Application of The Sales and Purchase Program Using The Rapid Application Development Model

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ABSTRACT

The development of information technology is currently growing rapidly and rapidly, which is supported by one of the means, namely the existence of a computer. Of course, a computer that has been equipped with a certain application is used to help facilitate human work in managing the data of an organization or company so that results are accurate and as needed. The results of observations that have been made indicate that there are sales and purchasing activities that still use a manual system, one of which is at a clothing store. Starting from processing goods data, difficulty checking stock, purchasing transactions, sales transactions, and storing other data related to all types of activities, so that it can cause losses for shop owners, errors in recording and inaccurate reports made. Judging from the large number of transactions made at clothing stores, a faster and more accurate information system is needed. Therefore, the authors created a computerized program design using the Microsoft Visual Basic.net programming language and MySQL database, so that information and activities that occur can be carried out quickly and accurately. The method used in designing this program uses the Rapid Application Development (RAD) model. This RAD model is an adaptation of the high-speed version of the waterfall model for the development of each software component. The results achieved from the discussion of this theme are in the form of ready-to-use sales and purchasing program applications. In this case, the use of application programs is the best solution for solving existing problems, and with the use of application programs an effective and efficient activity can be achieved in supporting activities, especially for dealing with sales and purchasing problems.

Keyword : Sales Program, Purchase Program, RAD

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1. INTRODUCTION

Information and communication technology is currently growing rapidly so that we are required to have certain skills to be able to adapt to existing technological advances. This technological development has covered all aspects, especially in the buying and selling business. One of the supporting equipment used is a computer, which is equipped with a certain application program. Computers are also the most sophisticated and efficient tools, very helpful in summarizing the process of activities in a field and aiming to simplify all existing work.

Based on the observations that the authors have made, the authors still find that there is a business activity whose data management is done manually. Purchasing and selling activities at clothing stores is one of the business activities. With manual data processing, this causes the process of buying and selling clothes to be less effective and efficient. There are difficulties in checking the stock of clothes available in stores, there are errors in transactions that can cause losses. Likewise with the preparation of purchase and sales reports which are still in the form of excel files, and the process of making reports still takes a long time and is not accurate.

To overcome the problems in the clothing buying and selling system, it is necessary to develop and design an integrated program. This aims to improve performance and make it easier for companies to transact. To produce a system that has been equipped with an application software program so that it has good performance, it is inseparable from the selection of the method or model of analysis and its

design. The implementation of a system does not only depend on the model and the features of the software and the programming language used, but must pay attention to the right model for its application so that what is the main goal can be achieved [1].

A system that has a high level of dynamics, limited time availability and development budget, to meet the needs of the latest information quickly and accurately, and requires close personal interaction with the characteristics of its users, is more appropriate to apply the Rapid Application Development (RAD) model. this was conveyed by Pandey, et al, 2013. Applying this RAD model, must consider aspects of time and cost in a balanced way and are more suitable for the development of superior information systems in terms of speed, accuracy and low cost. This should also involve interaction with users, so that later they will achieve satisfaction in implementing the new system [2].

The design of the sales and purchase program application for this clothing store uses the Visual Basic.net programming language and is supported by the use of MySQL as the database. With the application of this program application, it is expected that data processing, starting from processing company operational data to preparing reports, can be integrated properly, so that customers will feel satisfied with the services provided and management can periodically evaluate the performance of the new system so that can assist in decision making.

In making a broad program, it can include several activities such as needs analysis and all stages of planning, design and implementation [3]. While set instructions that tell the computer to do what is asked are called programs [4]. The goals of making programs such as increasing program reliability, making it easier for readers to search programs and simplifying programs so that they are not complicated [5].

The steps in making the program as stated by Amborowati (2007) are as follows:

a. Defining the problem (defining the problem)
b. Choosing a programming language (selecting the language)
c. Designing the program (designing the program)
d. Programming or coding the program
e. Testing and tracking program errors (testing and debugging the program) f.
f. Creating program documentation (documenting program)

Activities carried out by the seller in selling goods or services in the hope of obtaining profits from these transactions and sales can be interpreted as the transfer or transfer of ownership rights to goods or services from the seller to the buyer [6]. While Purchasing has several definitions such as estimates used in the periodic inventory system to record the cost of all goods purchased for resale [7] and a series of activities related to the procurement of assets, goods, equipment or supplies and services by companies [8].

In the discussion will involve several supporting equipment such as:

1. Normalization. Normalization can be interpreted as follows: the approach by building relational database logic indirectly (Kusrini, 2007) and the techniques used to validate the data model [9].
2. Flowchart: A flowchart or flowchart can be defined as follows: It is a graphical or visual form of an algorithm [10] and is a form of graphic presentation that describes a step-by-step solution to a problem [11].

2. RESEARCH METHOD/MATERIAL AND METHOD/LETERATURE REVIEW

The type of research that the authors conducted was in the form of case studies using research & development (R&D) methods and analysis methods and application design using the RAD (Rapid Application Development) model, presented by Sukamto and Shalahudin, 2013. The RAD model as an alternative to the System Development model life cycle (SDLC), which at this time many are using it to overcome delays and problems that occur when using conventional models. This RAD model is suitable for producing software systems with urgent needs and short time to complete. If the software requirements are well understood and the scope of the software is well defined so that the team can complete the software development in a short time. The RAD model divides the development team into several teams to work on several components, each work team can be carried out in parallel. Here's a picture of the RAD model

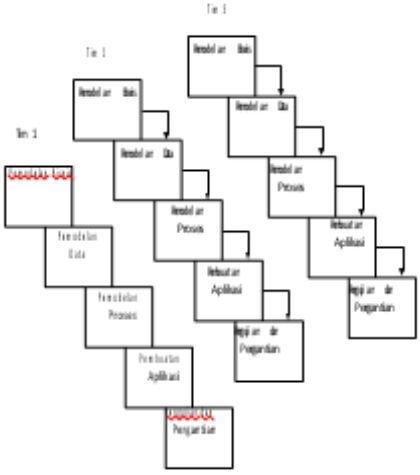

Figure 1. RAD Model

For normal system design, if it takes 180 days, then with the RAD model it only takes 30-90 days to complete the software system. This RAD model attaches great importance to user involvement in the analysis and design process, and thus can meet user needs properly and can significantly increase the level of system user satisfaction, this was stated by Binsaleh and Hassan, 2011.
The research instrument used literature study and observation techniques, and the sample was taken using purposive sampling technique. The selection of the test method is carried out using data that is often used for data processing, starting from operational data, input and output data. The following is a chart of research steps carried out by the author:

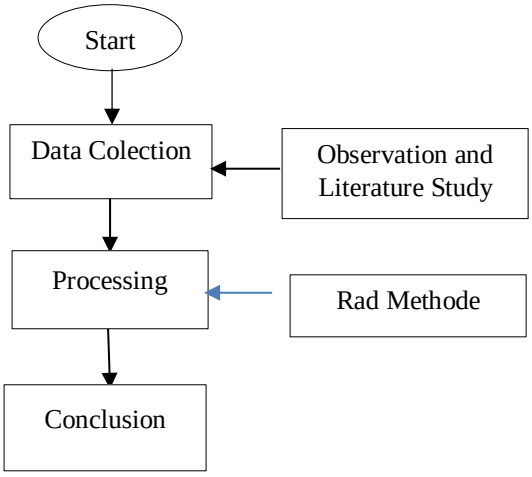

Figure 2. Research Steps

Research step
Information :

a. First study
   In the initial study stage, the authors studied and analyzed the activities of the sales and purchasing system of raw materials at clothing stores and understood the problems faced in the company.
b. Data collection
   In this stage, the authors collect data using the following methods:
   1) Observation
      Observation is a way of collecting data by making direct observations of an object in a certain period and making systematic records of certain things observed. With this method the author directly observes the activities carried out at the "Fashion Outlet" clothing store Jalan Sukaraja, Bogor so that they can find out every process carried out by the workers.
   2) Library Studies (Library Research)

This method is a data collection technique by seeking information from books and literature that are closely related to the object of research and the problems to be discussed.

c. Data processing
In this stage the author performs data processing using the RAD model, namely business modeling, data modeling, process modeling, application development and testing and replacement.

d. Conclusions and recommendations
In this stage, the writer makes conclusions and suggestions from the research that has been done.

3. RESULTS AND DISCUSSION

1. Business Modeling
In this case review, the author discusses the buying and selling program at a clothing store. In several clothing stores, it was found that data processing did not use a computer program (manually) in carrying out transactions, such as: sales transactions, purchase transactions, purchase returns and sales returns, up to reporting to the shop owner. From this basis, the author in this final project creates a clothing buying and selling program that can later be used and implemented in a clothing store.
2. Data Modeling
In this second stage, the author will describe some of the designs needed in making sales and purchasing programs at clothing stores, as follows:

Database Design

In this database design, the author makes a chart that is Normalization. This normalization contains the tables or files needed in making sales and purchasing programs. This normalization contains the tables or files needed in making sales and purchasing programs. As for normalization, the author immediately displays it in the third form, as follows:

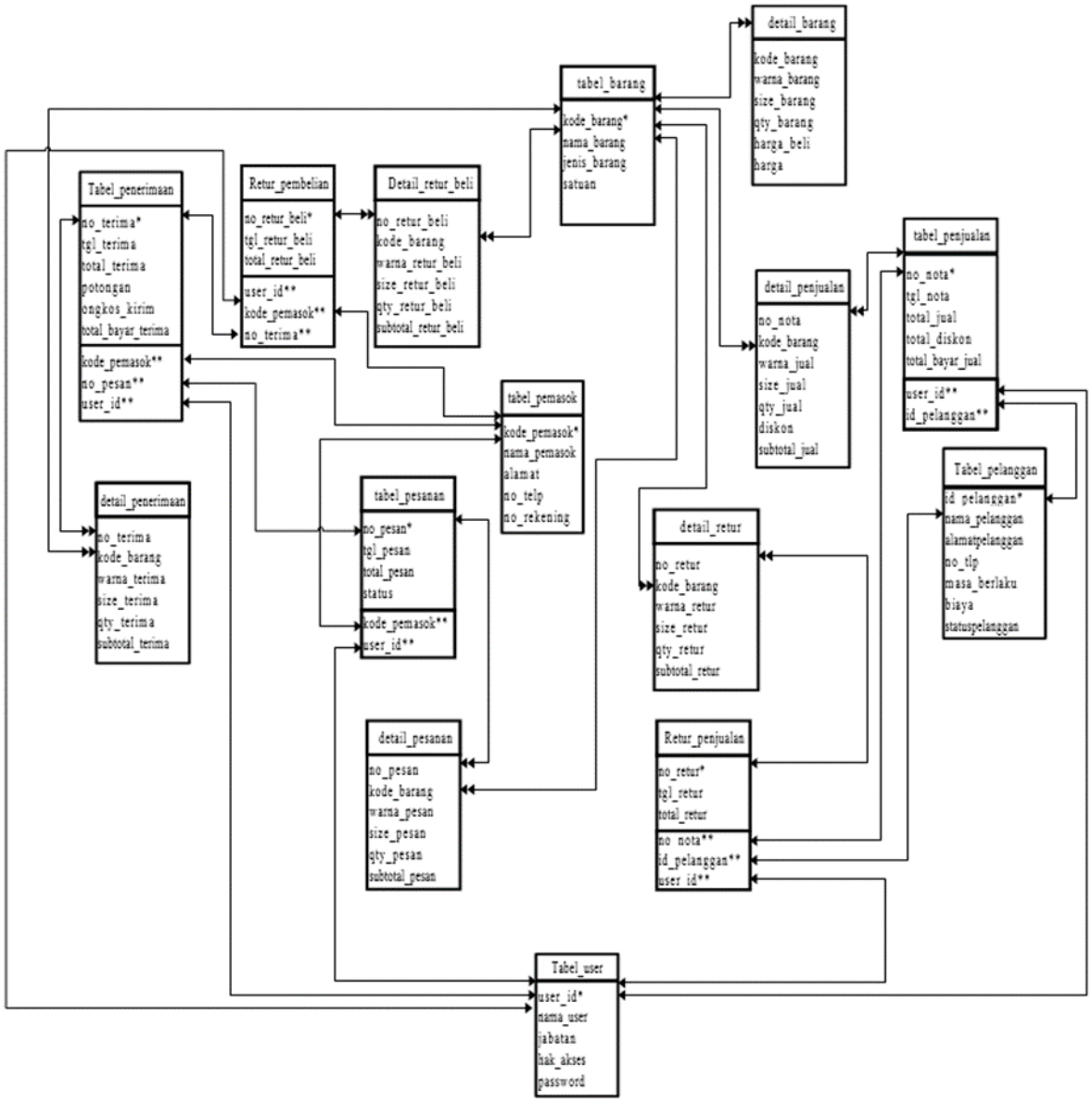

Figure 3. Third Form Normalization

3. Process Modeling and Application Development
Input/output design, the authors designed it in such a way as needed in processing sales and purchase data at clothing stores. The input/output design is as follows:

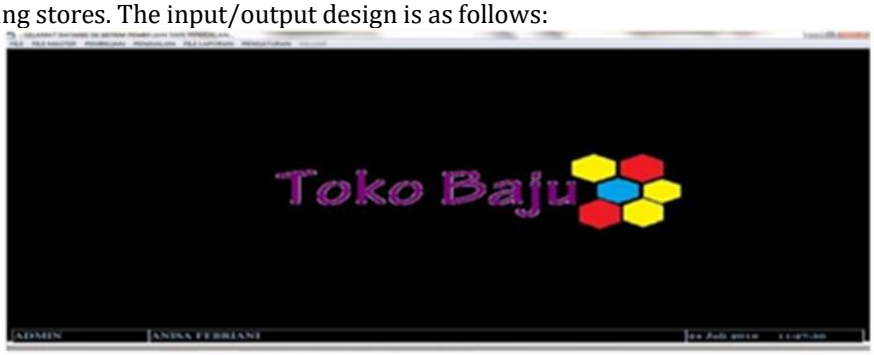

Figure 4. Main Menu Display

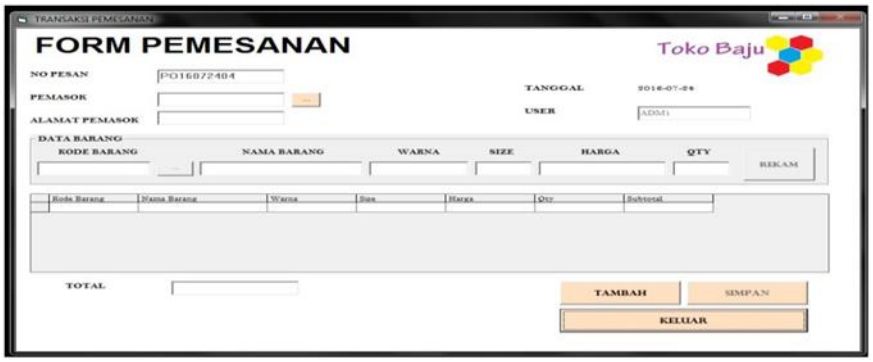

Figure 5. Order Transactions

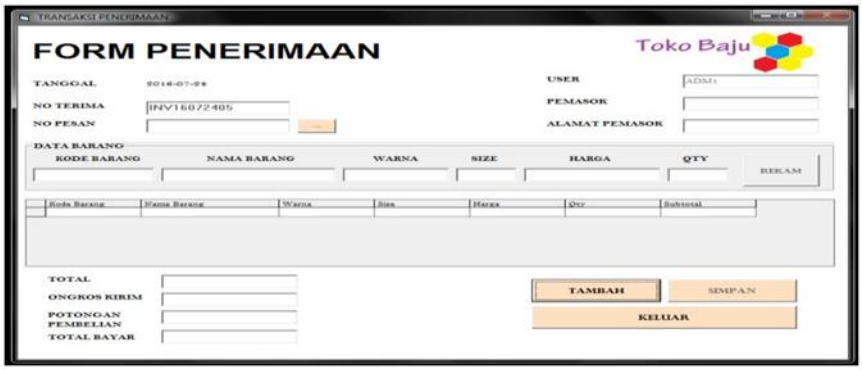

Figure 6. Acceptance Transaction

Figure 7. Purchase Return Transactions

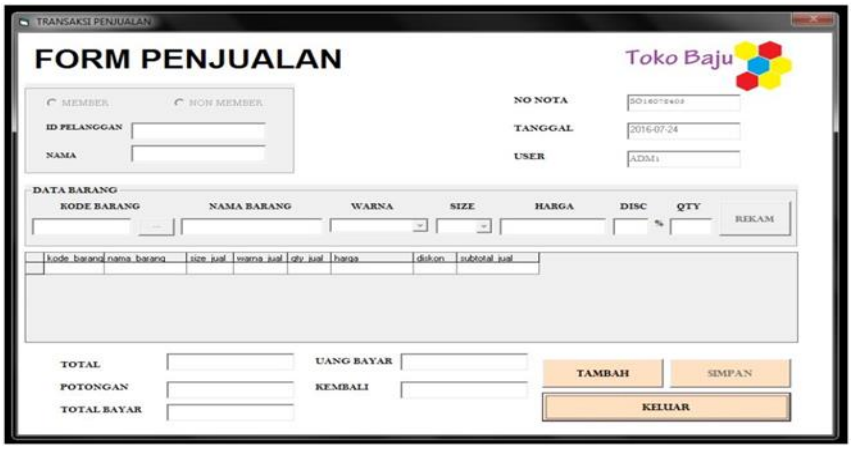

Figure 8. Sales Transaction

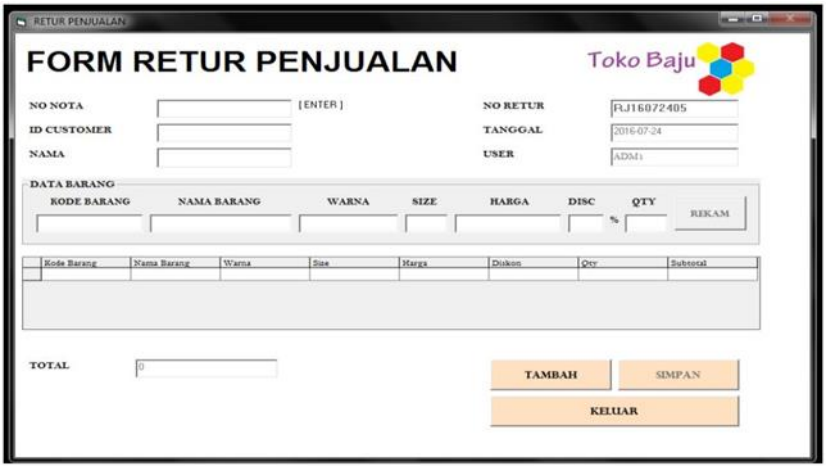

Figure 9. Sales Return Transactions

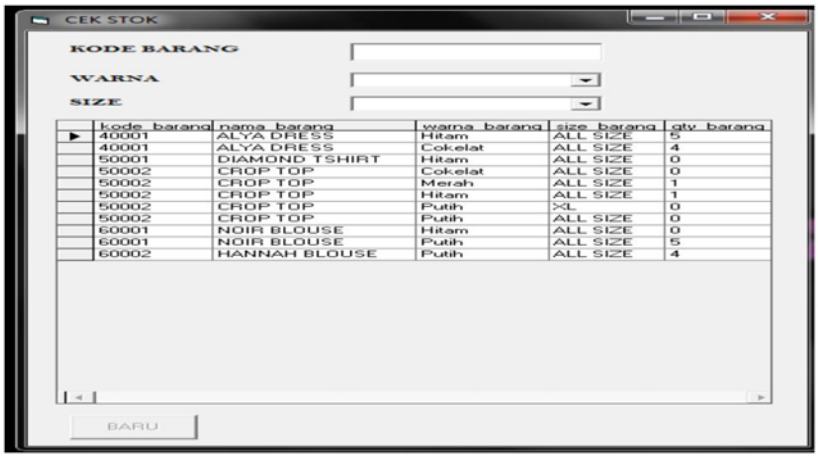

Figure 10. Check Stock Items

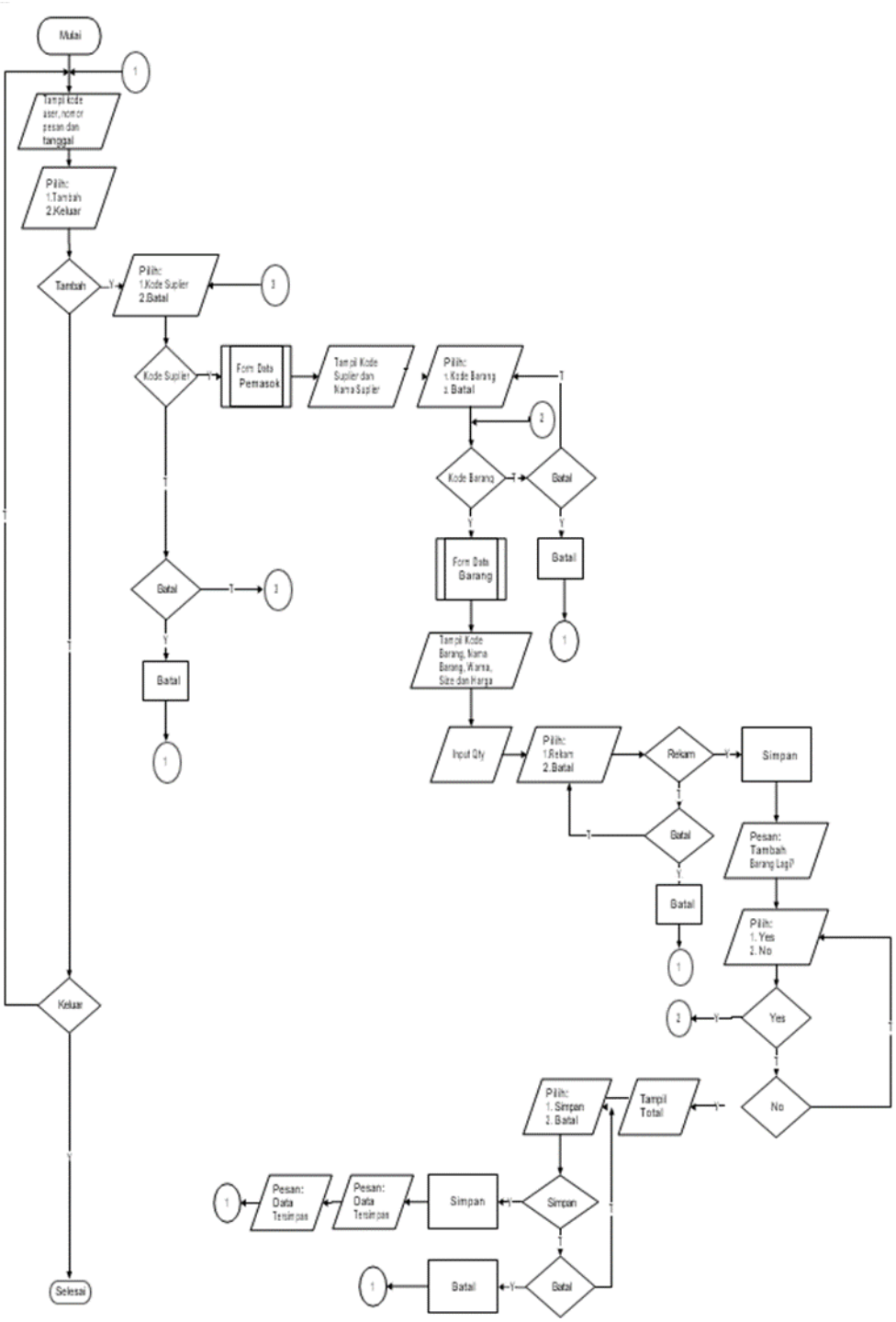

Figure 11. Flowchart of Ordering and Purchasing

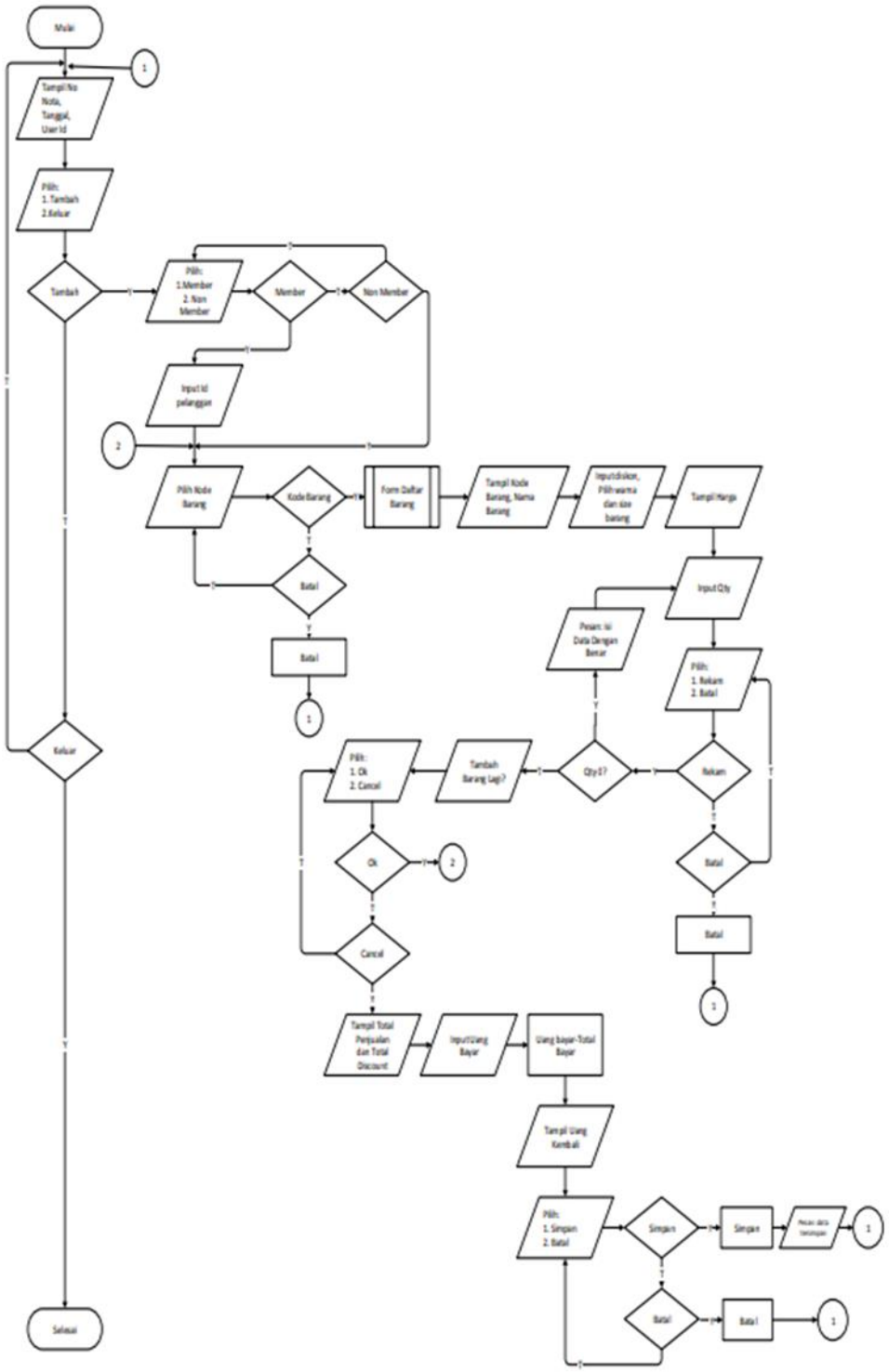

Figure 12. Sales Flowcharts

4. Testing

After the design and coding stages have been completed, a test or testing program will be carried out to see whether it is in accordance with what is required both regarding the input and output produced, whether there are still errors in the program, so that later this sales and purchasing application can be implemented at the Clothing Store. For more details in this test using the black box method. The Black Box method means testing the software in terms of functional specifications without testing the design

and program code. Testing is intended to determine the functions, input and output of the software according to the required specifications.

4. CONCLUSION

Based on the research that the author has done regarding the sales and purchase system at clothing stores, it can be concluded that the role of computers equipped with certain application programs is very important in data processing starting from data input, data storage, data changes, data deletion to searching. data. With the use of the buying and selling program application, all activities can be carried out quickly, precisely and accurately.

Therefore it is necessary to have an application application program to solve this problem. The design of this program is intended to simplify the workings of the previous system and to make time efficiency so that it can optimize human resource (HR) performance and also keep data from being lost easily. With the implementation of this program later, it is necessary to provide training for each user) this application, so that the application that has been made can work optimally in accordance with the purpose of making it and anticipate errors when the program is run.

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