

# Design of Sales Purchasing and Inventory Information System at Kopi Akhir Zaman

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## Abstract

The development of information technology is currently very influential in the business world to improve performance, both in trade and service businesses. Kopi Akhir Zaman is one of the cafes in the city of Medan. The menu available includes various types of drinks such as Americano coffee, long black, Japanese black, coffee latte, double espresso, non-coffee versions such as red velvet, black oreo, taro, lychee milk. This cafe also sells food such as fried rice, instant noodles, fried bread, French fries and many other types of food. The increase in the Kopi Akhir Zaman business has made it difficult for cafe owners to serve orders every day, as well as in managing inventory and estimating purchases of goods from suppliers. This study was conducted to analyze and design an information system that can help cafe owners manage sales, purchasing and inventory transactions. The method used in this research to design this system is the System Development Life Cycle (SDLC). With a design that is designed in the form of a simple and user-friendly display design that makes it easy for users to carry out the sales, purchasing and inventory processes. The results of this study can be useful as recommendations as a basis for developing a proposed system.

**Keywords:** Sales, Purchase, Inventory, Information Systems, SDLC

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## 1. Introduction

The use of computers to store and process data is increasingly used by companies. The easier and more economical use of technology in Indonesia has changed the way small business owners and managers view running their businesses [1][2]. Kopi Akhir Zaman is a cafe in the city of Medan, and has been established since 2017. The menu available includes various types of drinks such as Americano coffee, long black, Japanese black, coffee latte, double espresso, non-coffee versions such as red velvet, black oreo, taro, lychee milk. This cafe also sells food such as fried rice, Indomie soup, fried bread, French fries and many other types of food.

The increase in the Kopi Akhir Zaman business has made it difficult for the cafe owner to manage the cafe. Previously, Kopi Akhir Zaman only received orders of approximately 10 to 15 portions per day. Now, more and more customers are coming to Kopi Akhir Zaman, so that it can receive orders of approximately 100 portions per day.

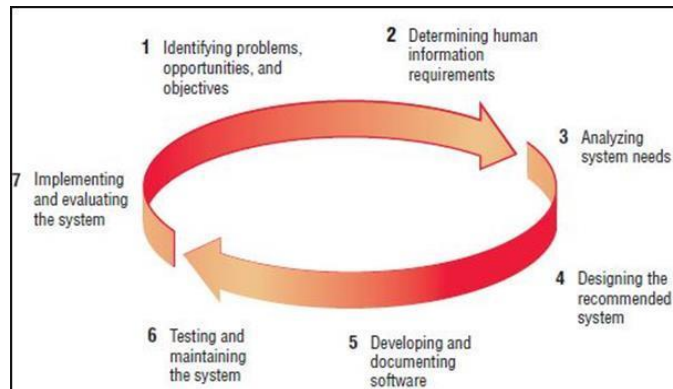
Due to business development, the cafe has difficulty in managing transactions. So far, transaction recording has been done by writing on paper and then collecting them into one. Checking sales, purchase, and inventory transaction data takes a lot of time. In addition, the cafe owner has difficulty in knowing the expenses and income received, because he has to collect all the records and then calculate using a calculator.

The purchasing process is carried out when the raw materials for coffee, food and beverages in stock are felt to be reduced or even run out because there is no system that controls the availability of inventory. To help overcome this problem, this study will conduct a more in-depth problem analysis and design a purchasing, sales, and inventory information system with the hope that the author can help overcome existing problems. This design description can help manage sales, purchases, and inventory transactions effectively and produce sales reports, inventory, and purchase reports and stock cards as a reference for viewing current inventory.

## 2. Research Methods

The method used in this research for system design is System Development Life Cycle (SDLC). System Development Life Cycle (SDLC) or system development life cycle is a gradual approach to analyzing and designing a system using cycles specifically for its users.[3] From the definition above, it can be interpreted that the system development life cycle (SDLC) is a series of processes or stages in analyzing and designing a system in achieving a goal.[4][5] The stages of SDLC consist of 7 phases, namely identifying problems, opportunities and

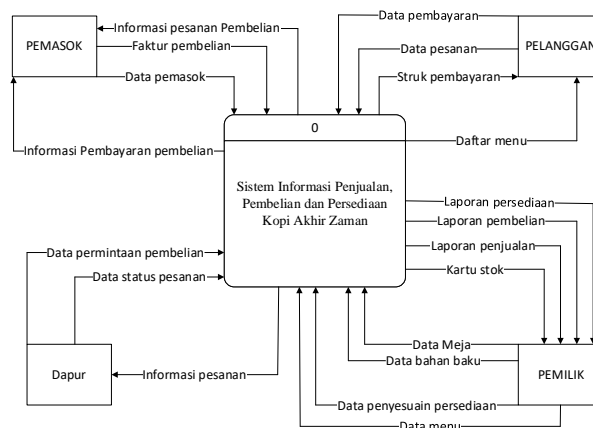
objectives, determining information requirements, analyzing system needs, designing the recommended system, developing and documenting software, testing and maintaining the system and implementing and evaluating the system as in Figure 1 below:



**Fig. 1:** System Development Life Cycle (SDLC)

Of the 7 SDLC stages, in this research the author carried out up to stage 4. The activities carried out are:

- 1) **Identifying problems, opportunities and goals**  
At this stage, the researcher identifies the problems faced by Kopi Akhir Zaman based on data and information collected from observation and interview activities. This collection of information is a reference for determining the opportunities and objectives to be achieved in designing the proposed system. The Ishikawa diagram is one method for analyzing the causes of a problem or condition. This diagram is often called a cause-and-effect diagram [6]. Fishbone diagrams are used to describe the problems faced by Kopi Akhir Zaman in the ongoing business process, so that the configuration of the problems faced to be achieved by Kopi Akhir Zaman can be clearly identified.
- 2) **Determining Information Requirements**  
At this stage, the author analyzes the input and output documents on the running system for sales, purchasing, and inventory activities. Analyze the running system process using the DFD (Data Flow Diagram) tool. Data Flow Diagram (DFD) is a diagram used to describe an existing system or a system that will be developed logically without considering the physical environment where the data flows throughout the system.[7], [8]
- 3) **Analyzing System Requirements**  
At this stage, the author designs the proposed system process using the DFD (Data Flow Diagram) tool, as in the following image:



**Fig. 2:** Data Flow Diagram Proposed System

- 4) **Designing a Recommended System**  
At this stage the author designs the information system interface. To design the system input using Microsoft Visual Studio, to design the system output using Crystal Report, then normalize and design the database using Microsoft SQL Server.

### 3. Results and Discussion

Some of the results of designing the sales, purchasing and inventory information system at Kopi Akhir Zaman are as follows:

- 3.1. Raw Material Input Form, functions to input raw material data into the system.



**Data Bahan Baku**

ID Bahan Baku  ...

Nama Bahan Baku

Kategori

Stok

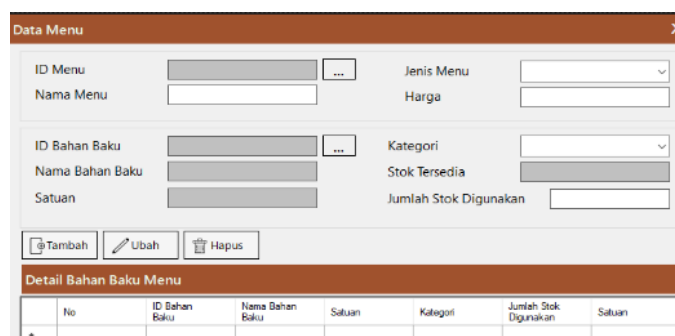
Stok Minimum

Satuan

Simpan  Ubah  Hapus

Fig. 3: Raw Material Input Form

3.2. Design Menu Form functions to input raw material data into the system.



**Data Menu**

ID Menu  ...

Nama Menu

Jenis Menu

Harga

ID Bahan Baku  ...

Kategori

Nama Bahan Baku

Stok Tersedia

Satuan

Jumlah Stok Digunakan

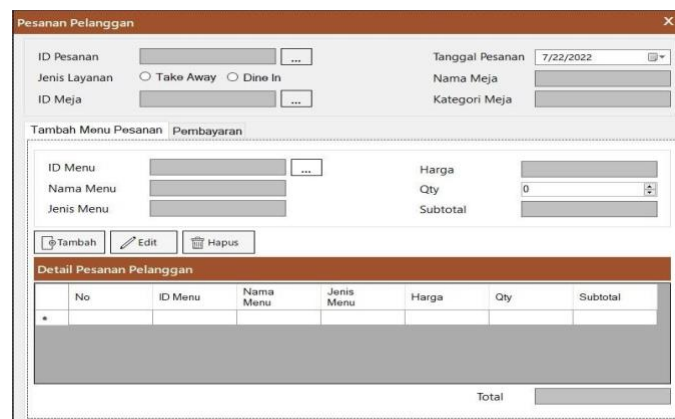
Tambah  Ubah  Hapus

**Detail Bahan Baku Menu**

No	ID Bahan Baku	Nama Bahan Baku	Satuan	Kategori	Jumlah Stok Digunakan	Satuan
*						

Fig. 4: Menu Form

3.3. The Customer Order Data Input Form functions to input or add customer order data into the system.



**Pesanan Pelanggan**

ID Pesanan  ...

Jenis Layanan ☐ Take Away ☐ Dine In

Tanggal Pesanan  7/22/2022

ID Meja  ...

Nama Meja

Kategori Meja

**Tambah Menu Pesanan | Pembayaran**

ID Menu  ...

Nama Menu

Jenis Menu

Harga

Qty  0

Subtotal

Tambah  Edit  Hapus

**Detail Pesanan Pelanggan**

No	ID Menu	Nama Menu	Jenis Menu	Harga	Qty	Subtotal
*						

Total

Fig. 5: Customer Order Data Input Form

3.4. The Purchase Payment Input Form design functions to input or add purchase payment data for raw material purchase requests that have been previously added to the system.



**Informasi Pembayaran Pembelian**

ID Pembayaran Pembelian  ...

Tanggal Pembayaran  7/29/2022

ID Permintaan Pembelian  ...

Tanggal Permintaan

ID Pemasok

Nama Pemasok

**Detail Pembayaran Bahan Baku**

No	ID Bahan Baku	Nama Bahan Baku	Harga	Qty	Satuan	Total
*						

Bayar  Cetak Struk

Total Harga

Jumlah Bayar (Rp)

Kembalian (Rp)

Fig. 6: Purchase Payment Input Form

- 3.5. Inventory Adjustment Input Form Design, functions to input or add adjustment data for goods that will be adjusted to the physical stock in the warehouse.

Fig. 7: Inventory Adjustment Input Form

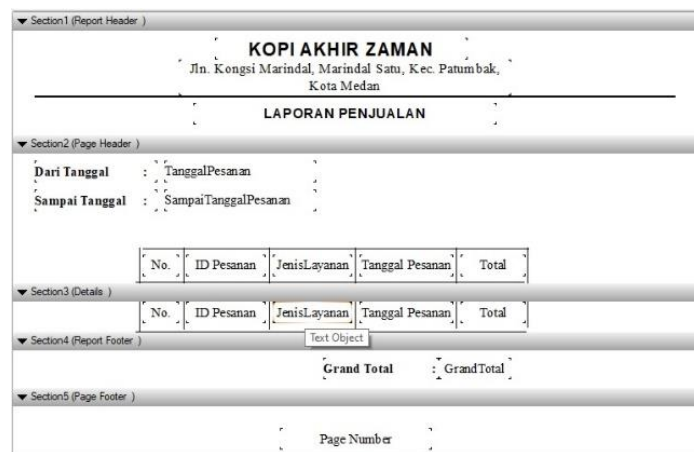
- 3.6. This Payment Receipt output design contains the Payment data which will be handed over to the customer

Fig. 8: Payment Receipt output

- 3.7. Design Card Stock This containing data information adjustment goods Which later it will be handed over to the owner

Fig. 9: Card Stock

3.8. The Sales Report output design contains customer order data which will later be... will be handed over to the owner

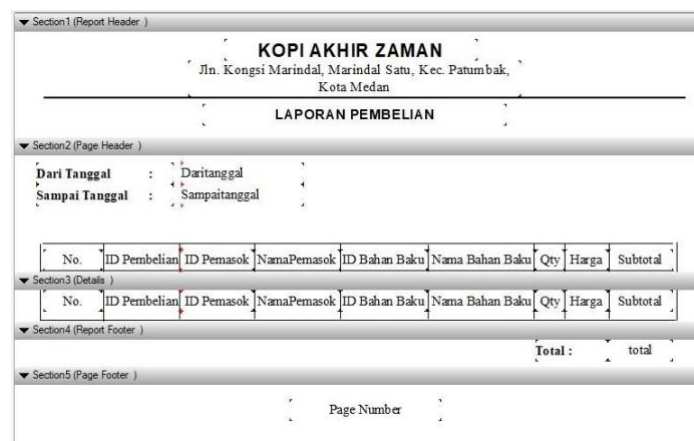


The Sales Report form is divided into five sections:

- Section1 (Report Header):** Contains the company name "KOPI AKHIR ZAMAN", address "Jln. Kongs Marindal, Marindal Satu, Kec. Patumbak, Kota Medan", and the report title "LAPORAN PENJUALAN".
- Section2 (Page Header):** Contains date range fields "Dari Tanggal" and "Sampai Tanggal" with corresponding labels "TanggalPesanan" and "SampaiTanggalPesanan".
- Section3 (Details):** A table with columns: No., ID Pesanan, JenisLayanan, Tanggal Pesanan, and Total.
- Section4 (Report Footer):** Contains a "Text Object" and a "Grand Total" field.
- Section5 (Page Footer):** Contains a "Page Number" field.

Fig. 10: Sales Report

3.9. This Purchase Report output design contains purchasing data which will later be... will be handed over to the owner

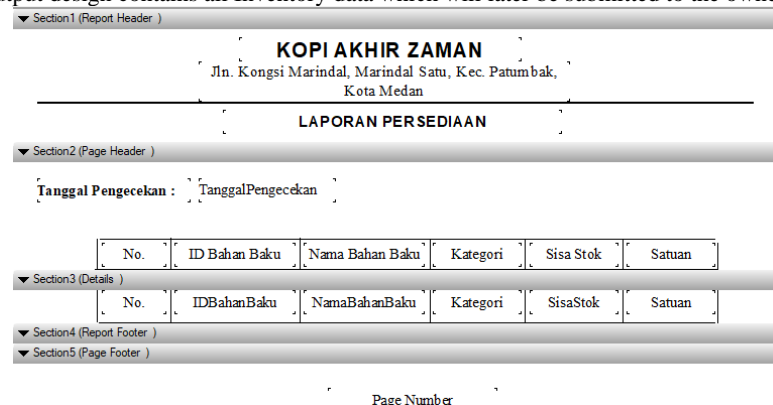


The Purchase Report form is divided into five sections:

- Section1 (Report Header):** Contains the company name "KOPI AKHIR ZAMAN", address "Jln. Kongs Marindal, Marindal Satu, Kec. Patumbak, Kota Medan", and the report title "LAPORAN PEMBELIAN".
- Section2 (Page Header):** Contains date range fields "Dari Tanggal" and "Sampai Tanggal" with corresponding labels "Daritanggal" and "Sampaitanggal".
- Section3 (Details):** A table with columns: No., ID Pembelian, ID Pemasok, NamaPemasok, ID Bahan Baku, Nama Bahan Baku, Qty, Harga, and Subtotal.
- Section4 (Report Footer):** Contains a "Total" field.
- Section5 (Page Footer):** Contains a "Page Number" field.

Fig. 11: Purchase Report

3.10. This Inventory Report output design contains all Inventory data which will later be submitted to the owner.



The Inventory Report form is divided into five sections:

- Section1 (Report Header):** Contains the company name "KOPI AKHIR ZAMAN", address "Jln. Kongs Marindal, Marindal Satu, Kec. Patumbak, Kota Medan", and the report title "LAPORAN PERSEDIAAN".
- Section2 (Page Header):** Contains a date field "Tanggal Pengecekan" with label "TanggalPengecekan".
- Section3 (Details):** A table with columns: No., ID Bahan Baku, Nama Bahan Baku, Kategori, Sisa Stok, and Satuan.
- Section4 (Report Footer):** Contains a "Page Number" field.
- Section5 (Page Footer):** Contains a "Page Number" field.

Fig. 12: Inventory Report

## 4. Conclusion

From the results of this analysis and design, if continued to implementation, the problems that have been found in the running system can be overcome so that it can help the sales, purchasing and inventory process at Kopi Akhir Zaman. However, this system still has several weaknesses due to the limited time and capabilities of the author. The following are the advantages and disadvantages of "Analysis and Design of Sales, Purchasing and Inventory Information Systems at Kopi Akhir Zaman", namely:

1. Excess
  - a. The designed information system has a design with a simple appearance. This system is also a user-friendly system that makes it easy for users and easy to carry out the sales, purchasing and inventory processes.
  - b. Makes it easier for users to manage calculations and storage in the sales, purchasing and inventory processes.
  - c. With this system, it is easier for users to create reports quickly and accurately, thus facilitating decision making.

2. Weakness
  - a. There is no minimum stock feature that helps users in presenting goods/raw materials when approaching the minimum.
  - b. There are no financial reports that help companies to know the amount of money spent and money received.
  - c. The proposed system can be further developed by adding financial reports to help companies know the amount of money spent and money received.
  - d. *barcode scanner* system to improve payment services to customers.

The suggestion that can be given regarding the results of this study is that the system can be further developed by adding financial reports to help companies know the amount of money spent and money received.

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