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## **Purchasing, Sales, and Inventory Information System Design at UD. Monza Collection**

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### **ABSTRACT**

*The information system is also one of the most important parts for companies in increasing productivity, both in obtaining information, processing, and using the information, especially for the benefit of the company. UD. Monza Collection is a form of business that is engaged in distributors for women's clothing such as shorts, leggings, tank tops, and others and then sells them wholesale. The problem with the store is that the store often has difficulty in knowing the amount of raw materials by the distribution staff quickly and the calculation of the number of finished goods by the warehouse staff who are very prone to errors, this will result in delays in distribution and sales activities. The system design methodology used is the System Development Life Cycle (SDLC) methodology. The design of the input system using Microsoft Visual Studio 2015, The design of the system output using Crystal Report and data storage using Microsoft SQL Server 2014. The result of this writing is a desktop design that makes it easy to find out the available stock and makes it easy to make the required reports quickly. So that the results of this information system design can help the store in managing information and computerized business processes.*

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### **INTRODUCTION**

The development of today's technology is growing very rapidly (Kristania & Yulianti, 2019; Riyadli et al., 2020; Sanjaya & Andry, 2020). This development is inseparable from all fields including the trading business sector (Purwandari & Fauzi, 2020; Rahmawati, 2019; Riyadli et al., 2020). In using technology in a trading business, a clear information system is definitely needed. Information systems are one of the important components in the business processes of an organization or company (Hendri & Sutisna, 2021; Ngudi Wiyatno et al., 2020; Rahmawati, 2019; Shadiq & Ratu Lolly, 2020).

Companies basically also need information system technology that is fast and easy to access and accurate in data management (Agustin et al., 2021; Lestari & Rafdhi, 2020; Shadiq & Ratu Lolly, 2020). The application of technology is expected by the company to reduce errors or deficiencies during the business process.

UD. Monza Collection is a form of business engaged in the manufacturing sector for women's clothing such as shorts, leggings, tank tops, etc. and then sells them wholesale. This trading business is located in Pusat Pasar, Medan and has been established since 2008. With this store's many customers, the sales activity at this store is very busy. UD. Monza Collection has several problems on buying, selling and inventory. The problem with shop purchases is that shops often have difficulty knowing the amount of raw materials by production staff quickly and the calculation of the number of finished goods by warehouse staff is very prone to errors, this will result in delays in production and sales activities. In addition, there was a problem with sales, where making reports on store sales turnover could not be presented quickly because the staff had to recapitulate transaction vouchers and compile reports one by one. Data search activities with this conventional system are not very effective and efficient, and will experience obstacles if

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the book or transaction receipt is lost or damaged. Then, inventory is when stores often experience a shortage of goods due to the lack of information about the number of goods in the warehouse which will result in goods being out of stock.

### RESEARCH METHOD

The research methodology used is through the System Development Life Cycle (SDLC) stage approach, namely (Danang & Mustofa, 2022; Desmayani et al., 2021; Firmansyah et al., 2021):

1. Identify problems, opportunities and objectives
  - a. Identify potential problems and opportunities in the current system using narrative
  - b. Defining what kind of system the user needs, whether the problem can be resolved.
  - c. Define the goals to be achieved by designing this system.
2. Define Information Terms

At this stage the processes that are carried out are:

- a. Conduct an organizational review by analyzing system requirements including what determines the information requirements for the users involved, describing the organizational structure of the store. The structure of the store organization, namely: who (people involved), what (business activities), where (work environment is carried out), when (time), how (procedures carried out) of the running system. Then collect and analyze the input and output documents used in the running system. And

perform an analysis of the running system using Data Flow Diagrams (DFD).

- b. Modeling the process by analyzing input data and output documents generated on a running system using Data Flow Diagrams (DFD).
3. Analyze system requirements
 

Activities carried out by the author at this stage include:

  - a. Perform functional requirements analysis using Data Flow Diagram (DFD) modeling.
  - b. Create a data dictionary.
  - c. Perform non-functional requirements analysis using the PIECES framework (Performance, Information, Economy, Control, Efficiency, Services) (Aditya & Jaya, 2022; Sari & Nurmiati, 2021).
4. Designing a recommended system.
  - a. Analyzing proposed system procedures using Data Flow Diagrams (DFD)

### RESULTS AND DISCUSSION

This section emphasizes the new value of research containing innovation and its implications. In this section, the research results are explained, and a comprehensive discussion is provided on the same time. The results can be presented in numbers, graphs, tables, etc. which make the reader understand easily. The discussion part can be made into several sub-chapters.

The design begins with a DFD depiction of the proposed system at the UD Monza Collection as shown in Figure 1.

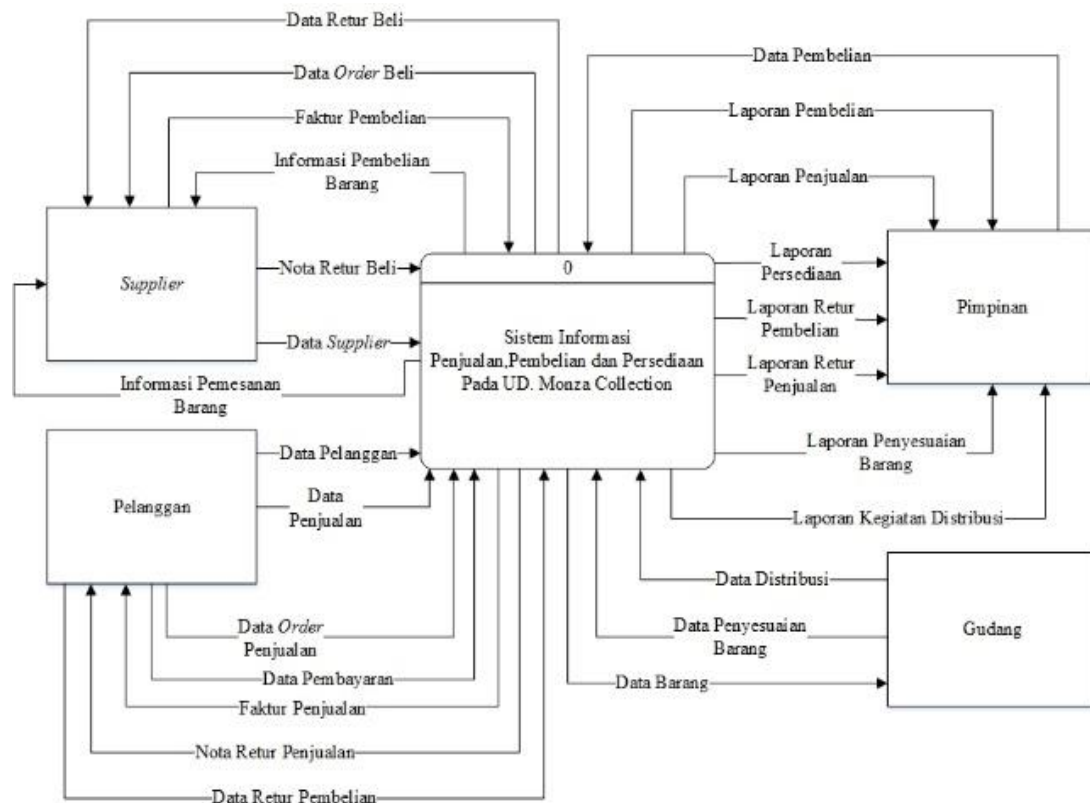


Figure 1 DFD system proposed by UD. Monza Collection

From the DFD of the proposed system, the input and output designs are obtained as shown below.

**1. Input Design**

Some of the input designs based on the DFD results of the proposed system are:

**a. Form Login**

Figure 2 Form Login

The login form is used for access rights to staff employees and UD owners. Monza Collection. The username and password will be given when the account is created by the owner. Staff or owners whose accounts are correct can access input data such as purchases and sales.

**b. Production Data Form**

Figure 3 Production Data Form

This form is created to fill in production data on one item. Every finished good requires raw materials to produce. The list of raw materials will be inputted into the form. After raw materials are inputted, finished goods can be produced and the selling price of the raw materials used for production is determined. The Production Code will be filled in automatically when inputting data

**c. Purchase Order Form**

Figure 4 Purchase Order Form

This form describes the process of purchasing the required raw materials. Each production process needs sufficient raw materials. When the raw materials needed reach a minimum stock but need large quantities, the staff needs a list of raw material purchases. The staff records what raw materials are needed so that when the production process is not hampered and the goods needed are sufficient. The Purchase Order Number will be filled in automatically when entering data.

**d. Purchase Return Form**

Figure 5 Purchase Return Form

This form is used if there is a return transaction for purchasing raw materials from a supplier. The receipt number will be filled with the auto-generated purchase return transaction code. Then enter Purchase Invoice No and Code of Raw Materials that are returned. Users can also make edits to previous purchase return transaction data if needed. The note number is filled in automatically.

e. Sales Order Form

Figure 6 Sales Order Form

The Sales Order Form is filled if there is a sales order from a Customer. The Selling Order Number will be filled in automatically, the user then fills in the Customer Code, Description, and information on the items ordered by the Customer. Users can also make edits to previous sales order transaction data if needed.

f. Sales Return Form

Figure 7 Sales Return Form

This form is used if there is a sales return transaction from a customer. The receipt number will be filled with the purchase return transaction code automatically. Then fill in the Sales Invoice No and Bar Code that is returned. Users can also make edits to previous sales return transaction data if needed.

2. Output Design (Report)

After there is an input design, the input results will be converted into a report as shown below:

a. Purchase Order Report

Figure 8 Purchase Order Report

In the Purchase Order Report, it will display all purchase orders based on each purchase order transaction. When purchase order data is inputted and stored, it will be immediately recorded in the report. If there are errors during input, the data in the report also changes according to changes in the input data.

b. Purchase Return Report

Figure 9 Purchase Return Report

In the Purchase Return Report, it will display all purchase returns based on each purchase return transaction. When the purchase order return data is inputted and stored, it will be immediately recorded in the report. If there are errors during input, the data in the report also changes according to changes in the input data.

c. Sales Order Report

Figure 10 Sales Order Report

In the Sales Order Report, it will display all sales orders based on each sales order transaction. When sales order data is inputted and stored, it will be immediately recorded in the report. If there are errors during input, the data in the report also changes according to changes in the input data.

d. Sales Return Report

Figure 11 Sales Return Report

In the Sales Return Report, it will display all sales returns based on each sales return transaction. When the sales order return data is inputted and stored, it will be immediately recorded in the report. If there are errors during input, the data in the report also changes according to changes in the input data.

e. Raw Material Inventory Report

The screenshot shows a software interface for a Raw Material Inventory Report. At the top, it says 'UD. Monza Collection' and 'Laporan Persediaan Bahan Baku'. Below this is a table with the following columns: 'No.', 'Kode Bahan Baku', 'Nama Bahan Baku', 'Jumlah Awal', 'Wama', and 'Jumlah Akhir'. The table is currently empty. The interface also includes sections for 'Section1 (Report Header)', 'Section2 (Page Header)', 'Section3 (Details)', 'Section4 (Report Footer)', and 'Section5 (Page Footer)'. There is a small text 'je Numbert' at the bottom left of the screenshot.

Figure 12 Raw Material Inventory Report

In the Raw Material Inventory Report, it will display all raw material inventories based on the amount of raw materials used. This report displays the initial stock of raw materials. Then after being used in production, the final stock of raw materials is also displayed so that it can determine whether raw material procurement is needed or not.

## CONCLUSION

The conclusions obtained after designing the proposed system at UD. Monza Collections is an input design that makes it easy for staff and leaders to organize and manage purchasing, selling, and inventory data. In addition, the design of this system allows the owner to find out the items that have reached the minimum and avoid out of stock problems. It is also possible to design outputs (reports) to make it easier for leaders to know the necessary information such as monthly sales reports, monthly purchasing reports.

The suggestion in this research is to continue this design to the development and testing stage so that it can be used by the owner of UD. Monza Collection. Then it is also recommended to add a backup feature so that data is not easily lost and safe

## REFERENCES

Aditya, N. M. B., & Jaya, J. N. U. (2022). Penerapan Metode PIECES Framework Pada Tingkat Kepuasan Sistem Informasi Layanan Aplikasi Myindihome. *Jurnal Sistem Komputer Dan Informatika (JSON)*, 3(3), 325–332. <https://doi.org/10.30865/json.v3i3.3964>

Agustin, Y. H., Latifah, A., & Nugraha, A. F. (2021). Perancangan Sistem Informasi Aplikasi Kasir pada Kafe Restorasi Kopi Berbasis Web. *Jurnal Algoritma*, 18(1), 302–312. <https://doi.org/10.33364/algoritma/v.18-1.947>

Danang, D., & Mustofa, Z. (2022). Rancang Bangun Sistem Informasi Pelayanan Anggota Berbasis Web Menggunakan Metode SDLC. *Jurnal Manajemen, Bisnis Dan Kewirausahaan*, 1(3), 22–30. <https://doi.org/10.55606/jumbuku.v1i3.4>

Desmayani, N. M. M. R., Wardani, N. W., Nugraha, P. G. S. C., & Mahendra, G. S. (2021). Sistem Informasi Laporan Keuangan pada Salon Berbasis Website Dengan Metode SDLC. *Jurnal Sistem Informasi Dan Komputer Terapan Indonesia (JSIKTI)*, 4(2), 68–77. <https://doi.org/10.33173/jsikti.118>

Firmansyah, Y., Maulana, R., & Maulana, M. S. (2021). Implementasi Metode SDLC Prototype Pada Sistem Informasi Indeks Kepuasan Masyarakat (IKM) Berbasis Website Studi Kasus Dinas Kependudukan Dan Catatan Sipil. *Jurnal Sistem Dan Teknologi Informasi (Justin)*, 9(3), 315–323. <https://doi.org/10.26418/justin.v9i3.46964>

Hendri, A. H., & Sutisna, M. A. (2021). Article Desktop Based National Police Commission Activities Information System. *Jurnal CoSciTech (Computer Science and Information Technology)*, 2(1), 14–23. <https://doi.org/10.37859/coscitech.v2i1.2393>

Kristania, Y. M., & Yulianti, F. D. (2019). Perancangan Sistem Informasi Pelayanan Pada Posyandu Pepaya Purwokerto. *EVOLUSI - Jurnal Sains Dan Manajemen*, 7(1), 68–75. <https://doi.org/10.31294/evolusi.v7i1.5015>

Lestari, W., & Rafdhi, F. (2020). Sistem Informasi Manajemen Arsip Surat Berbasis Desktop pada BP3TKI Jakarta. *Jurnal CoSciTech (Computer Science and Information Technology)*, 1(2), 50–56. <https://doi.org/10.37859/coscitech.v1i2.2183>

Ngudi Wiyatno, T., Muhidin, A., & Prasetyo, N. D. (2020). Perancangan Sistem Informasi Pembayaran SPP Berbasis Desktop Menggunakan Visual Basic. *Jurnal Sistem Informasi Ilmu Komputer Prima*, 4(1), 1–6. <https://doi.org/https://doi.org/10.34012/jusikom.v4i1.1207>

Purwandari, N., & Fauzi, A. (2020). Perancangan Sistem Informasi Manajemen Pada Toko XYZ Berbasis Desktop. *Jurnal Sistem Informasi Bisnis (JUNSIBI)*, 1(2), 54–64. <https://doi.org/10.55122/junsibi.v1i2.171>

Rahmawati, M. (2019). Sistem Informasi Usaha Dagang Berbasis Desktop (Studi Kasus: Toko Sobana II). *Jurnal Teknologi Informatika & Komputer*, 5(1), 135–146. <https://doi.org/https://doi.org/10.37012/jtik.v5i1.251>

Riyadli, H., Arliyana, A., & Saputra, F. E. (2020). Rancang Bangun Sistem Informasi Keuangan Berbasis WEB. *Jurnal Sains Komputer Dan Teknologi Informasi*, 3(1), 98–103. <https://doi.org/10.33084/jsakti.v3i1.1770>

Sanjaya, H., & Andry, J. F. (2020). Perancangan Sistem Informasi Proyek Manajemen Menggunakan Metode Extreme Programming Berbasis Desktop (Studi Kasus: Perusahaan Kontraktor). *SIMADA (Jurnal Sistem Informasi Dan Manajemen Basis Data)*, 2(2), 104–113. <https://doi.org/10.30873/simada.v2i2.1651>

Sari, Y. R., & Nurmiati, E. (2021). Analisis Kepuasan Pengguna Google Classroom Menggunakan PIECES Framework (Studi Kasus : Prodi Sistem Informasi UIN Jakarta). *Jurnal Nasional Informatika Dan Teknologi*, 5(2), 1–6. DOI: <https://doi.org/10.30743/infotekjar.v5i2.3349>

Shadiq, J., & Ratu Lolly, R. W. (2020). Sistem Informasi Kasir pada Restoran Siap Saji FoodPanda Berbasis Desktop. *Information Management For Educators And Professionals : Journal of Information Management*, 5(1), 85–94. <https://doi.org/10.51211/imbi.v5i1.1444>