

Design and Development of a Desktop-Based Cashier Application at the Legowo Satay Restaurant

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Abstract

The advancement of information technology encourages various business sectors to adapt, including in managing sales transactions. Resto Sate Legowo, as a local culinary business, still relies on manual recording for cashier operations, which is prone to errors and takes considerable time. To address this issue, this study aims to design and develop a desktop-based cashier application to help accelerate and simplify the transaction process at Resto Sate Legowo. The development method used in this system is Rapid Application Development (RAD), with Unified Modeling Language (UML) as the design tool. This method allows for faster development by actively involving users in each stage of the process. The application is built using the Java programming language and MySQL as the database to store transaction and menu data. The result of this study is a cashier application capable of recording sales transactions, printing receipts, and generating daily reports automatically. System testing shows that the application functions properly and provides convenience for staff in managing transactions. With this application, it is expected that operational efficiency at Resto Sate Legowo can be significantly improved.

Keywords: Cashier Application, Restaurant, Desktop, Rapid Application Development (RAD), Sales Transactions

1. Introduction

In today's digital era, an efficient sales management system is a vital requirement for businesses of all sizes, both large and small. Small and medium enterprises (SMEs), in particular, require solutions that are not only cost-effective but also reliable and easy-to-use to manage sales transactions, inventory, and financial reports [1]. Resto Sate Legowo is a restaurant with a reputation for serving its signature satay dishes. However, as the number of customers increased, the transaction recording system, which still relied on receipts, began to feel less than optimal. Therefore, a solution was needed in the form of a desktop-based cashier application that could assist with transaction recording, menu management, and the provision of automated and accurate sales reports. With this desktop-based cashier application, it is hoped that Resto Sate Legowo can improve operational efficiency, reduce recording errors, and provide faster and more satisfying service to customers. Based on the above issues, I, as the author, will create a desktop-based application design entitled "Design and Construction of a Desktop-Based Cashier Application at Resto Sate Legowo."

2. Theoretical Basis

2.1. Understanding Applications

An application is computer software that utilizes a computer's capabilities directly to perform a user-desired task [2]. An application is software or a computer program that operates on a specific system and is created and developed to carry out specific commands [3].

2.2. Understanding Java

Java is a high-level, object-oriented programming language, and Java programs are composed of components called classes [4]. Java is a programming language widely used in desktop application development due to its platform-independent nature and support for object-oriented programming [1].

2.2. Understanding MySQL

MySQL is a free database server licensed under the GNU General Public License (GPL), allowing you to use it for personal or commercial purposes without paying for a license [5]. MySQL is an implementation of a relational database management system (RDBMS) distributed freely under the GPL (General Public License) [6].

2.4. Understanding NetBeans

NetBeans is an application that can be used for Java programming [7]. NetBeans is an Integrated Development Environment (IDE) used for Java-based software development [8].

2.5. Definition of Cashier

A cashier is a point-of-sale application designed to make it easier for businesses to manage transactions at the cashier's desk [9]. A cashier is a program designed to simplify the sales or purchase process for one or more items at a time [10].

3. Research Methods

According to [11] the research method is a data collection technique to solve problems, find solutions, and techniques to build relationships between data and methods by evaluating research results accurately. The method used to compile this thesis uses a descriptive research method with a qualitative approach, namely a comprehensive, broad and in-depth description, as well as information data in the form of verbal sentences, not in the form of numerical symbols or numbers.

3.1. Data source

The following data sources were used by the author in this thesis research:

1. Primary Data
The primary data source in this thesis is data obtained directly from the informant, namely, Mr. Sutiman, the owner of the Sate Legowo Restaurant.
2. Secondary Data
Secondary data is data that supports primary information obtained from documents, reading materials, the internet, and observation.

3.2. Data collection technique

The techniques used to collect data in this study were as follows:

1. Observation
Observation was conducted by visiting the Sate Legowo Prabumulih Restaurant directly and carefully and systematically recording the conditions being studied directly with the research object. This allowed for data collection and a thorough understanding of the restaurant's offerings.
2. Interviews
Interviews are a data collection method that involves direct questioning and answering with parties related to the research problem. This method aims to obtain clear and comprehensive information in accordance with the research objectives. The author conducted several interviews verbally with Mr. Sutiman, the owner of the Sate Legowo Prabumulih Restaurant.
3. Library Research
In this library research, the researcher collected data and information from various sources, including books, journals, articles, and previous research, which served as references for this study.

4. Proposed use Case

Use Case is a description of the functionality of a system so that system users can understand and comprehend the usefulness of the system being built.

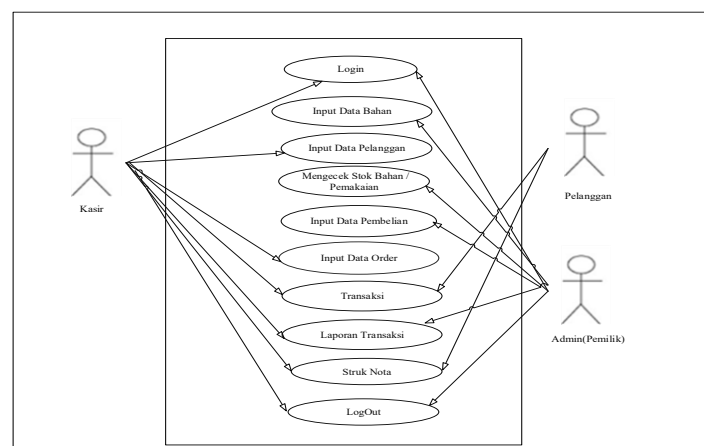


Fig. 1: Proposed use Case

5. System and Testing Implementation

5.1. Interface Implementation



Fig. 2 : Login Display Page

The admin and cashier enter their username and password first, then click the login button. If it is correct, they will enter the main page.

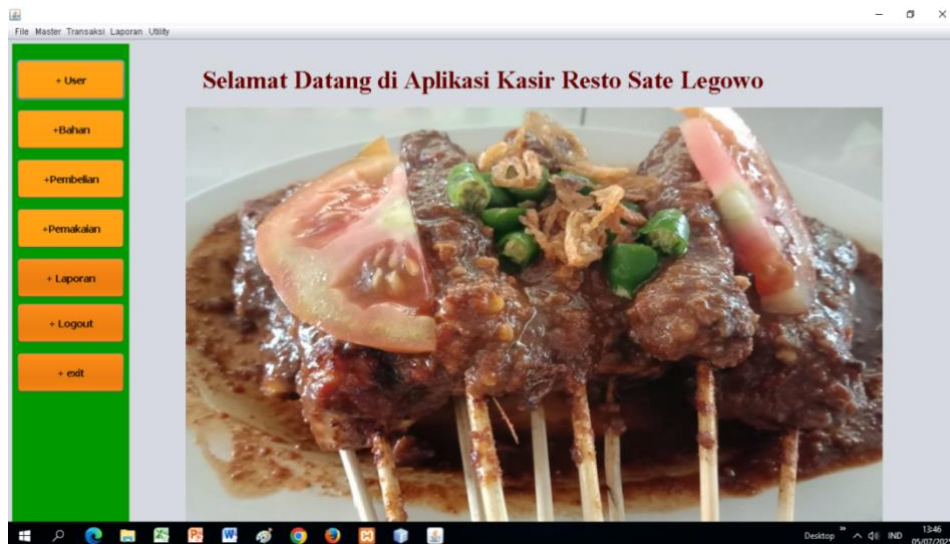


Fig. 3 : Admin View Page

This admin main page displays all menus containing users, materials, purchases, usage, reports, logout, and exit.



Fig. 4 : Material View Page

The ingredients page is used by the admin to input data on what ingredients are needed or required in making satay.

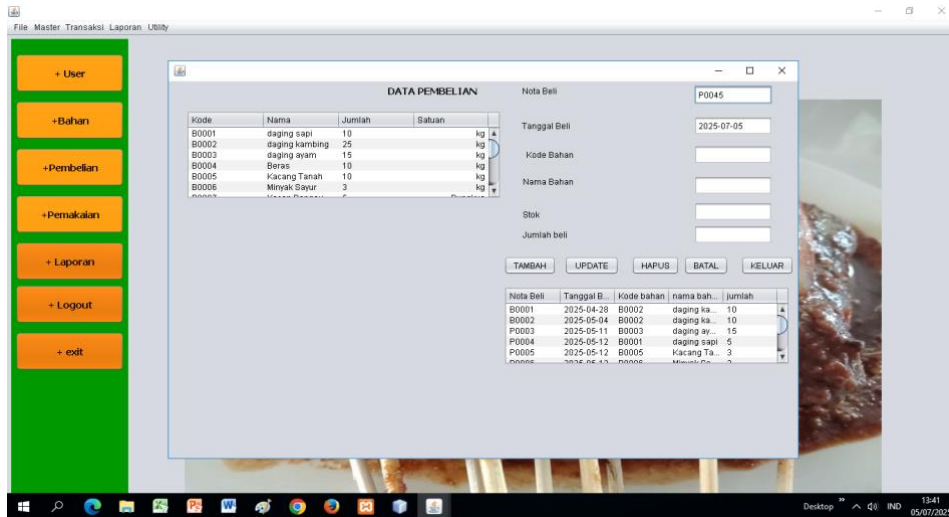


Fig. 5 : Purchase View Page

The purchase page is used by the admin to input purchase data, after determining the required materials.

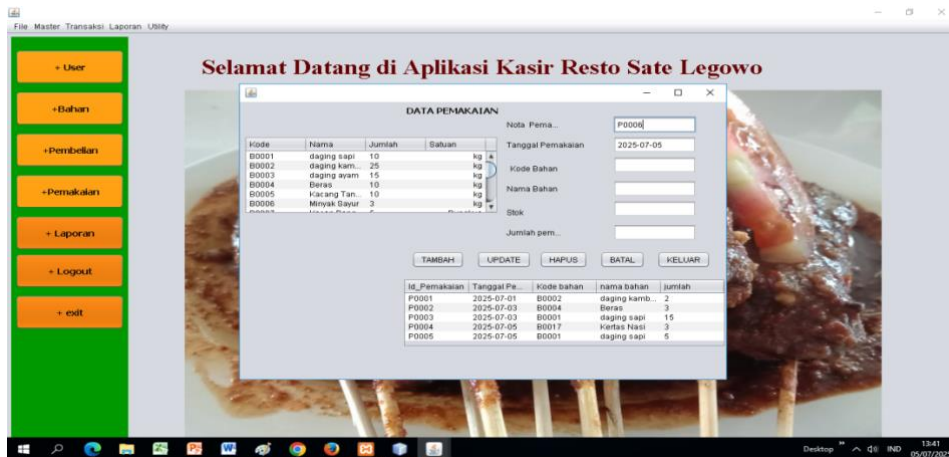


Fig. 6 : Usage Display Page

The usage page is used by the admin to input data that has been used and view material stock.

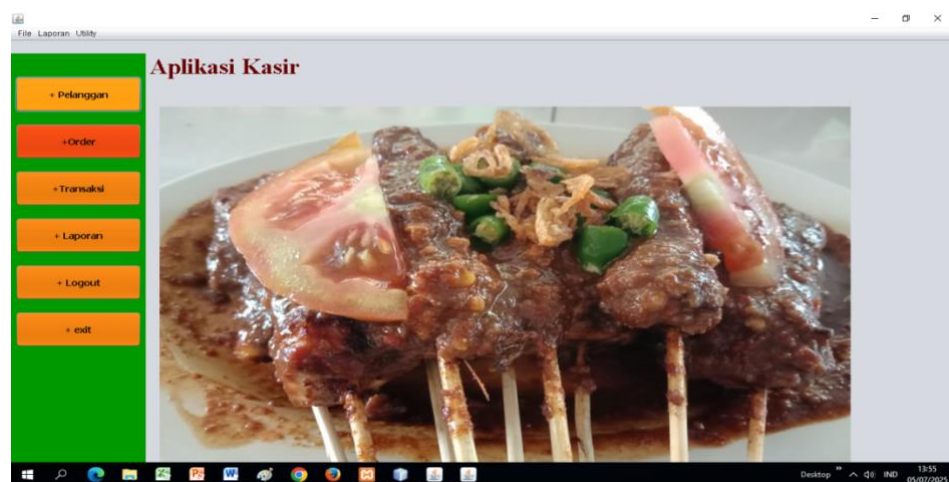


Fig. 7 : Cashier Main Display Page

After the cashier logs in, the main cashier page will appear as shown in the image above.

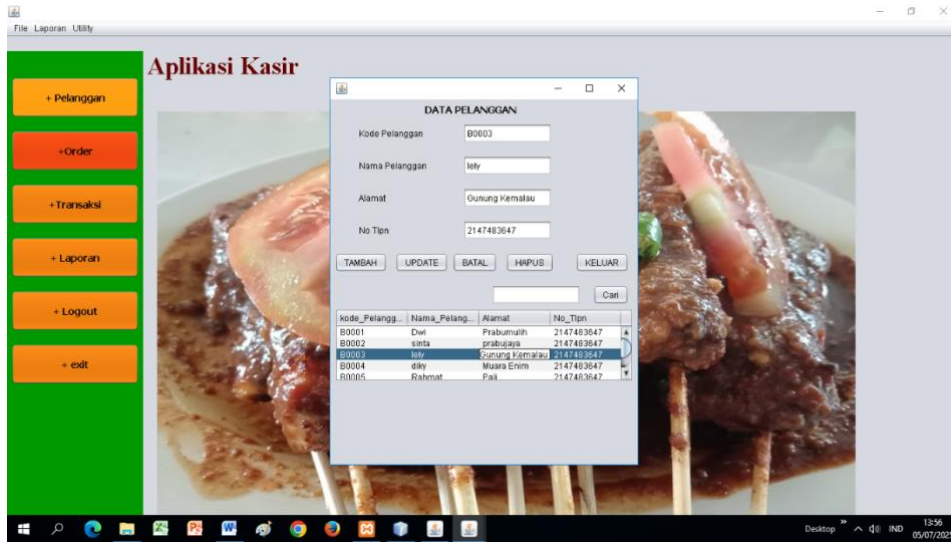


Fig. 8 : Customer View Page

The customer page functions as an admin to input customer data, to find out the customer's identity.

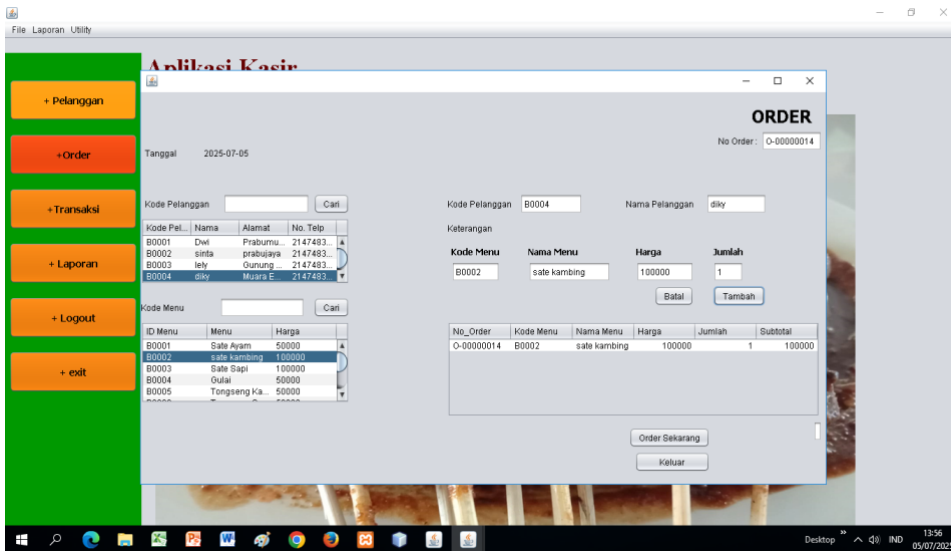


Fig. 9 : Order View Page

The order page is used for customers to order food, and the admin inputs the menu ordered by the customer.

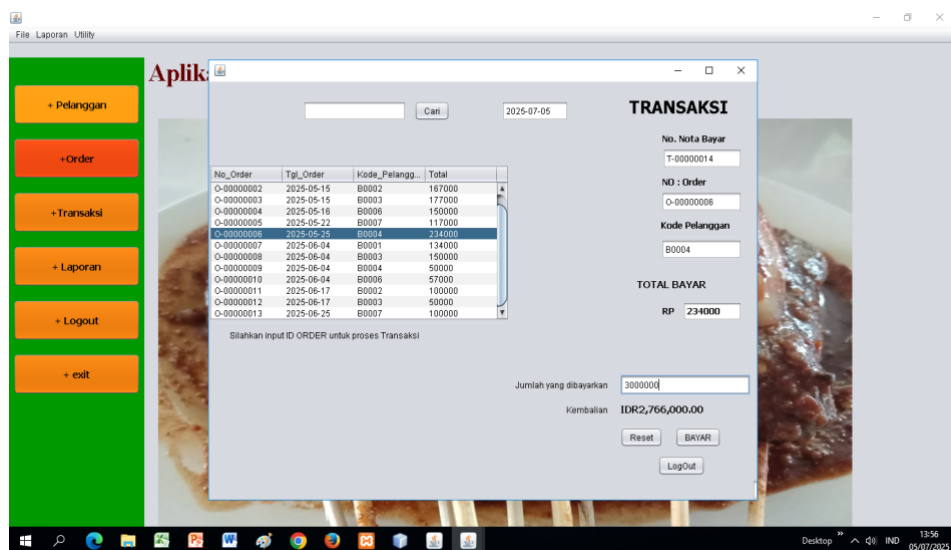


Fig. 10 : Transaction View Page

The Transaction page is used to process payments for any food menus that have been ordered by customers.

Laporan Data Transaksi

Tanggal: 2025-05-05 s/d 2025-07-05

No	Nota jual	tanggal jual	kode barang	total	bayar	kembalian
1	T-00000004	2025-05-15	B0003	177000	2000000	23000
2	T-00000004	2025-05-16	B0003	177000	2000000	23000
3	T-00000005	2025-05-16	B0006	150000	2000000	50000
4	T-00000006	2025-05-22	B0007	117000	2000000	83000
5	T-00000007	2025-05-25	B0004	234000	3000000	66000
6	T-00000008	2025-06-04	B0001	134000	1500000	16000
7	T-00000009	2025-06-04	B0003	150000	2000000	50000
8	T-00000010	2025-06-04	B0004	50000	1000000	50000
9	T-00000011	2025-06-04	B0006	57000	600000	3000
10	T-00000011	2025-06-17	B0001	254000	3000000	46000
11	T-00000011	2025-06-17	B0001	254000	3000000	46000
12	T-00000011	2025-06-17	B0002	167000	1700000	3000
13	T-00000014	2025-06-25	B0007	100000	2000000	100000
14	T-00000014	2025-06-25	B0003	50000	1000000	50000

Fig. 11 : Transaction Data Report Display Page

Transaction reports function to record and present data on all payment activities to make it easier for restaurant owners to monitor.

5.2. Conclusion of Test Results

Based on the results of tests conducted by previous researchers, it can be concluded that the DESKTOP-BASED CASHIER application at the LEGOWO SATE RESTO that has been developed and created can run and function well.

6. Conclusion

Based on the research conducted, several conclusions can be drawn, namely:

1. Based on the design and development of the Cashier Application at the Sate Legowo Restaurant, it can be concluded that this application can help make the transaction process faster, more organized, and more efficient.
2. This system makes it easier for cashiers to record orders, calculate total payments, and automatically print receipts.
3. Furthermore, transaction data can be stored neatly, making it easier for restaurant owners to check daily sales.
4. With the desktop-based Cashier Application using NetBeans, Java programming, and the RAD and UML system development methods as design tools, it is hoped that operational activities at the Sate Legowo Restaurant will be more organized and the risk of errors in manual recording will be reduced.

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