
Web Based Tea Powder Sales Information System at Juma Sidamanik Tea Shop

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Abstract

The background of this research is that the sales system is still manual which takes a long time in creating sales reports, is prone to recording errors, stock information and business competition in the dynamics of information technology development, so it is necessary to implement a web-based sales information system. The object of the research is Toko Teh Juma, a trading business engaged in the sale of black tea and green tea. Currently, Juma Tea still uses manual systems such as recording sales, stock items, and monthly reports. The solution offered is the creation of a sales information system that can make recording more effective. This system was developed using the Python language and uses SQLite as a database. This system is made web-based which must be connected to the internet. The system development method used in this research is the *waterfall method*. In this method, application development will go through several separate stages so that it is hoped that everything that is done is easy to design, analyze, and also easy to provide feedback. The results of this website-based information system research can help admins to calculate stock items and carry out daily or monthly reports. The conclusion of this research is that a web-based sales information system has been designed and built using a web *front end* and *back end*, *SQLite* is used to create a database, and has been tested with *black box testing* to view stock items and sales reports more easily. A web-based tea powder sales information system makes it easier for admins to create sales reports at the Juma Sidamanik Tea shop.

Keywords: Sales Information System; Web; Python, Sqlite

INTRODUCTION

As time progresses, internet technology is also advancing. Just as the internet initially had a narrower function, it's now almost impossible to list each function individually. However, broadly speaking, these functions can be grouped into several. In companies, the sales process to consumers is crucial to a company's success, and therefore, methods are needed to streamline this process. Internet use is one aspect that supports the sales process. With the internet, every computer can exchange data and information very easily. Therefore, business opportunities, especially for companies utilizing internet technology and websites, are increasingly significant (Bangun & Informasi, 2022)

However, as business and enterprise developments progress, competition is intensifying and intensifying, requiring businesses and organizations or companies to maximize their business development through innovation and creativity, relying on information technology. The goal is to increase production capacity and sales, maintain stability, and maintain efficiency, avoiding lagging sales levels. Therefore, every business needs to implement an information system. This integrated information system can help businesses sell, sell, and acquire products easily, allowing customers to access products more accurately, effectively, and efficiently through the information system.

A system is a form of integration between one component and another because the system has different targets for each case that occurs in the system (Ziliwu et al., 2021). An information system is a system within an organization that meets the needs of daily transaction processing that supports managerial organizations with strategic activities of an organization to be able to provide reports needed by certain external parties (Damayanti et al., 2019). Information systems are interrelated components that work together to collect, manage, store, and display information to support current or future decision making (Mulyanto et al., 2020).

Meanwhile, sales is a process where the seller satisfies all the needs and desires of the buyer in order to achieve sustainable benefits for both the seller and the buyer and that are profitable for both parties. Sales are also the results achieved in return for services provided by the business transaction

(Ahmad & Hasti, 2018) . Sales are when the buyer has selected the goods to be purchased, the buyer is required to pay the seller (Damayanti et al., 2019) .

The implementation of the sales information system is carried out on a website basis. Where a *website* is defined as a collection of pages used to display text information, still or moving images, animations, sounds and/or a combination of all of these, both static and dynamic, which form a series of interrelated buildings, each of which is connected by a network of pages (Salamah, 2018).

Based on the results of the study entitled *Designing a Web-Based Sales Information System for Nata Nugros Cassava MSMEs*, it shows that this new system is more efficient than the manual method. Previously, sales recording was done manually using books, which was less accurate and time-consuming, especially when making reports (Yuli Fitrianto & Daniel Rudjiono, 2025). Further research entitled *Web-Based Sales Information System for Retail Stores* shows that the findings from this research analysis of the sales information system can help minimize problems that arise during the data collection and recording process (Putra & Suprianto, 2024). Further research related to the *Design of a Web-Based Sales Information System at Maju Jaya Keramik Store* shows that the design of a sales system using the prototype method consists of report data, transaction data, type data, item data, sales data, purchase data, accounts receivable and payable data, and master data in the form of user data, supplier data, and customer data (Aldo et al., 2025). Then, a relevant study related to the *Design of a Web-Based Sales Information System at Xyz Motor Store* shows that the designed web-based sales information system can simplify the sales process, expand the customer reach, and provide daily sales reports for store owners and also allow buyers to make purchases remotely (Lestari et al., 2014). The last relevant study on the *Development of a Web-Based Sales Information System Using the Spiral Model* shows that the development of this system, through various system tests, ultimately results in ease of use in transactions, fast access, and efficient generation of sales reports (Johan & Chandra, 2024).

Teh Juma is a unit specializing in the sale of tea powder on Jl. Besar Sidamanik, Ambarisan, Sidamanik District, Simalungun Regency, North Sumatra 21171. It already has customers in the Sidamanik area. Teh Juma aims to develop a more effective, efficient, and efficient sales system, despite its conventional sales recording system.

Utilizing this web-based information system is expected to facilitate accessibility, improve product stability, improve product information accuracy, expedite sales transactions, provide relevant product information, monitor inventory, manage defects, and minimize other issues. It is hoped that Teh Juma will be able to conduct sales with a more effective system and assist store administrators in managing sales.

RESEARCH METHODS

The method used in this study is the System Development Life Cycle or SDLC method, which consists of the planning, analysis, design, implementation, and maintenance phases (Balaji & Murugaiyan, 2012). The system development method used in this study is the waterfall model. The waterfall model is part of the SDLC model that is often used in information system development (Wahid, 2020). In this method, application development goes through several separate stages so that everything that is done can be easily designed, analyzed, and easily given feedback.

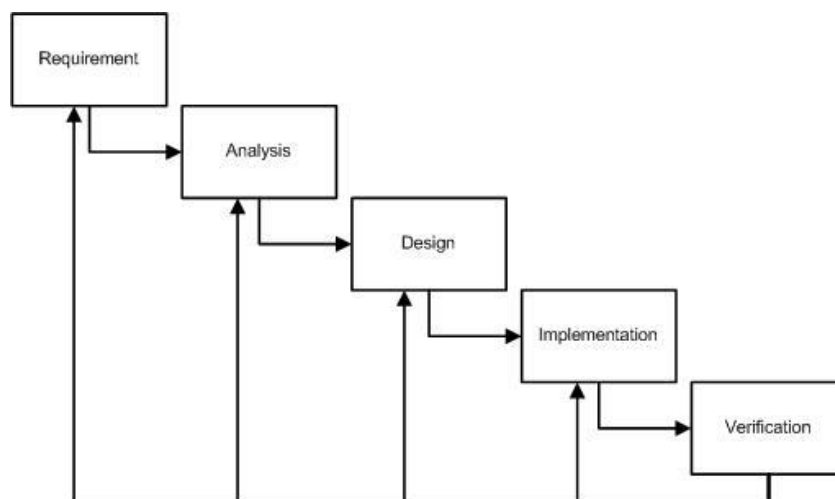


Figure 1. Waterfall Method

When conducting research, the first thing to consider is the research object. This research object becomes the target of the research to obtain answers and solutions to the problems that arise. The research object is Juma Sidamanik Tea Shop, located at Jl. Besar Sidamanik, Ambarisan, Sidamanik Sub-district, Simalungun Regency, North Sumatra. This business entity produces authentic tea powder made from tea leaves grown in the Sidamanik region. This research aims to develop a website-based sales information system for tea powder

RESULTS AND DISCUSSION

System Implementation

This stage is the activity of implementing the system, including program coding. This implementation is carried out so that system users can understand how the system works. The following is an implementation of the tea powder sales information system at the Teh Juma Sidamanik store:

1. Login Page

Used to protect the system from unauthorized users before accessing the main page/ *dashboard*. Here's what the *login page looks like*:



Figure 2. Login Page

login page serves as a link to the dashboard, item data, and report data pages. The *login page* contains fields for the registered admin *user name* and *password* . If the *user name* and *password* entered do not match, the login will fail.

2. Home Page/ Dashboard

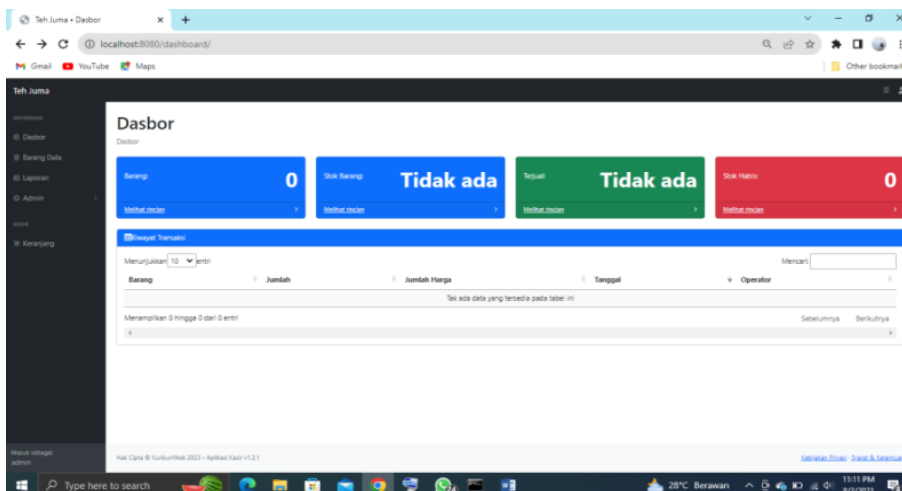


Figure 3. Home Page / Dashboard

After logging in, the admin will be directed to the main page/ dashboard. This page displays concise and structured information to provide an overview of transaction activity and changes to inventory.

3. Item Data Page

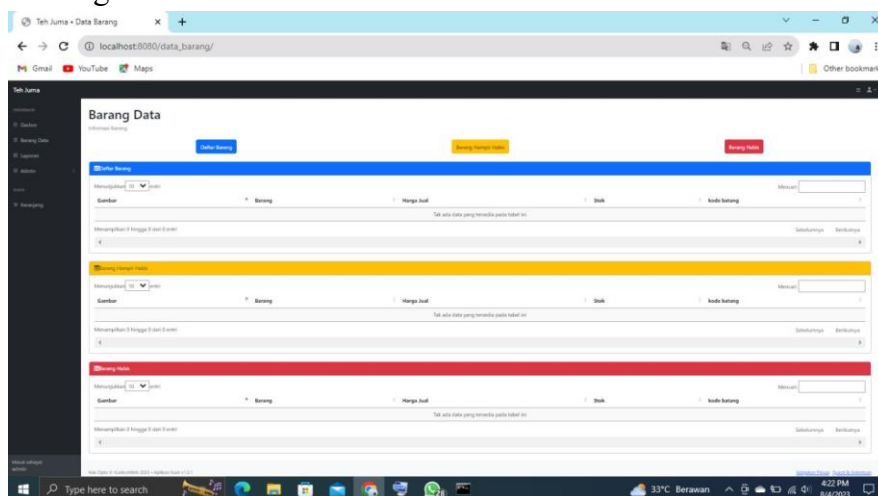


Figure 4. Item Data Page

The item data page displays information about available items in the store, items that are nearly out of stock, and items that are out of stock. This page displays information about available items, items that are nearly out of stock, and items that have been sold out. All items that fall into the almost out of stock category are those with a stock value between 5 and 1. Out of stock items are those with a stock value of 0.

4. Data Report Page

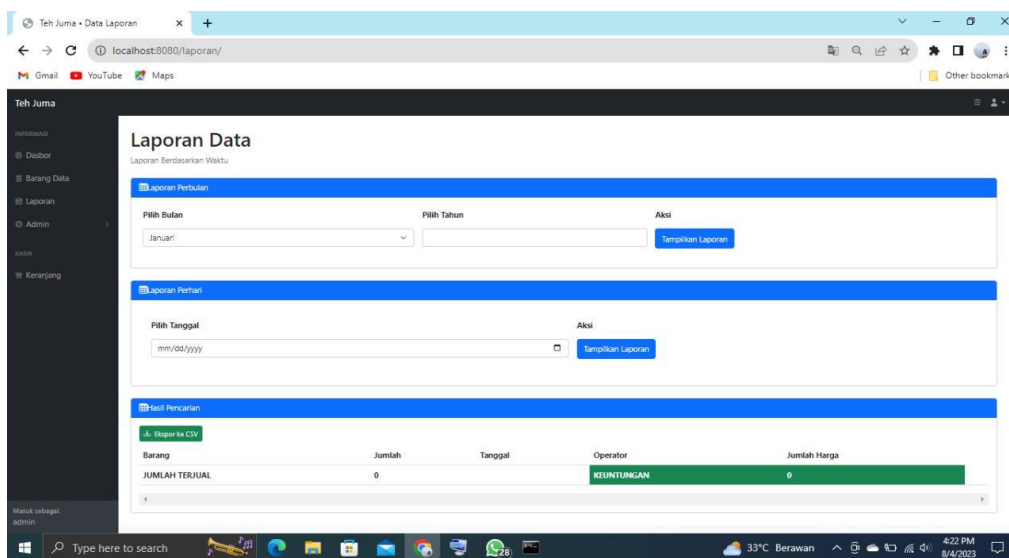


Figure 5. Data Report Page

This page contains sales reports by day and month, along with sales quantity and profit. The report displays the item name, quantity, transaction date, operator (cashier), total price, and grand total for all transactions.

5. Administration Page

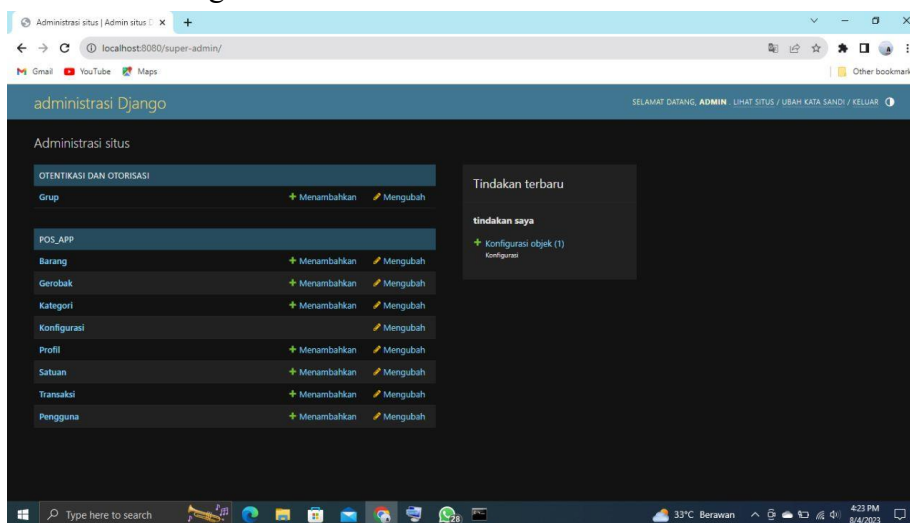
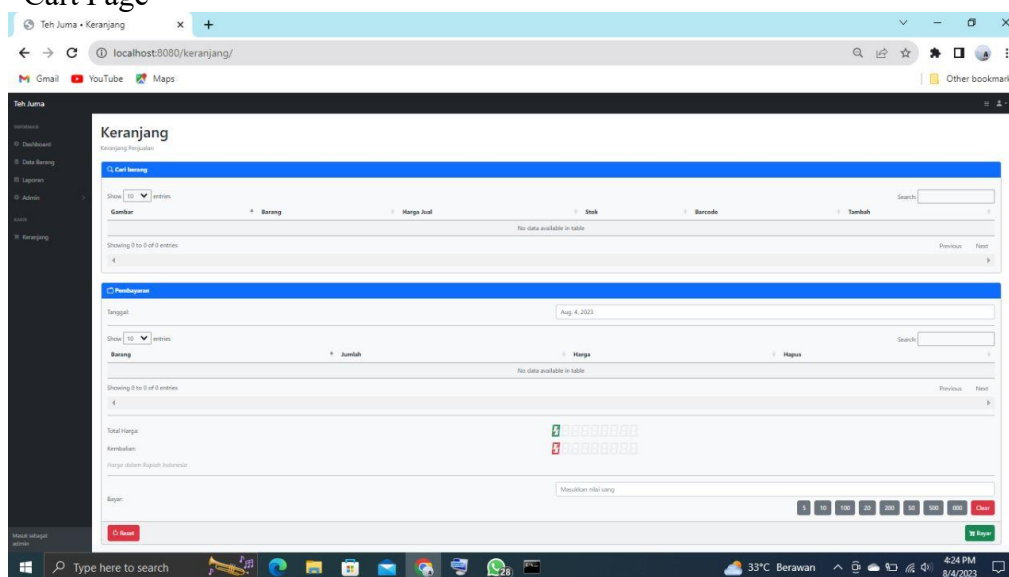


Figure 6. Administration Page

This page contains the configuration, password change, authentication and authorization, and app posting pages. This page is used to add or remove stock items. It also allows you to add store admins.

6. Cart Page



This page contains the sales cart and payment. The cart page is the core part of the application. This page is used to enter the items a customer wishes to purchase, which then calculates the total amount of their purchase.

Testing

The implementation of the tea powder sales information system program at the Juma Sidamanik Tea shop was carried out using the *Black Box method*. This *Black Box Testing* method is a program testing method that prioritizes testing the functional requirements of a program. The purpose of this *Black Box Testing* method is to find functional errors in the program. This testing was carried out at the Juma Sidamanik Tea shop, tested by the shop owner and shop employees.

Table 4.1 1Box Testing

No	Testing	Expected results	Information
1	Login Process	Security for the system, enter <i>the username</i> and <i>password</i> to be able to run the application.	Success
2	Login Process Failed	If <i>the user</i> enters the wrong <i>username</i> and <i>password</i> , <i>the user</i> cannot access the application page.	Success
3	Dashboard	The system displays a list of items, stock items, items almost out of stock, and items sold.	Success
4	Report	The system displays sales data reports based on the time of attention request and per month.	Success
5	Admin	The system successfully inputs goods and changes <i>the password</i> .	Success
6	Basket	The system makes sales by selecting items.	Success
7	Basket	The system made a payment with an amount of money that was insufficient to cover the purchase.	Fail
8	Basket	The system makes non-cash payments.	Fail

System Weaknesses

When designing a system, there are obstacles encountered in its use. System evaluation can serve as a reference for system overhaul. The system's weaknesses are as follows:

1. In terms of security, it still needs to be improved, because each registered admin cannot be restricted in how they work.

2. The payment feature is still less effective, when customers pay with less money the transaction can still be carried out.
3. Cash only payment feature

CONCLUSION

System design using the waterfall model will begin with the planning, analysis, design, implementation, and maintenance phases. The design of the web-based tea powder sales system at the Juma Sidamanik Tea Shop greatly assists administrators in calculating stock levels, streamlining the sales reporting process, and expanding the reach of users in accessing and purchasing products easily at the Juma Sidamanik Tea Shop.

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