

Design of a Desktop Application System for Sales Data and Inventory Management at CV Eat Cipeng Jatijajar

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Abstract

CV Eat Cipeng Jatijajar is a culinary business that currently relies on manual methods for recording and managing inventory and sales data. This situation leads to various issues, such as time inefficiency, a high risk of recording errors, and difficulties in generating reports. This study aims to design and develop a desktop application—built using Java and MySQL—to facilitate the computerized management of inventory and sales data. The software development process follows the waterfall model, spanning from requirements analysis to black-box testing. Implementation results demonstrate that the developed application enhances operational efficiency, minimizes recording errors, and accelerates data retrieval and reporting processes. The application also features user login capabilities, master data management, tracking of incoming and outgoing goods, order processing, and comprehensive inventory reporting. Consequently, the system is expected to support the company's operations more effectively and professionally.

Keywords: Desktop Application, Inventory Management and Eat Cipeng Jatijajar.

I. INTRODUCTION

Information technology is a solution for quickly obtaining accurate and precise information. With the support of information technology, accurate and timely data presentation can be achieved more easily. One of the most common applications of this technology is the use of computers, which play a vital role in the business world because they can complete work more efficiently and quickly.[1]. The use of computer applications has now become a basic necessity for various companies. Every business has different needs, so the use of current computer applications is essential. These applications are designed with various specifications and functions to facilitate monitoring and decision-making, as well as accelerate work processes and reduce errors. The use of digital technology by MSMEs is a crucial factor in responding to challenges during the COVID-19 pandemic. Studies show that MSMEs that optimize digital platforms for promotional and sales activities tend to be more resilient amidst economic pressures. However, the digital transformation process does not rely solely on technology; it also requires a shift in mindset and work culture across all elements of the organization.[2]CV Eat Cipeng Jatijajar is a retail business engaged in the culinary sector, specifically in serving various processed foods made from fried aci. Located in Depok City, this business serves a variety of fried aci dishes that are quite popular with various groups. Along with the increasing demand and sales activity, the need for a system that can support the company's operations optimally is becoming increasingly important. In carrying out daily activities, CV Eat Cipeng Jatijajar has sufficient human resources to support business operations. However, in the aspect of managing inventory and sales data, there are still obstacles that cause the work process to be less effective and efficient. This is due to the lack of an integrated application system specifically designed to manage inventory data accurately and in real-time. Currently, the process is still carried out manually with recording using a general ledger. Errors caused by human factors can lead to the risk of data loss or damage, so the admin must correct and re-record inventory data. In addition, the large number of managed item data causes difficulties in searching, which has an impact on the slowness of the process. To overcome this problem, an application system is needed.

II. RESEARCH METHODS

Data collection technique

In any piece of writing, data must be included to prove its accuracy. Therefore, authors collect data using several methods, including:

1. Observation

Researchers conducted direct observations of the workflow and stock data management at CV Eat Cipeng Jatijajar to gain a clear understanding of the system being implemented.

2. Interview

Interviews were conducted with parties directly involved, such as warehouse staff and sales staff, to gather in-depth information regarding problems faced in managing stock data.

3. Literature review

Conducting a literature study by examining various sources such as journals, books, and other scientific references related to information systems, inventory management, and programming technology used in this research.

A. Software Development Models

In the application design and development process, the author applies the Waterfall software development model, which consists of several stages as follows:

1. Requirements Analysis

Identify system requirements based on observation and interview results to determine the main features in application.

2. System Design (System Design)

Carrying out system design which includes creating database designs, user interface displays, and compiling system workflows in the form of flowcharts or UML..

3. Program Code (code generation)

Application development was carried out by utilizing the Java programming language on the NetBeans IDE 8.2 platform, using MySQL as the database management system, and XAMPP as the connecting media between the application and the database server.

4. Testing

Conduct system trials to ensure the application runs as needed, and make improvements if errors or bugs are found.

III. LITERATURE REVIEW

1. Sale

Sales are income generated through the company's product sales activities, which are recorded after deducting sales discounts and returns.[3]

2. Stock of goods

Inventory is an asset used directly or indirectly in production activities and eventually sold. To manage it, several methods are typically applied, such as specific identification, the average method, the first-in, first-out (FIFO) method, and the last-in, first-out (LIFO) method.[3]

3. Desktop Application

A desktop application is a type of application that runs locally on a user's computer and can only be used on that device. Unlike web applications, desktop applications cannot be accessed over the internet from other locations.[4]

4. Java

Java is a programming language based on the object-oriented programming paradigm. While it bears similarities to languages like Smalltalk and C++, Java is designed to be simpler and easier for developers to use.[5].

5. Netbeans

NetBeans is an application (IDE) designed for application development using the Java programming language from Sun Microsystems, and runs on the Swing platform.[5]

6. DATABASE

"Database" and "base" come from the words "base" and "data," which respectively refer to a central office, warehouse, or data collection location. Using numbers, characters, symbols, language, images, sounds, or combinations thereof, data is a representation of the real world.[6]

7. Black Box Testing

"Black box testing is a software testing process to evaluate the quality of software performance with the aim of ensuring that it meets user requirements and needs."[7]

8. UML (Unified Modeling Language)

Unified Modeling Language (UML) is a visual modeling language that has strong semantic meaning and supports the principles of incremental and iterative system development in accordance with the object-based development approach.[8]. UML consists of several parts.

IV. RESULTS AND ANALYSIS

The results of this research are in the form of a Desktop Application for Processing Sales and Stock Data [at CV Eat Cipeng Jatijajar. This application was developed using Netbeans IDE software as a text editor, JavaFramework as a framework and using the Java Script programming language as a ServerSide Programming Language and MySQL as a Database Management System. The development of this system aims to Design and build a desktop application system that can be used to manage computerized stock data to improve work efficiency at CV Eat Cipeng Jatijajar, Provide fast, accurate, and structured stock reporting features to facilitate management in making the right decisions. Reduce errors in recording stock data and minimize the risk of data loss through the implementation of an integrated and real-time digital system for Gathering Needs, Optimize the use of information technology, especially desktop-based applications, in supporting company operations, especially in terms of inventory management.

At this stage, researchers conducted interviews with directly involved parties, such as warehouse staff and sales, to gather in-depth information regarding the challenges faced in managing inventory data. Researchers conducted direct observations of the workflow and inventory data management at CV Eat Cipeng Jatijajar to gain a clear understanding of the system currently in place.

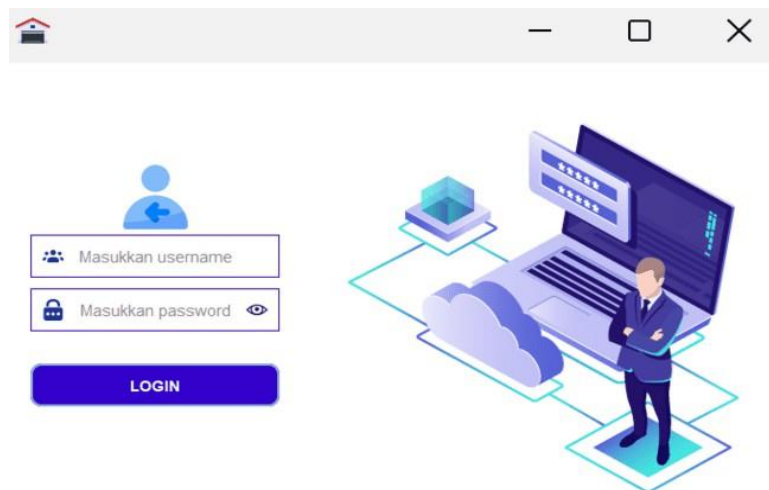


Fig 1 Login Form This is the user interface for the login page of the Online Exam application. Users can enter their previously created username, email, and password. After logging in, they will be taken to the main page for each user role.

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Data Barang

No	Kode Barang	Nama Item	Nama Jenis	Nama Barang	Status	Stok	Harga	Unit
1	82000001	JB001	C CORUM	Copeng Corum Pina	Phi	10000	20	
2	82000002	JB002	C ORN	Copeng Original	Phi	10000	4	
3	82000003	JB003	C KASIR	Copeng Kasir	Phi	10000	30	
4	82000004	JB004	T KASIR	Tas Kaser Coklat	Phi	10000	30	
5	82000005	JB005	M SPICY	Min Dasi Spicy	Phi	10000	40	
6	82000006	JB006	S CARBONARA	Spaghetti Carbonara	Phi	10000	30	
7	82000007	JB007	S BOLOCHOWSKI	Spaghetti Bolognaise	Phi	10000	30	
8	82000008	JB008	C MENTHAI	Copeng Mentah Garing Cmenth	Phi	10000	30	
9	82000009	JB009	K CORUM	Kanteng Corum Cmenth	Phi	10000	30	
10	82000010	JB010	K KASIR	Kanteng Kasir Cmenth	Phi	10000	30	
11	82000011	JB011	K ORIGINAL	Kanteng Corum Original	Phi	10000	30	
12	82000012	JB012	C AYAM CORUM	Copeng Ayam Corum	Phi	10000	40	
13	82000013	JB013	C AYAM ORN	Copeng Ayam Corum	Phi	10000	30	
14	82000014	JB014	CH KLASIK	Choco Klasik	Phi	10000	16	
15	82000015	JB015	BLACKFOREST	Blackforest Cmenth	Phi	10000	20	
16	82000016	JB016	CH ALMOND	Choco Almond	Phi	10000	40	
17	82000017	JB017	CH ROYAL	Choco Royal	Phi	10000	20	
18	82000018	JB018	CH OVALTIME	Choco Ovaltime	Phi	10000	20	
19	82000019	JB019	LT REGULER	Lemon Tea Reguler	Phi	8000	30	
20	82000020	JB020	LT LARGE	Lemon Tea Large	Phi	10000	40	
21	82000021	JB021	TT REGULER	Tea Tea Reguler	Phi	8000	30	
22	82000022	JB022	TT LARGE	Tea Tea Large	Phi	10000	40	
23	82000023	JB023	GT LARGE	Green Tea Large	Phi	10000	40	
24	82000024	JB024	TANG	Tas Ies Large	Phi	10000	30	
25	82000025	JB025	RED VELVET	Red Velvet Large	Phi	10000	30	
26	82000026	JB026	LI REGULER	Lao Tea Reguler	Phi	8000	16	
27	82000027	JB027	LI LARGE	Lao Tea Large	Phi	10000	16	
28	82000028	JB028	CH ORED	Choco Ored	Phi	10000	30	
29	82000029	JB029	HASLEKAT	Haslekat	Phi	10000	20	
30	82000030	JB030	PT REGULER	Papa Tea Reguler	Phi	10000	10	
31	82000031	JB031	PT LARGE	Papa Tea Large	Phi	10000	22	
32	82000032	JB032	GT LATTE	Green Tea Latte	Phi	10000	20	
33	82000033	JB033	CH BENKORENS	Choco Benkorens	Phi	10000	20	
34	82000034	JB034	GG YAKULT	Green Grape Yakult	Phi	10000	30	
35	82000035	JB035	MS YAKULT	Mango Yakult	Phi	10000	30	
36	82000036	JB036	NA YAKULT	Nai Yakult	Phi	10000	30	
37	82000037	JB037	CH BANANABAN	Choco Bananab	Phi	20000	30	

Fig 2. Master Item Menu In the item master menu, the admin can perform CRUD (create, read, update, delete) on the item master menu.

Data Jenis Barang

No	Kode Jenis	Nama Jenis	Status Jenis
1	JB001	C CORUM	
2	JB002	C ORN	
3	JB003	C KASIR	
4	JB004	T KASIR	
5	JB005	M SPICY	
6	JB006	S CARBONARA	
7	JB007	S BOLOCHOWSKI	
8	JB008	C MENTHAI	
9	JB009	K CORUM	
10	JB010	K KASIR	
11	JB011	K ORIGINAL	
12	JB012	C AYAM CORUM	
13	JB013	C AYAM ORN	
14	JB014	CH KLASIK	
15	JB015	BLACKFOREST	
16	JB016	CH ALMOND	
17	JB017	CH ROYAL	
18	JB018	CH OVALTIME	
19	JB019	LT REGULER	
20	JB020	LT LARGE	
21	JB021	TT REGULER	
22	JB022	TT LARGE	
23	JB023	GT LARGE	
24	JB024	TANG	
25	JB025	RED VELVET	
26	JB026	LI REGULER	
27	JB027	LI LARGE	
28	JB028	CH ORED	
29	JB029	HASLEKAT	
30	JB030	PT REGULER	
31	JB031	PT LARGE	
32	JB032	GT LATTE	
33	JB033	CH BENKORENS	
34	JB034	GG YAKULT	
35	JB035	MS YAKULT	
36	JB036	NA YAKULT	
37	JB037	CH BANANABAN	

Fig 3 Item Type Menu In the item type menu, the admin can perform CRUD (create, read, update, delete) on the item type menu.

Data Pengguna

No	ID	Nama	Username	Telepon	Alamat	Level
1	UP001	Yip Rofa	yiprifa	08123456789	Jl. Jajaja 1 Pet. Tapa Kota Depok Jawa - Barat	Admin
2	UP002	Nevia DA	nevia28	08123456789	Pondok Ciduar	Staff

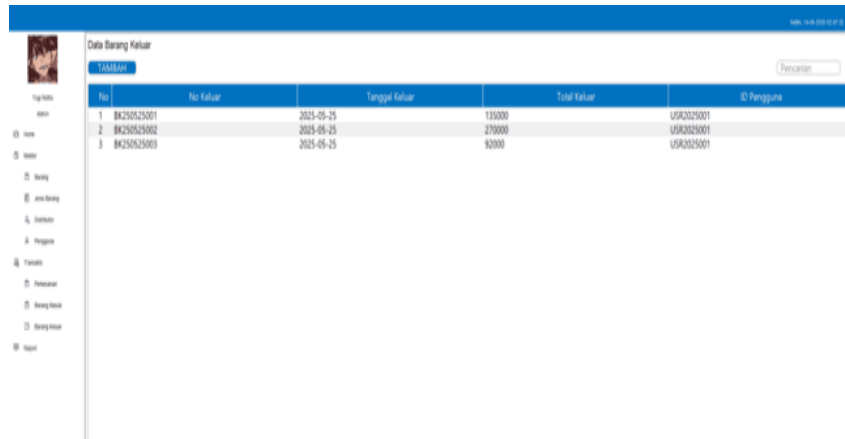
Fig 4. User Menu In the user menu, the admin can delete or add users.

Laporan Data Barang

Jatijajar - Jawa Barat - Depok
Kategori: 3342 0000

No	Kode	Nama Barang	Status	Harga	Stok
1	82000001	Copeng Corum	Phi	10000	20
2	82000002	Copeng Original	Phi	10000	4
3	82000003	Copeng Kasir	Phi	10000	30
4	82000004	Tas Kaser Coklat	Phi	10000	30
5	82000005	Min Dasi Spicy	Phi	10000	40
6	82000006	Spaghetti Carbonara	Phi	10000	30
7	82000007	Spaghetti Bolognaise	Phi	10000	30
8	82000008	Copeng Mentah	Phi	10000	30
9	82000009	Kanteng Corum	Phi	10000	30
10	82000010	Kanteng Kasir	Phi	10000	30
11	82000011	Kanteng Corum Original	Phi	10000	30
12	82000012	Copeng Ayam Corum	Phi	10000	40
13	82000013	Copeng Ayam Corum	Phi	10000	30
14	82000014	Choco Klasik	Phi	10000	16
15	82000015	Blackforest Cmenth	Phi	10000	20
16	82000016	Choco Almond	Phi	10000	40
17	82000017	Choco Royal	Phi	10000	20
18	82000018	Choco Ovaltime	Phi	10000	20

Fig 5. Item Report Menu In the Item Report Menu, users can print daily, monthly, or periodic reports according to the user's needs.



No	No Keluar	Tanggal Keluar	Total Keluar	ID Pengguna
1	BK250525001	2025-05-25	150000	USA2025001
2	BK250525002	2025-05-25	270000	USA2025001
3	BK250525003	2025-05-25	92000	USA2025001

Fig 6. Outgoing Items Menu In the outgoing goods menu the admin can do CRUD (create, read, update, delete) on the outgoing goods menu.

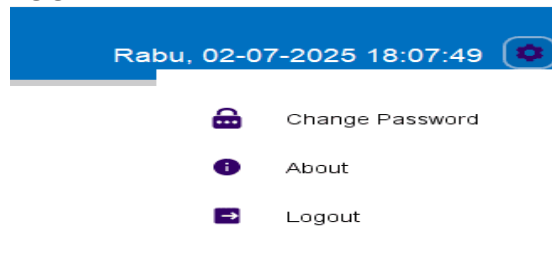


Fig 7. Settings Menu In this menu, the user can change the password.

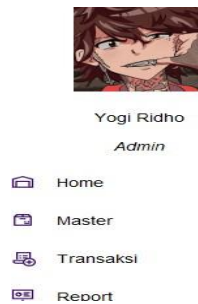
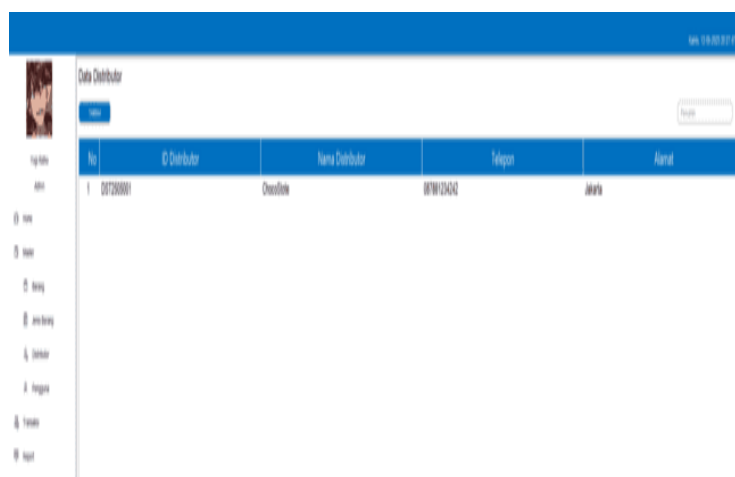


Fig 8. Distributor Menu In this menu, users can add distributor details.



No	ID Distributor	Nama Distributor	Telepon	Alamat
1	DD200001	Omahidha	0878120420	Jember

Fig 9. Sidebar In the sidebar menu, users can see the main menu in this application. System Testing At this stage, the system has become a ready-to-use system, so the system will be tested before being hosted and used. In this study, the system was tested using black box testing.

Black Box Testing Login Testing

No.	Skenario Pengujian	Test Case	Hasil Yang Diharapkan	Hasil Pengujian	Kesimpulan
1.	Pengisian form login dengan benar, termasuk username dan password	Username : yogiridho Password : yogi23	Sukses, dan akan diarahkan ke halaman utama	Sesuai Harapan	Valid
2.	Pengisian form login, form username kosong.	Username : (Kosong) Password : yogi23	Sistem melakukan validasi, memunculkan pesan("username tidak boleh kosong")	Sesuai Harapan	Valid
3.	Pengisian form login, form username salah	Username : test123 Password : yogi23	Sistem melakukan validasi, memunculkan pesan("Username salah")	Sesuai Harapan	Valid
4.	Pengisian form login, form password salah	Username : yogi23 Password : 123456	Sistem melakukan validasi, memunculkan pesan("Password salah")	Sesuai Harapan	Valid

V. CONCLUSION

Based on the research and development of the desktop application system at CV Eat Cipeng Jatijajar, it can be concluded that the system successfully met the needs for managing inventory and sales data. This application is able to replace the manual recording process currently used, by providing digital and structured recording, transaction processing, and reporting features.

With this system, CV Eat Cipeng Jatijajar can reduce recording errors, speed up data retrieval, and increase efficiency in inventory and sales reporting. Implementing this system also makes it easier for administrators and staff to manage information on incoming and outgoing goods, as well as ordering them in real time.

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