

OPERATIONAL INFORMATION SYSTEM DESIGN AT SIGAR JAYA FOTOCOPY

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ABSTRACT- UMKM Sigar Jaya Fotocopy is one of the services in the form of photocopying which was founded in 2020 until now located in the Medan Sunggal sub-district area. Sigar Jaya Fotocopy not only serves photocopies but can print documents and photos and sell other office stationery. In the sales process, the owner needs help handling sales data recap, and in the purchasing process, the owner needs help checking the selling price of goods in large quantities. In the inventory process, the owner still uses manual checking where there can be a discrepancy in the available inventory. The System Development Life Cycle (SDLC) is the Information System Design method. The input design uses Visual Studio 2015.

Keywords: Sales, purchases, inventory, SDLC.

INTRODUCTION

Technological developments that are so popular worldwide and even in Indonesia have resulted in many services that can be searched to fulfill information [1]–[3]. Likewise, companies that want to calculate the procurement of goods with a desktop-based system [4]. In the current era that is developing so fast, people need fast information technology and information systems [5]–[8].

The information system comes from 2 (two) words, namely, design, and information. The system is 2 (two) or more components that are interrelated and connected to achieve one goal [2], [9], [10]. Information is the result of processed data collected and already has an understandable meaning [9]. The information system is critical and must be available in a company or organization [10], [11].

A good organization or company must have a good information system [8]. Sound information systems in companies or organizations are not far from the influence of good information technology, too [12]–[14].

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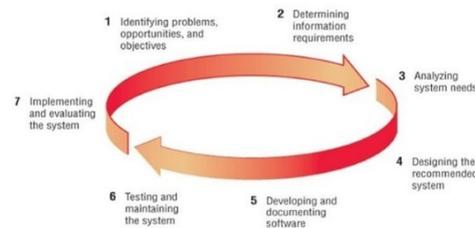
A system within an organization reconciles the needs of daily transaction processing that supports the organizational and operational functions that are managerial with the strategic activities of an organization to provide certain external parties with the information needed for decision-making.

In the sales process at Sigar Jaya Fotocopy, the owner needs help handling large amounts of sales data records. In the purchasing process, it is difficult for the owner to check the selling price of the goods because they often need more damaged purchase invoices provided by suppliers. A system can be achieved properly if there is supervision that is useful for overseeing the implementation of achieving goals consisting of monitoring input data (input), monitoring output data (output), and control over system operations. [2]

In the inventory process, the owner still uses manual checking where there can be a discrepancy in the available inventory. Based on the author's observations, it is known that in the process of selling, purchasing, and merchandise, the owner does it manually to determine the results of the business operations. Therefore it requires an information system that can meet the needs and will facilitate data processing in sales, purchases, and inventory of goods at Sigar Jaya Fotocopy.

RESEARCH CONTENT

The method used in this design is the SDLC (Software Development Life Cycle) method. The stages in SDLC are shown in Figure 1.



Picture 1 SDLC stages

The stages in the SDLC are as follows [3]:

1. Identifying Problems, Opportunities, and Goals

The process carried out at this stage is:

- A fishbone* is a structured approach that allows more detailed analysis to be carried out in finding the causes of a problem, discrepancies, and gaps that occur, and where analyzing the problems encountered in Sigar Jaya Fotocopy is very suitable using a fishbone framework[15].
- We define the opportunities obtained at Sigar Jaya Fotocopy through the proposed information system.
- Defining the goals to be achieved at Sigar Jaya Fotocopy in setting goals for designing reports useful for seeing sales progress every day.

2. Determine the requirements of the information system

At this stage, the author collects the requirements for information, such as analyzing running documents on Sigar Jaya Fotocopy, namely input and output documents, and also depicting the running system's DFD (Data Flow Diagram).

3. Analyze system requirements

In the process at this stage, the author performs an analysis of the required system, such as analyzing the functional requirements of the proposed DFD (Data Flow Diagram) depiction and creating a data dictionary. and for non-functional uses, PIECES where PIECES is a framework that is used to classify a problem, opportunities, and directives contained in the scope definition section of system analysis and design. With this framework, new things can be generated, which can be considered in developing the system[16].

4. Designing a recommended system

The process carried out at this stage is as follows:

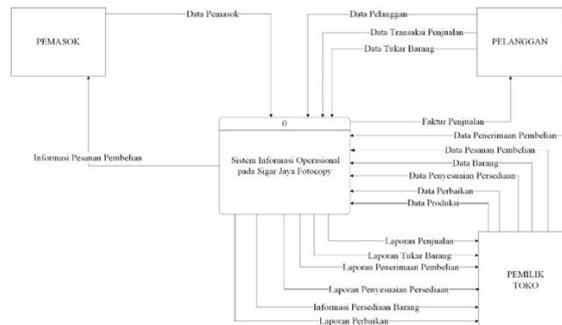
- Designing the form of the user interface (user interface) using Visual Studio 2015
- Make normalization; normalization is grouping data elements into tables that show entities and their relationships.
- I am designing the database used by the proposed system using Microsoft SQL Server 2014 and the Output part of the report using Crystal Report.

1. Results and Discussion

The results and discussion on Sigar Jaya Fotocopy, namely the Data Flow Diagram (DFD), is a graphical representation of a system that uses several symbols to describe data flowing through a process interrelated between input design, output design, and menu design.

3.1 Proposed System Context Diagram

The following is the Context Diagram of the proposed system at Sigar Jaya Photocopy in Figure 2:



Picture 2 Proposed Context Diagram

1.2 Main Menu Design

The Sigar Jaya Fotocopy information system design consists of the following:

a. Main Menu Design

The main menu design displays the initial appearance of Sigar Jaya Fotocopy, which has the Master, Sales, Purchase, Inventory, and Report feature buttons.



Picture 3 Main Menu Display

b. Master Menu Design

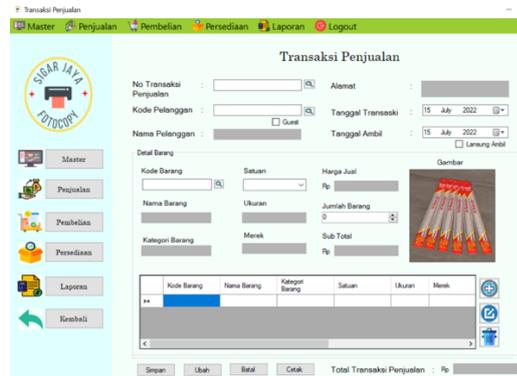
The master menu design contains the input of main data such as goods, suppliers, customers, production, and repair data.



Picture 4 Master Menu Display

c. Sales Menu Design

On the sales menu, there are 2 (two) features, namely Sales Transactions and Exchange of Goods. The Sales Transaction feature records the items sold so that the design form is shown in Figure 5:



Picture 5 Sales Transaction Display

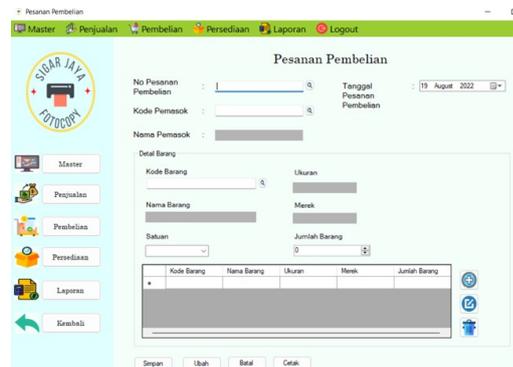
The process of exchanging goods occurs when the goods sold are damaged or physically disabled. The design for the operation of exchanging goods is shown in Figure 6:



Picture 6 Goods Exchange Display

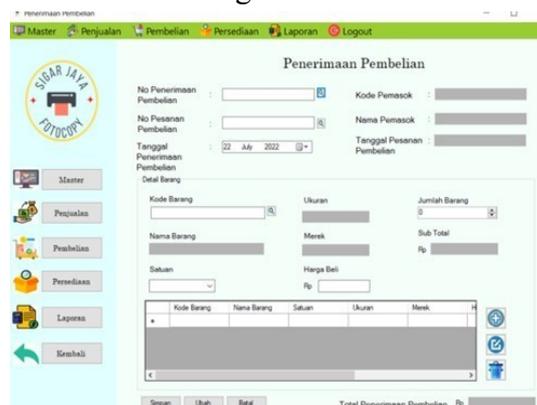
d. Purchase menu design

The purchase menu design, there are 2 (two) features, namely purchase orders and purchase receipts. The Purchase Order feature records each item to be purchased from the supplier. The design of the purchase order feature is shown in Figure 7:



Picture 7 Purchase Order View

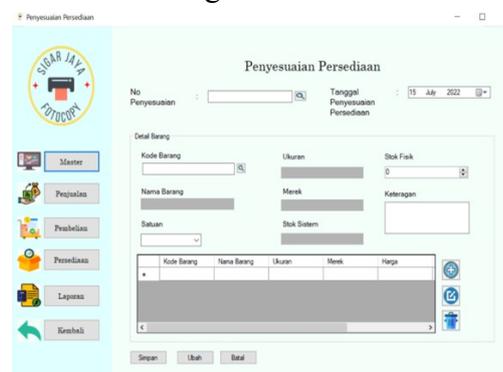
After the goods are ordered and have arrived at the place, the admin will input them into the Purchase Receipt feature shown in Figure 8:



Picture 8 Purchase Receipt Display

e. Inventory menu design

The inventory menu design has one feature, namely the Inventory Adjustment feature. This feature will record the suitability of inventory between the amount of stock in the system and the physical store, along with a description if there are defective items. The design of these features is shown in Figure 9:



Picture 9 Inventory Adjustment Display

f. Report menu design

The report menu design has 8 features for making reports or invoices, namely: Sales Invoices, Sales Reports, Goods Exchange Reports, Purchase Acceptance Reports,

Purchase order information, Procurement Preparation Reports, Goods Inventory Information, and Repair Reports shown in Figure 10:



Picture 10 Report Feature View

CLOSING

Conclusion of this study:

1. This information system can help the process of calculating sales and purchase transactions to be carried out efficiently because it is designed so that it can produce reports on sales, purchases, and inventories
2. The results of the analysis and design of this blueprint can be used as a basis for system development because there is a design that has been made, including sales, purchasing, and inventory processes, to simplify business processes.
3. This information system can help store owners find the availability of goods in the store and check the inventory to be calculated more quickly because all data has been stored in the system.

Suggestions in this research:

1. Can develop a desktop design to information system development so that it can run
2. For development, it is expected to add a stock notification feature.

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