these problems, the authors raised the title of " Information System Report Sales of Philatelic Objects PT ABC Jakarta".

Problem Identification & Limitation

The problems that can be discussed can be formulated as follows:

1. How can the report on the number of philatelic goods stock be known quickly when needed;
2. reduce duplicate data errors on stock items
3. How to make sales reports accessible at any time.

The author has a problem limitation, namely:

1. Handling the sale of philatelic objects.
2. Only discussing the Sales Information System for Philatelic Objects at PT. ABC Jakarta

Objective

1. To give an idea on how to accelerate the process and recording of sales transactions of philatelic objects at PT ABC quickly and accurately in their presentation.
2. So that reports on sales of philatelic objects can be quickly identified according to the desired time.

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3. Prevents the possibility of errors in making duplicate data reports on philately goods.

II. LITERATURE REVIEW

Philately is one way to invest. So that ABC Indonesia will faithfully provide all the needs of *Philatelists* (Stamp Collectors) by producing stamps and serving the sale of Indonesian Philatelic objects through several Branch Offices. Philatelic objects available at the Jakarta Office include various series of Stamps, Minisheets and Fullsheets, Memories Sheets (Souvenir Sheets), Booklets, Maximum Card Postcards, First Day Covers and various other Philatelic covers as well as various kinds of Stamp Packaging and Merchandise.

Basic Concepts of Information Systems

There are two groups of approaches in defining the system, namely that emphasizes the procedure and which emphasizes the components or elements. A systems approach that emphasizes more on elements or components defines the system as a collection of elements that interact to achieve a certain goal. The systems approach which is a collection of elements or components or subsystems is a broader definition and it is more widely accepted because the system consists of several subsystems or parts systems.

Information System Cycle

The information cycle which uses data as a raw material must be processed to produce information through a model. The model used to process the data is called the data processing model or known as the data processing cycle (information cycle).

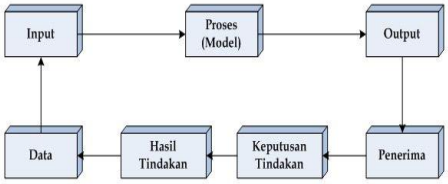

Figure.1 Data Processing Cycle

Information systems consist of components called blocks building blocks, which consist of input components, model components, output components, technology components, hardware components, software components, database components, and control components. All these components interact with each other to form a unit to achieve the target.

Definition of Philately

Philately is activity or hobby to gather stamps and items as the collection of postal items mostly which prioritized the old edition, although the new edition was also collected. The older the postal object, the higher the price. **Philatelist** is a Collector of Philatelic Objects. This word is a misnomer because the so-called philatelist is a specialist, who is deeply immersed in only one field in the world of philately.

Sales Information System

A system is a group of elements that are closely related to one another, which function together to achieve certain goals (Mulyadi, 2001). The system is also a collection of equipment components model requirements, functions, and interfaces (Mathiassen, Lars, 2000). A system is a group of elements that are integrated with the same intent to achieve an objective. The system is a set of components that work together to achieve goals to improve the organization in a better direction (McLeod, 1998).

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Information is one type of resource available to managers, which can be managed like any other resource. Information from computers can be used by managers, non-managers, as well as people and organizations in the corporate environment (McLeod, 2001).

The information system is a system within an organization that brings together the daily transaction processing needs, supports operations, is managerial, and strategic activities of an organization, and provides certain outside parties with the required reports (McLeod, 2001).

Sales activities consist of transactions of goods or services either on credit or services to obtain other resources such as cash or promises to pay (receivables). Sales is a company's main activity in obtaining revenue, both for large companies and small companies. Sales are the final target of marketing activities because in this section there are price-fixing, negotiations, and handover agreements are held, as well as an agreement on payment methods agreed by both parties so that a point of satisfaction is reached (Mulyadi, 2001). A sales system is a system that involves resources within an organization, procedures, data, and supporting facilities to operate the sales system, to produce useful information for management in making decisions.

Sales Information System is defined as a sales statement-making, activities will be explained through procedures which include a sequence of activities from the time the order is received from the buyer, checking whether the goods are available or not and forwarded to the delivery of goods accompanied by the making of invoices and keeping a record of the applicable sales. (Niswonger, 1999).

Based on the explanation above, it can be concluded that the sales information system is a system that flows goods and services to consumers with an interaction structure that is structured to achieve certain goals related to sales activities. For example in Figure 2. as follows.

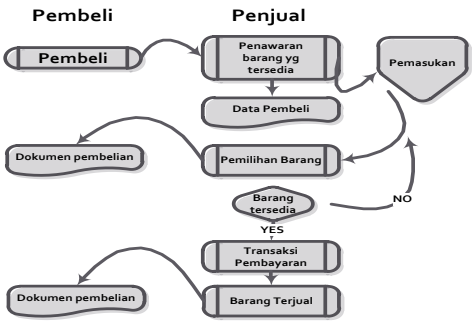

Figure 2 . Sales Information System

Database Concept

The basic concept of a database is a collection of records or chunks of knowledge. A database has a structured description of the types of facts stored in it, this explanation is called schema. The schema describes the objects represented in a database and the relationships between these objects. There are many ways to organize schemas or model database structures, and these are known as database models or data models. The model commonly used today is the relational model, which according to layman's terms *(* the layman) represents all information in the form of interconnected tables where each table consists of rows and columns (the actual definition uses mathematical terminology). In this model, relationships between tables are represented by using the same values between tables. Other models like the hierarchical model and network model use a more explicit way of representing the relationships between tables.

Term*base data* refers to a collection of related data, and the software should refer to it as a *database management system* (*database management system/DBMS*). If the context is clear, many administrators and programmers use the term database for both meanings.

Entity Relationship Diagram (ERD)

A model to explain the relationship between data in the database based on basic data objects that have relationships between relationships.

ERD to model data structures and relationships between data. In general, the ERD methodology is in the following table:

Table 1. Entity Relationship Diagram (ERD Methodology)

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1. Menentukan entitas	Menentukan peran, kejadian, lokasi, hal nyata dan konsep dimana penggunaan untuk menyimpan data
2. Menentukan relasi	Menentukan hubungan antar pasangan entitas menggunakan matriks relasi
3. Gambar ERD sementara	Entitas digambarkan dengan kotak, dan relasi digambarkan dengan garis
4. Isi kardinalitas	Menentukan jumlah kejadian satu entitas untuk sebuah kejadian pada entitas yang berhubungan
5. Tentukan kunci utama	Menentukan atribut yang mengidentifikasikan satu dan hanya satu kejadian masing-masing entitas
6. Gambar ERD berdasarkan kunci	Menghilangkan relasi many to many dan memasukkan primary dan kunci tamu pada masing-masing entitas
7. Menentukan atribut	Menentukan field-field yang diperlukan system
8. Pemetaan atribut	Memasangkan atribut dengan entitas yang sesuai
9. Gambar ERD dengan atribut	Mengatur ERD dari langkah 6 dengan menambahkan entitas atau relasi yang ditemukan pada langkah 8
10. Periksa hasil	Apakah ERD sudah menggambarkan system yang akan dibangun?

Cardinality

Relationship cardinality indicates the maximum number of entities that can relate to entities in another entity set. From several possibilities about the number of relationships about these entities, relation cardinality refers to the maximum relationship that occurs from one entity set to another entity set and vice versa. There are 3 kinds of relation cardinality, namely:

A. One To One (*one to one*).

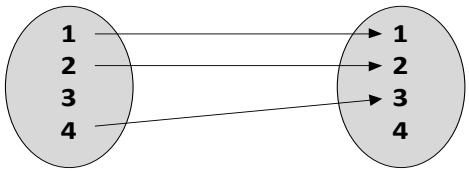

Figure .3 One-to-one relationship

B. One to Many (*One to Many*).

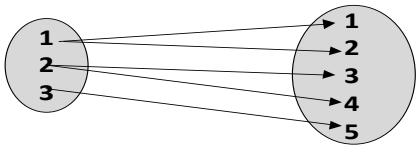

Figure 4. One-to-many relationship.

C. Many to Many (*Many to Many*).

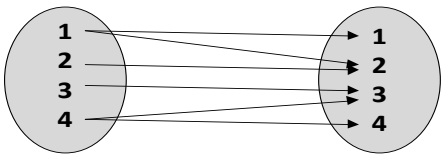

Figure 5. Many-to-many relationship

Normalization

A. Understanding Normalization

Normalization is a process to change a table that has certain problems into two or more tables, which no longer have these problems (Abdul Kadir, 2002: 52). The form of normalization is a rule that is imposed on the tables in the database and must be met by these tables at normalization levels.

B. Normalization Stage

First Normal (1 st Normal Form)

Rule :

- Defines key attributes.
- There are no repeat groups.
- Each attribute has only one meaning.

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Second Normalization (2 nd Normal Form)

Rule :

- It meets in the normal form to one.
- The non-key attribute must have a fully functional dependency on the primary key.

Third Normalization (3 nd Normal Form)

Rule :

- Already in second normal form.
- There is no transitive dependency (where a non-key field depends on another non-key field).

Microsoft Visual Basic Version 6.0

Visual basic 6.0 is an application to create a database information system. Visual Basic is a programming language created by Microsoft and is included in a high-level programming language. Visual Basic is used in the development of multimedia, website, and databases. Database processing can be run quickly because Windows itself has supported Visual Basic with the many libraries provided.

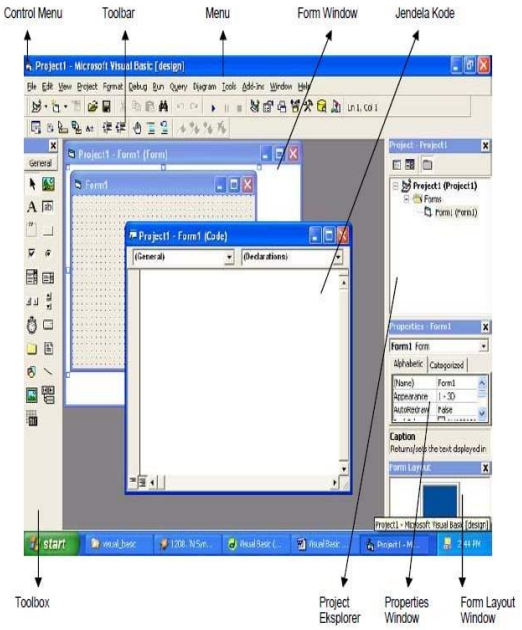

Figure 6. Facilities Visual Basic Version 6.0

In the Visual Basic environment, there are various kinds of components, namely Control Menu, Menu, Toolbar, Form Window, Toolbox, Project Explorer, Properties Window, Form Layout Window, Code Window.

Microsoft Access

Microsoft Access is a relational computer database application program that is used to design, create and process various types of data with large capacity. This application uses the Microsoft Jet Database Engine, and also uses an intuitive graphical display to make it easier for users. The last version of Microsoft Access was 2013. Microsoft Access can use data stored in Microsoft Access, Microsoft Jet Database Engine, Microsoft SQL Server, Oracle Database, or any standard-supporting database container ODBC *(Open Database Connectivity)*. User/ programmer the proficient can use it to develop complex application software, while the programmer the less proficient ones can use it to develop simple application software. Access also supports techniques of object-oriented programming, but cannot be classified as object-oriented programming aids

III. RESULT AND DISCUSSION

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System Analysis

In analyzing the proposed sales and inventory procedures at PT. ABC Jakarta, the author uses a tool in the form of Flow Of Document (FOD). After conducting observations and interviews with several personnel, the author presents an overview of the procedure as follows:

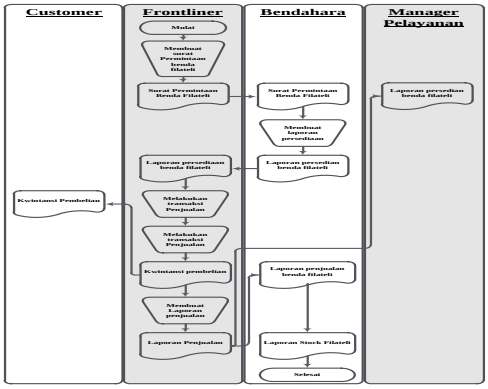

Figure 7. Sales Document Flowchart

Problem

Judging from the manual work faced by PT. ABC Jakarta, it is clear that manual work like this usually slows down the work of the current system. This is involved in data collection problems, both data collection of items that have been sold and data collection of stock items, so transaction handling takes longer and the possibility of errors due to human error is very large. This manual work can hinder data search work. Searching data can take a long time due to piled up data and even data loss can occur due to errors made by employees.

Solution to Problem

Alternative problem solving that we propose to overcome the problems faced by PT. ABC Jakarta is as follows:

1. Presenting information that is supported by an integrated database so that it can obtain information quickly.
2. Sales transactions are carried out directly and update stock data so that stock data always follows the sales transaction process.
3. With computerization, it is hoped that the running system will be more structured and can make it easier to do work

Proposed System Design

PT ABC requires a system that can compile reports on sales of philatelic objects. Usually, the preparation of sales of philately objects is done manually, which is implemented in the form of bookkeeping. Therefore, the author proposes to create a computerized system that can easily access reports on philatelic objects.

The proposed design of this philately object sales information system uses a structured analysis model, namely FOD (Flow Of Document) to describe the data model plus DAD (Data Flow Diagram) in describing the functional model and Zero Diagram in describing the reality in sales. The system builder software is Microsoft Visual Basic 6.0 with Microsoft Access database.

Data Flow Chart

To describe a system that runs logically, it uses a data flow diagram (DAD) which serves to facilitate understanding of the running system. Which is described as follows :

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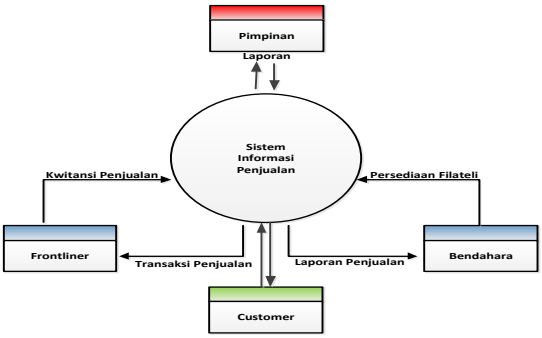

Figure 8. Context diagram of a running system

Zero Chart

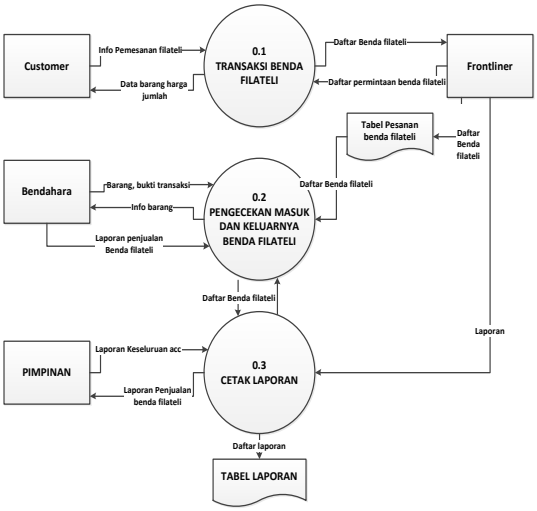

Figure 9. Zero diagrams of a running system

HIPO

The design of the menu structure/HIPO is made with the hope that the user can use it without difficulty, to make it easier for the user to run the program, the user has no difficulty in choosing the desired menus. For more details about the form of the program menu design can be seen in the image below :

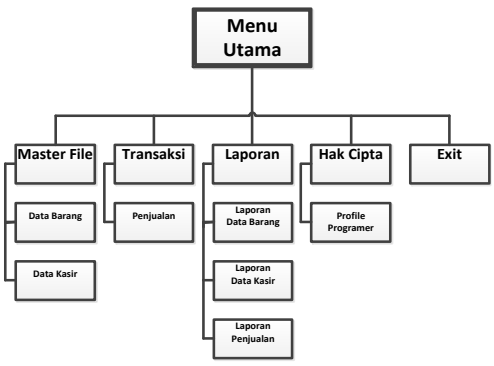

Figure 11. Application structure design

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Login Display Design

This design is used to log in and authentic process to access the main menu to be able to conduct sales transactions of philatelic objects.

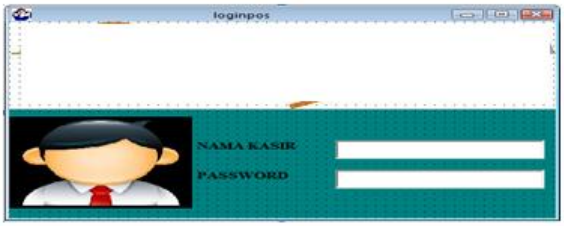

Figure 12. Login display design

Data Amount Display Design

This design is used to input the amount of goods data and make it easier for those who use it to check prices and available stock.

kd_barang	nm_barang	harga	stock
BS100	bisnis	10000	1000
KB700	KARTULEBARAN7	7000	100
KP500	KARTUPOS	500	500
MM300	MATERAI3000	3000	990
MM600	MATERAI6000	6000	10000
PR110	PERANGKO10000	10000	500
PR150	PERANGKO1500	1500	451

Figure 13. Design of the display of the amount of data

Report Menu Display Design

This design is used to output/output sales data reports and make it easier for those who will check the results of sales reports every day.

Figure 14. Design of the report display menu

System Implementation

The coding stage is based on the system design that has been made into the programming language. The hardware environment (hardware *)* and the software environment (*software*).

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An explanation that includes the steps for making an application for selling philately goods at PT ABCto the use of the application. The following activities are carried out in designing and implementing stock control applications:

Preparation for the installation of tools to be used

The initial stages carried out to install the software needed to create a sales application at PT ABC are as follows.

Table 2. Device Specifications for Making Sales Applications

No.	Sales Application Device Description
1	Using the Visual Basic 6.0 application Table 4.1 Device Specifications for Making
2	Sales Applications Using Microsoft Access database applications

Program Testing On Software

These steps are carried out to avoid mistakes, including:

A. Error writing *source code* program
B. Error running program
C. Logic error

Software Evaluation

This stage is needed to ensure whether the software can run properly, as well as to identify *errors* so that repairs can be carried out immediately until the software is ready for use.

Application Implementation

As for being used to implement sales applications, among others:

1. Using Microsoft Visual Basic 6.0 applications.

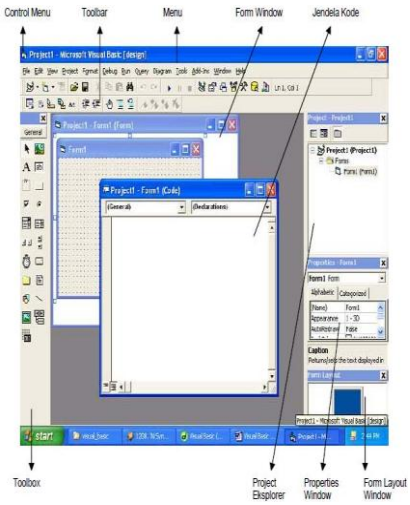

Figure 15. Visual Basic 6.0. Menu

2. Using Microsoft Access databases and database connection methods.

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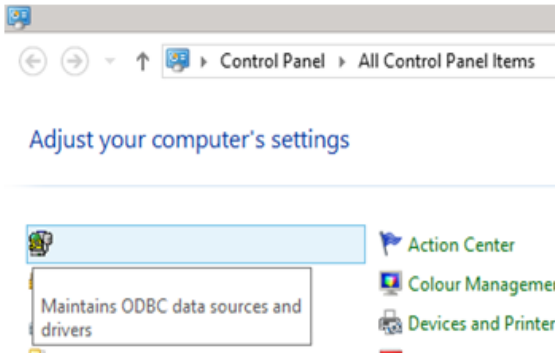

Figure 16. Database connection.

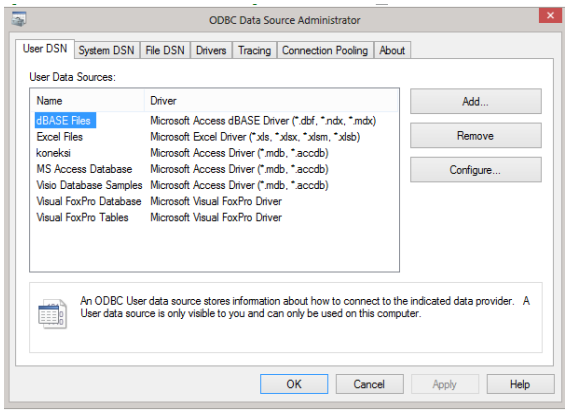

Figure 17. Adding a Microsoft Access database.

Interface Implementation

Visual Basic 6.0 programming, the steps that must be carried out for the installation of the resulting software, starting from the installation preparation stage until the software is ready for use along with general instructions for using the software described in *the dialog screen.*

Main Menu Screen

This menu is the main menu, the window that will appear first when the login form is opened. On the menu, there are several options, namely Master Data, Transactions, Reports, Copyright, Exit. besides that, there is also a file menu consisting of a menu (Master) for item data and cashier data, a (Transaction) menu for sales activities, a (Report) menu for item data reports, cashier data, and sales reports, (Copyright) is a complete profile program maker and menu (Exit) to exit the program.

Master Menu

The Master menu is a form for inputting product data and cashier data.

Item Sub Data

In the Item Data submenu, several fields must be filled in, namely item code, stock, item name, price. If you want to enter product data, then enter goods data then select Input to save. Display. And it can be seen in the image below.

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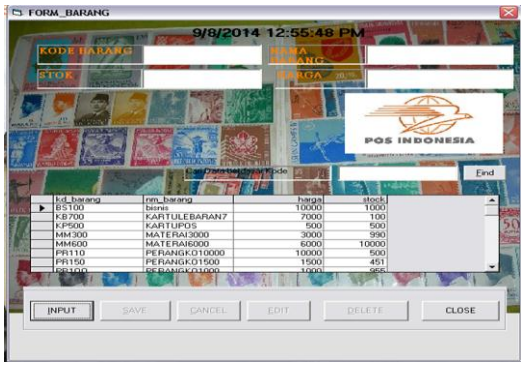


Figure 21. Display of item data menu

Sub data cashier

In the Cashier Data sub, several fields must be filled if there will be new cashier data, the following is an example of filling with the cashier code, cashier name, and password to be able to log in to the program and press input.

Transaction Menu

The transaction menu is a menu for making transactions with customers in the form of goods to be ordered. And to carry out transaction activities on the system by selecting one option, namely the sales sub-menu.

Sales Sub Menu

The sales sub-menu is the activity that is most often carried out later on the system, and to make a sale, a printed icon has been provided as proof of a transaction with the customer, as shown in the image below.

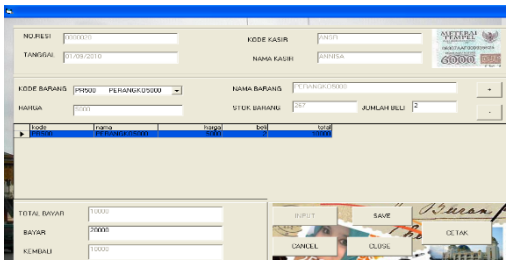


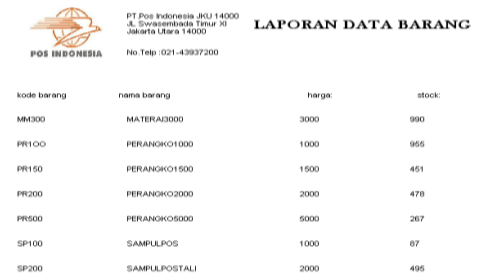
Figure 23. Display of sales sub menu

Report Menu

On the report menu, there are three sub-menus, namely Data Items, Cashier Data, Sales. Goods data report that is knowing the number of items left and sold.

Item data report submenu

This item data report sub-menu functions to search for item data in the form of item code reports item names, prices, and remaining stock of items that can still be sold.



PT.Pos Indonesia JKU 14000
Jl. Swasembada Timur XI
Jakarta Utara 14000

No.Telp :021-43937200

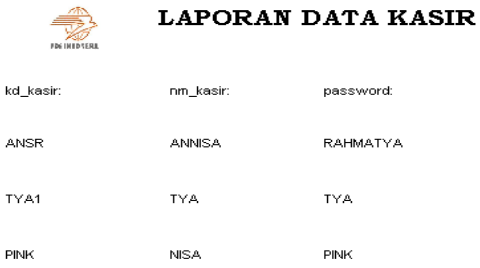
LAPORAN DATA BARANG

kode barang	nama barang	harga:	stock:
MM300	MATERAI3000	3000	990
PR100	PERANGKO1000	1000	956
PR150	PERANGKO1500	1500	451
PR200	PERANGKO2000	2000	478
PR500	PERANGKO5000	5000	267
SP100	SAMPULPOS	1000	87
SP200	SAMPULPOSTALI	2000	495

Figure 24. Sub Menu item data report

Cashier data report submenu

This cashier data report sub-menu functions to perform activities to find cashier data in the form of a cashier code, cashier's name, and cashier's password to enter the system.



LAPORAN DATA KASIR

kd_kasir:	nm_kasir:	password:
ANSR	ANNISA	RAHMATYA
TYA1	TYA	TYA
PINK	NISA	PINK

Figure 25. The submenu of cashier data report

Sales report submenu

The sales report sub-menu consists of the initial date of the transaction and the end date of the transaction by specifying the date to be displayed.

LAPORAN PENJUALAN

NO REG	KODE BARANG	NAMA BARANG	JUMLAH	HARGA	TOTAL
0000003	PR150	PERANGKO1500	2,00	1.500,00	3.000,00
0000004	PR200	PERANGKO2000	2,00	2.000,00	4.000,00
0000005	PR100	PERANGKO1000	3,00	1.000,00	3.000,00
0000006	PR200	PERANGKO2000	2,00	2.000,00	4.000,00
0000007	PR100	PERANGKO1000	7,00	1.000,00	7.000,00
0000008	PR200	PERANGKO2000	2,00	2.000,00	4.000,00
0000009	PR500	PERANGKO5000	6,00	5.000,00	30.000,00
0000010	PR100	PERANGKO1000	2,00	1.000,00	2.000,00
0000011	PR500	PERANGKO5000	2,00	5.000,00	10.000,00
0000012	PR100	PERANGKO1000	2,00	1.000,00	2.000,00
0000013	PR150	PERANGKO1500	3,00	1.500,00	4.500,00
0000014	PR500	PERANGKO5000	4,00	5.000,00	20.000,00
0000015	PR500	PERANGKO5000	3,00	5.000,00	15.000,00
0000016	PR500	PERANGKO5000	5,00	5.000,00	25.000,00
0000017	PR500	PERANGKO5000	2,00	5.000,00	10.000,00
0000018	PR300	PERANGKO3000	3,00	3.000,00	6.000,00
0000019	MM6000	MATERAI6000	20,00	6.000,00	120.000,00
0000020	SP200	SAMPULPOSTALI	2,00	2.000,00	4.000,00
0000021	PR500	PERANGKO5000	3,00	5.000,00	15.000,00
0000022	SP100	SAMPULBIASA	3,00	100,00	300,00
0000023	PR150	PERANGKO1500	6,00	1.500,00	9.000,00
0000024	SP100	SAMPULPOS	3,00	1.000,00	3.000,00
0000025	SP100	SAMPULPOS	7,00	1.000,00	7.000,00
0000026	SP100	SAMPULPOS	7,00	1.000,00	7.000,00

Figure 27. Sales report display

IV. CONCLUSION

Based on the research related to the design of a philatelic object sales system at PT ABC Jakarta, the authors conclude**:**

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1. System information sale of designed Philatelic Objects could make it easy PT. ABC.
2. Zoom out possibility fault to the clerk.
3. System Information on this Philatelic Object also could make it easy in making the report.

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