Design of Goods Inventory Information System Using Visual Basic .Net (Case Study: CV. Barokah Medan)

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ABSTRACT

CV Barokah Medan is a company engaged in the distributor of beverage powder. This company was founded in 2019. Currently, the inventory process at CV Barokah Medan is still carried out conventionally, namely by using ledger records and Microsoft Excel tools. By using the current system, it takes a lot of time to search for goods because of the large number of items, then the problem that occurs is that there is data redundancy and notebooks and inventory data files are damaged or lost so that the checking process takes a long time and is mistaken in the data recording process. Efforts to overcome these problems in this study the authors are interested in creating an inventory information system using the visual basic .net programming language at CV. Barokah Medan. Visual basic .net is visual basic that is re-engineered for use on the .NET platform so that applications created using visual basic .NET can run on computer systems supported by the windows operating system. The results of this study indicate that the proposed inventory information system at CV. Barokah Medan can be used to store and process data in the warehouse, namely item data reports, supplier data reports, and inventory reports per day, per month and per year. So that it can support the CV. Barokah Medan to achieve higher productivity, and save costs, energy, and time in collecting, retrieving and managing inventory data, as well as displaying information data quickly and accurately.

Keywords: Information System, Goods Inventory, Desktop, Visual Basic Net¸ Crystal Report

1. INTRODUCTION

The rapid development of technology and information systems in the current era of globalization has brought progress to various aspects of people's lives. The development of computer technology, the need for computer users in the business world, especially in the field of inventory of goods is increasing, and there are many activities that require data processing such as recording incoming and outgoing goods and making accurate and efficient reports. Inventory of goods is one of the operational problems that every store often faces. Inventory is a number of products available to meet customer demand. Many shops or companies currently still use a manual process, namely by recording in the sales book, where the manual process causes problems such as errors in recording the entry and exit of goods, as well as making reports, one of which is at the CV. Barokah Medan store.

CV Barokah Medan, located on Jalan Garu II A No.44D Medan, is a company engaged in the distributor of beverage powder. This company was founded in 2019. Currently, the inventory process at CV Barokah Medan is still carried out conventionally, namely by using ledger records and Microsoft Excel tools. By using the current system, it takes a lot of time to search for goods because of the large number of items, then the problem that occurs is that there is data redundancy and notebooks and inventory data files are damaged or lost so that the checking process takes a long time and is mistaken in the data recording process.

Efforts to overcome these problems in this study the authors are interested in creating an inventory information system using the visual basic .net programming language at CV. Barokah Medan. Visual basic .net is visual basic which is re-engineered for use on the .NET platform so that applications created using visual basic .NET can run on computer systems supported by the windows operating system (Raihansyah, Lestari, and Lubis 2022).

2. LITERATURE REVIEW

This research was conducted inseparable from the results of previous research that has been carried out related to the inventory information system using desktop-based visual basic .net. One of the previous studies conducted by (Ester, Bakar Sidik, and Anas 2023), on the design of a visual basic .net-based inventory information system at PT.

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independent grocery store karawang. The results of this study concluded that the advantage of this inventory information system application is that it provides a higher productivity value, savings in terms of cost, energy and time for recording, searching and processing warehouse data, and can present information quickly, precisely and accurately. In research conducted by (Yusuf and Priatna 2021) the results of the study state that an integrated computerized system to help the efficiency of the company's inventory operations and be able to provide reports quickly and accurately and document data properly. Research (Muhardi 2019) states that the information system for processing inventory data on universal computers based on visual basic .net makes it easy for users to find item data by using the search feature in the application. (Putra 2019) in his research states that by using a computerized system, inventory data will be arranged in files and stored in electronic media which will save archiving space and be easy to search for item data. Likewise, research conducted by (Husaini 2020) states that through this inventory information system can find out the stock of goods available. Thus it can be predicted that goods are needed quickly.

3. METHOD

Research Stages

Several stages carried out by the author in this study to design an inventory information system for CV. Barokah Medan are as follows:
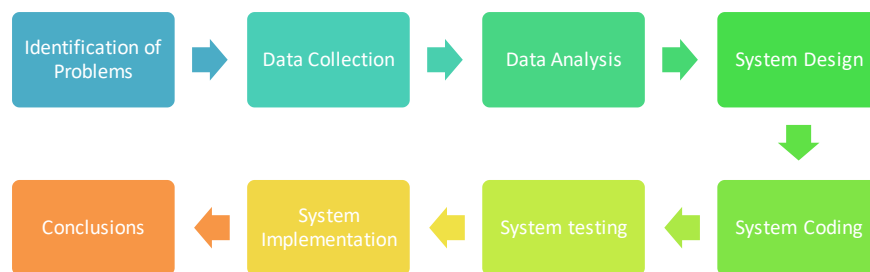

Fig 1. Research Stages

The stages of research on the inventory of goods at CV. Barokah Medan based on the flowchart above are as follows:

1. Problem Identification: At this stage, the researcher identifies and formulates the problem to be solved regarding the inventory of goods which includes stock shortages, overstock, or efficiency in inventory management.

2. Data Collection: at this stage, researchers collect data related to the inventory information system using observation, interview, and literature study techniques.

3. Data Analysis: at this stage, researchers analyze and select data that has been collected for use in the system to be built.

4. System Design: at this stage, researchers design the CV. Barokah Medan inventory information system using system design tools.

5. System Coding: at this stage, researchers code the visual basic .net system using based on the results of the system design in the previous stage.

6. System Testing: at this stage, researchers carry out a system testing process to ensure that the system built functions as expected, and is able to solve the problems identified.

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7. System Implementation: at this stage, researchers implement a system that has passed the testing stage to solve real inventory data processing problems at CV. Barokah Medan.
8. Conclusions: at the end of this the author draws conclusions from the results of the research that has been done.

Information System

An information system is a set of mutually integrated subsystems with the aim of collecting, processing, and storing information and providing information, knowledge, and digital products for specific purposes. The benefits of information systems are to increase the accessibility of data that is presented in a timely and accurate manner for users, without requiring an information system intermediary. Information system is a set of data arranged in such a way that the data collected, grouped, and processed into a single unit of information that is interconnected and valuable to the recipient (Tarigan, Rusdianto, and Jonemaro 2022).

Inventory Information System

Inventory information system is a system created by the company to input data on goods, both incoming and outgoing goods data in a database and to monitor existing stock inventory. It can also be said that the Goods Inventory Information System is a system used to input inventory data into the database, so that there are no errors in input, output and report generation based on the desired data (Setiyanto et al. 2019). Inventory Information System is a technology solution designed to manage and monitor stock or inventory of goods or products in a shop or company (Qadafi and Wahyudi 2020).

Visual Basic .Net

Visual basic .net is visual basic that is re-engineered for use on the .NET platform so that applications created using visual basic .NET can run on computer systems supported by the windows operating system (Raihansyah, Lestari, and Lubis 2022). Visual basic .net is a tool for developing and building applications that move on the .NET Framework system, using the BASIC language (Rahmawati and Indahyanti 2020). The visual basic environment allows users to write programs quickly because the visual basic language is very easy to understand and uses commonly used English words. With visual basic, all options are available to every user, so there is no need to remember different syntax or language forms (Rahmahdani 2024).

Desktop

Desktop applications are one of the popular applications in the community that have influenced many lives (Rahmah 2024). Desktop-based applications are applications that run on individual computers or clients. Desktop-based applications must first be installed on a computer in order to be used (Lolan, Api, and Mado 2024). From this explanation, it can be concluded that desktop applications are applications that are built that can run alone without an internet connection and can be used on individual computers or clients.

Microsoft Acces

Microsoft Access is a sophisticated database processing program that is used to process various types of data with easy operation. Building a database is the first step in creating an application. Success in building a database will make the program easier to understand/read, where the management is equipped with components in it which include tables, field keys, and so on. Then from this management, users will find it easy to search for information, store and discard information (Wijaya and Susanty 2021).

Crytal Report

Crystal reports is a program that is used to create, analyze, and translate information or data contained in a database or program into various types of reports that are very flexible. Crystal reports are designed to create reports that can be used with various windows-based programming languages, such as visual basic, visual C/C++, visual interdev, and borland delphi (Rahmahdani 2024).

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System Design

System design for the development of an inventory information system using Visual Basic .net at CV. Barokah Medan in this study can be seen in the description below:
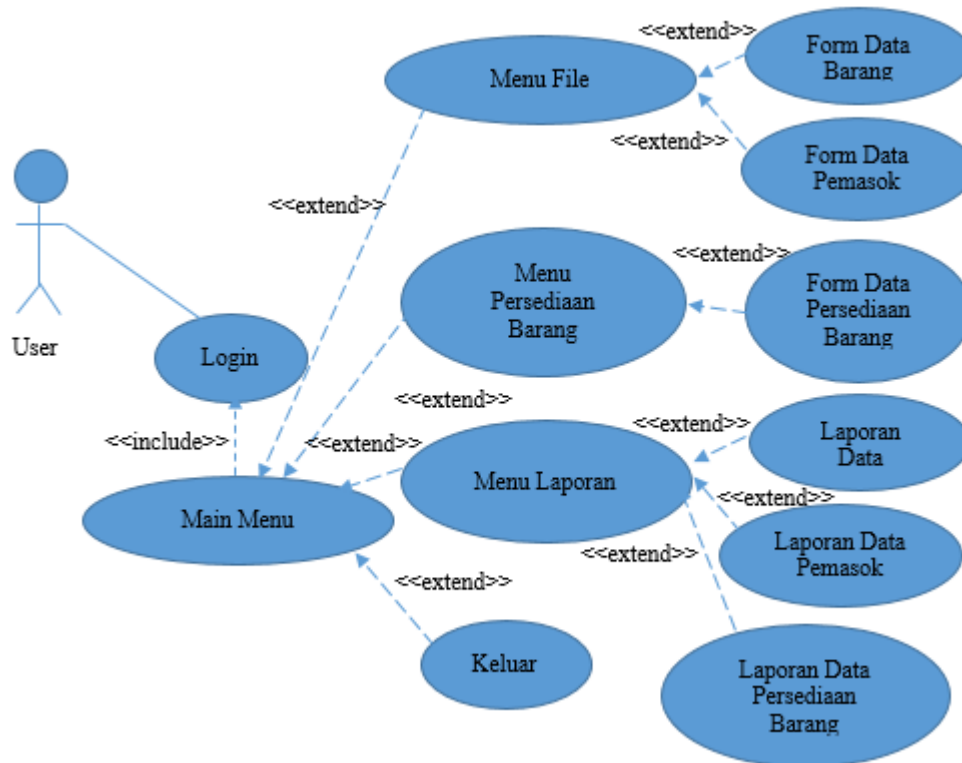

Fig 2. Use Case Diagram of Goods Inventory Information System Using Visual Basic .Net

Figure 2 above shows the flow of access that can be done by users in processing inventory data on the inventory information system using Visual Basic .net at CV. Barokah Medan in this study. The mandatory initial stage carried out by the user is to log in. After the user has successfully logged in, the main menu page will appear. On the main menu, users can access the File Menu, Inventory Menu, Report Menu, and Exit Menu. On the File Menu, users can choose to access the Goods Data Form sub menu to open the Goods Data Form or access the Supplier Data Form sub menu to open the Supplier Data Form. On the Goods Inventory Menu, users can access the Goods Data Inventory Form sub menu to open the Goods Data Form. On the Reports Menu, users can access the Goods Data Report sub menu to open the Goods Data Report, the Supplier Data Report sub menu to open the Supplier Data Report, or the Goods Inventory Data Report sub menu to open the Goods Inventory Data Report. On the Exit menu, users can perform a single tap to close the program.

4. RESULT

System Implementation

The results of the implementation of the inventory information system using Visual Basic .net at CV. Barokah Medan which has been built in this study can be seen in the description below:

1. Login Form
   The login form is an interface that prompts users to enter login information such as username and password. This login form is designed to provide secure access into the inventory system by authenticating the logged-in user.
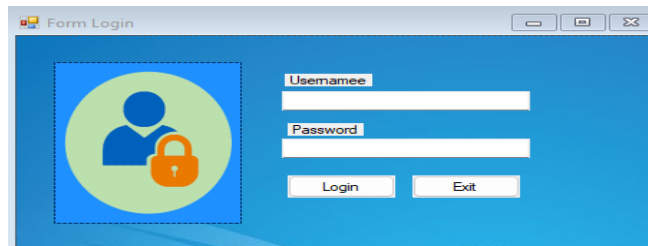
* Corresponding author

Fig 3. Login Form

2. Main Menu
    The main menu form is a graphical interface that displays the menus and options available to users in managing inventory. The following is a display of the main menu form for inventory of goods at CV. Barokah Medan.

Fig 4. Main Menu Form

3. File Menu
    The file menu of this system consists of item data and supplier data that can be accessed by users. Here's a look at the file menu form:

Fig 5. Menu File Form

4. Data Form
    The item data form is an interface used to record and manage information about items in the company's stock. This form includes columns for, item id, item name, price, unit, and stock quantity. By using this form, users can manage stock items in a more structured and efficient manner.

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Fig 6. Item Data Form

5. Supplier Data Form
    The supplier form in the inventory system is a graphical interface that displays supplier-related information. This form includes fields to enter supplier information such as supplier id name, phone number, and address.

Fig 7. Supplier Data Form

6. Inventory Data Form
    The inventory form in the inventory system is a graphical interface that displays information related to existing inventory items. This form includes columns to view inventory information such as item id, name, price and the amount of existing stock.

Fig 8. Inventory Data Form

7. Report Menu
    The report menu of this inventory system will display item data reports, supplier data reports, and inventory data reports. Tampilan Laporan Data Barang

CV. BAROKAH MEDAN

Jl. Garu II No.44D, Harjosari I, Medan Amplas

Id Barang	Nama Barang	Satuan	Harga	Stok
B01	Strawberry	KG	73000	15
B02	Mango	KG	70000	25
B03	Vanilla	KG	70000	25
B04	Frambois	KG	70000	15
B05	Rose	KG	70000	14
C01	Taro	KG	82000	28
C02	Avocado	KG	90000	20
C04	Red Velvet	KG	80000	18
D01	Caffe Latte	KG	72000	12
D02	Mochacino	KG	80000	13
D03	Caramel	KG	82000	15

Fig 9. Item Data Report

CV. BAROKAH MEDAN

Jl. Garu II No.44D, Harjosari I, Medan Amplas

Id Pemsok	No Telepon	Nama Pemaok	Alamat
282927	082135657780	Rizal	Depok

Fig 10. Supplier Data Report

CV. BAROKAH MEDAN

Jl. Garu II No.44D, Harjosari I, Medan Amplas

Laporan Data Perhari   Tanggal: 3 June 2024

Id Barang	Nama Barang	Satuan	Harga	Jumlah
B01	Strawberry	KG	73000	20
B02	Mango	KG	70000	26
B03	Vanilla	KG	70000	16
B04	Frambois	KG	70000	15
B05	Rose	KG	70000	14
C01	Taro	KG	82000	28
C02	Avocado	KG	90000	20
C04	Red Velvet	KG	80000	18
D01	Caffe Latte	KG	72000	12
D02	Mochacino	KG	80000	13
D03	Caramel	KG	82000	8
E01	Dark Choco	KG	75000	6

Fig 10. Laporan Data Perhari

System Testing

After the implementation stage, the next stage carried out is the system testing stage. at this stage, researchers carry out the system testing process to ensure that the system built functions as expected, and is able to solve the problems identified.

Table 1
System Testing Stage

No	Testing Name	Activities	Expected Results	Testing Results
1	Login Form	Entering Username and Password	When the user enters the username and password correctly, the main menu page will appear	Successful
2.	Main Menu Form	Access the menu by clicking the file menu button, inventory menu button, report menu button and exit button.	When the user clicks the file button, the item data and supplier data will be displayed, click the inventory button, the inventory display will be displayed, click the report button, the stock report will be displayed per day, per month and per year, click the exit button then the user will exit the system.	Successful

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3	File Menu	Access the menu by clicking the item data and supplier data buttons	When the user clicks the item data button, the item data display will come out which contains the item id, item name, price, unit, and the number of stock items, here the user can also update the item data; if you click the supplier data button, the supplier data display will come out such as the supplier id, telephone number, name and address of the supplier.	Successful
4	Report Menu	Access the menu by clicking the item data report, supplier data report, and inventory report buttons	When the user clicks the item data report button, the item data report display will come out from all item data and the report can be printed; if you click the supplier data button, the supplier data display will come out and the data can be printed; if you click the inventory data report, the item data report display will come out from the daily, monthly and annual data reports, and the report can also be printed.	Successful

It can be seen in the table above that all the main features of the application system, including login, main menu access, management of goods and supplier data, and report generation, function properly as expected. Each test successfully produces the desired output
.

5. DISCUSSIONS

In this study the authors built a desktop-based inventory information system at CV. Barokah Medan using the Visual Basic .Net programming language and Microsoft Access database as the database, as well as Crystal Report as a medium for presenting and printing reports that are processed in it. Based on the test results of the desktop inventory information system that has been built in the study, it is known that all features in the system can function properly. So that the process of processing inventory data at CV. Barokah Medan can be done easily, quickly, well organized..

6. CONCLUSION

Based on the results of research on the design of a desktop-based inventory information system at CV. Barokah Medan that has been carried out, it can be concluded that this inventory information system application already has a better system compared to the previous manual process because all data processing processes are computerized. This desktop-based inventory information system can be used to store and process data - data in the warehouse, namely item data reports, supplier data reports, as well as daily, monthly and annual inventory reports. The benefits of this inventory system are to achieve higher productivity, and save costs, energy, and time in collecting, retrieving and managing inventory data, as well as displaying information data quickly and accurately.

7. ACKNOWLEDGMENT

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