International Journal of Economic Literature (INJOLE) e-ISSN: 3026-0221
Vol. 2 No. 5 May 2024, page., 1308-1315

SALES REPORT INFORMATION SYSTEM DESIGN WITH WATERFALL METHOD AT THE MOCIKEKE COMPUTER STORE

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Abstract

The Sales Report Information System is a system designed to collect, store, manage, analyze and present information related to the sale of a product or service. This system usually includes various types of sales data such as the number of items sold, sales price, customers who purchased, location of sales. This research aims to design and implement an effective information system for managing sales reports at the MociKeke Computer Store using the waterfall development method. The stages of the waterfall method, including requirements analysis, system design, implementation, testing, and maintenance, will be applied sequentially. This system will facilitate shop owners in managing and analyzing sales data efficiently with the aim of improving timely and accurate decision making. It is hoped that by implementing an appropriate information system there will be an increase in sales and operational efficiency and performance for the entire MociKeke Computer Store.

Keywords: Sales reports, transaction reports, information systems, waterfall method

INTRODUCTION

The development of information technology has brought significant changes in various aspects of business, including sales management. In today's digital era, having an effective information system to manage sales reports has become an unavoidable need for companies, including retail businesses such as the MociKeke Computer Store. In an effort to increase operational efficiency and optimize sales performance, using the right system development methodology is crucial. Researchers obtained several other references including: [1] The laptop sales information system helps sales administration and produces product reports and increases the number of product promotions. [2] Sales reports are fast and accurate for business owners to know what business processes are taking place. [3] This sales information system produces reports on goods, customers, sales, sales details. [4] To help smooth sales data processing in providing fast, and accurate information and can be used for decision making. [5] Facilitate the creation of store product information, store product promotions and sales reports. [6] The waterfall model is considered the most suitable for system development because of its systematic structure which makes it easier for developers to design systems.

From several references above, the author made this research aimed at designing and implementing a Computer Sales Report Information System using the

waterfall method at the MociKeke Computer Store. The waterfall development method was chosen because of its sequential and structured nature, which includes the stages of requirements analysis, system design, implementation, testing and maintenance. By implementing this method, it is hoped that a reliable information system will be created that suits the shop's needs.

MociKeke Computer Store is a retail business that sells various computer products and equipment. With sales volumes continuing to increase, managing sales reports has become increasingly important to understand sales trends, manage inventory more efficiently, and make timely decisions. Through this research, it is hoped that a better understanding can be obtained about how to design and implement a Sales Report Information System using the waterfall method, as well as its impact on the efficiency and performance of the MociKeke Computer Store. It is hoped that this research can contribute to the development of information technology, especially in information system applications for retail businesses.

RESEARCH METHODOLOGY

Waterfall Method

The waterfall method is a sequential and linear information system development model. This model is a method in software development and is often used as a basic approach to information systems [7].

According to the author's understanding, the Waterfall Method is a software development model that follows a systematic and orderly approach. In this method, the development process is carried out in stages and each phase must completed before starting next phase.

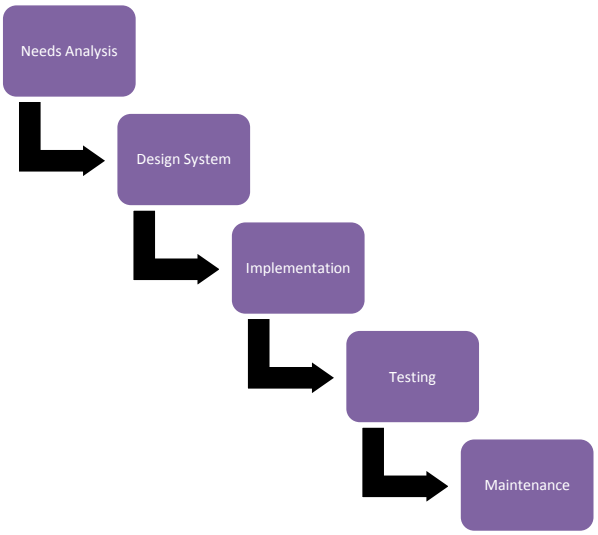

Figure 1. Waterfall Method

Stages of the waterfall method:

Needs Analysis:
• Identify the sales report information system requirements required by the Mocikeke Computer Store
• Conduct interviews with store owners and staff to understand existing sales processes and their information needs.

Design System:
• Designing a sales report information system structure that includes user interface, database, and system workflow.
• Ensure that the system design meets previously identified requirements.

Implementation:
• Develop systems based on approved designs.
• Create applications or software that will be used to produce sales reports according to predetermined specifications.

Testing:
• Carry out system testing to ensure that its functionality complies with predetermined specifications.
• Verify the accuracy of sales reports generated by the system.
• Fixed bugs and made improvements if necessary.
• Install and launch a sales report information system into the Mocikeke Computer Store production environment.
• Conduct training to store staff on how to use the system.

Maintenance:
• Provide technical support and system maintenance after launch.
• Updating the system if requirements change or to improve system performance.

This flow describes the gradual and sequential approach used with the Waterfall method to design and implement a sales report information system at the Mocikeke Computer Store.

RESULT AND DISCUSSION

Usecase Diagram

Use Case explains the interaction between one or more actors and the information system to be created [8]. Meanwhile, according to [9] a use case is a modeling for the behavior of the information system to be created.

According to the author, use case diagrams are visuals used in software engineering to describe interactions between actors (users) and the system being developed. These diagrams help in understanding the functionality of the system from the user's point of view.

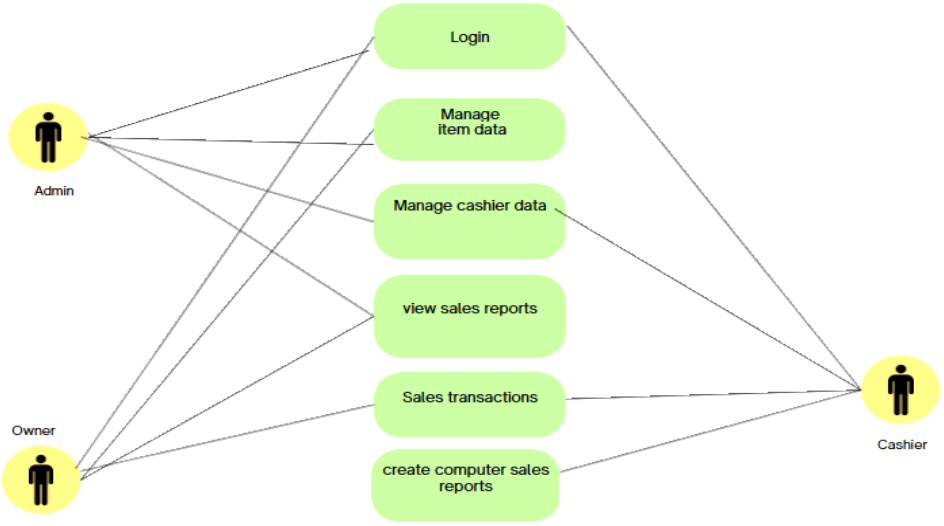

Figure 2. Use Case Diagram

In Figure 2 above is a Use Case Diagram which has an explanation for each of them;

• Owners can log into the system, manage or update items, view sales results, find out sales transactions.

• Admin can log into the system, manage or update items, view sales results, manage cashier data.

• Cashiers can log into the system, manage cashier data, view daily sales transaction results, create computer sales reports.

Apps View

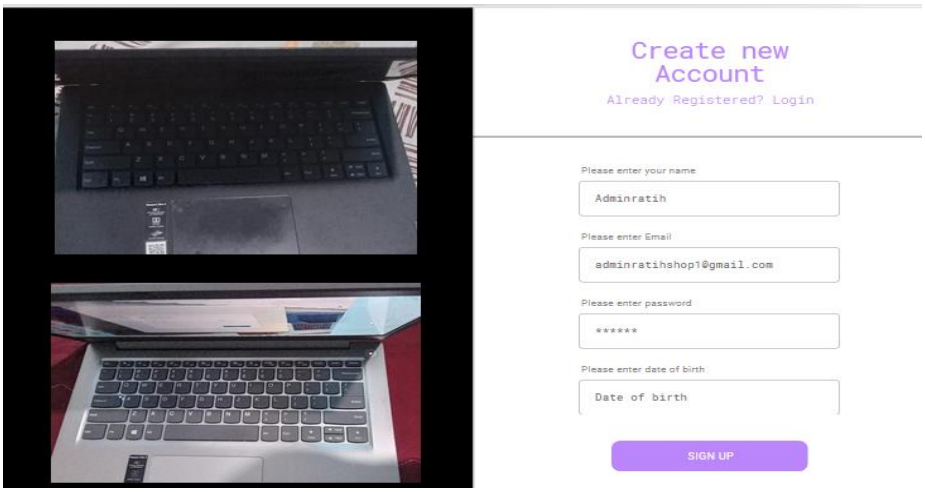

Figure 3. Create new Account

In Figure 3, the initial display. If an employee or admin doesn't have an account, you can register by filling in your name, user email, password and date of birth, then click sign up.

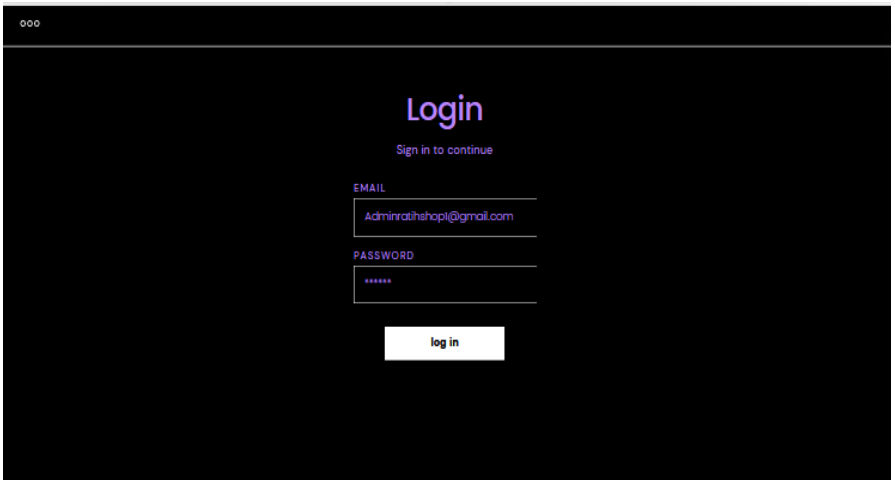

Figure 4.Menu Login

In figure 4 is the login menu where after we have registered or registered at the beginning, we can fill in the email and password that we created at the beginning then we click log in to go to the main page.

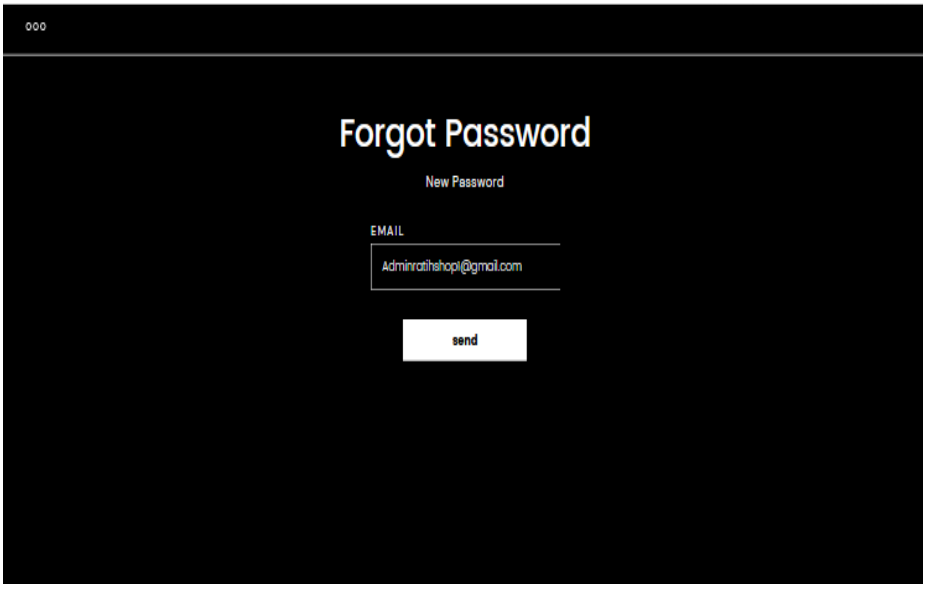

Figure 5. Forgot Password

In figure 5 is the display that if we suddenly forget the password, we can fill in the user's email then click send, then the new password will appear in the email.

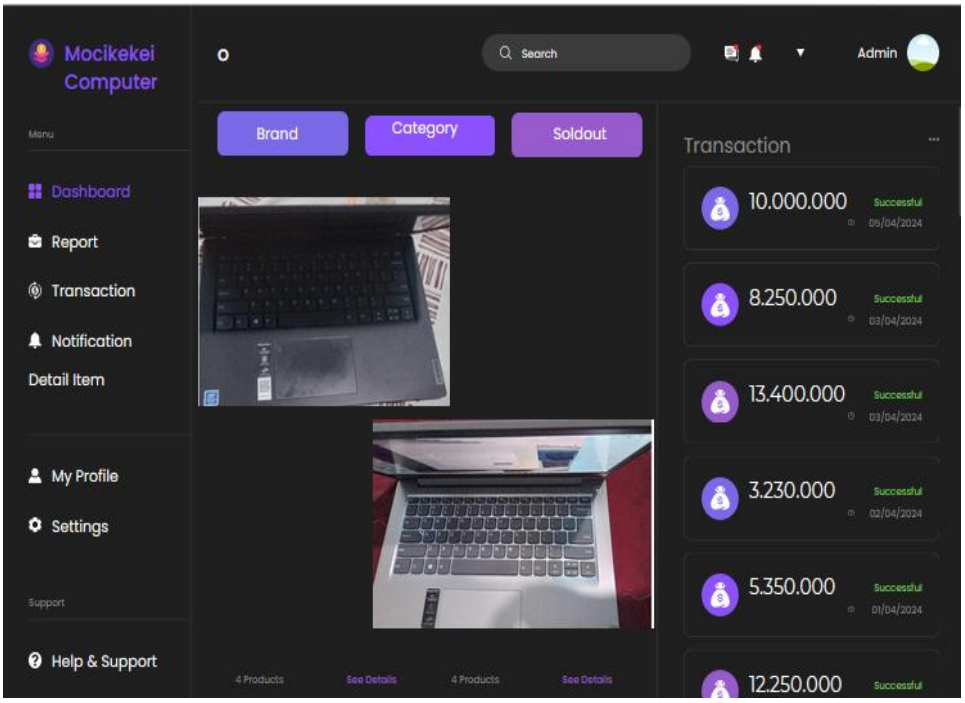

Figure 6.Menu Dashboard Admin

In Figure 6, there is a dashboard menu for admin which consists of a report menu, daily transaction menu, notification menu, item details menu, settings menu, brand menu, category menu, soldout items menu, and also a search menu.

Results and Discussion

In this research, a Sales Report Information System has been successfully designed and implemented using the waterfall method at the MociKeke Computer Store. The system development stages, including requirements analysis, system design, implementation, testing and maintenance, have been carried out in accordance with established procedures.

The implementation results show that the information system built is able to manage sales reports effectively and efficiently. MociKeke Computer Store now has the ability to record, manage and analyze sales data accurately and in a timely manner. The features provided by this system, such as daily sales recording, monthly report generation, and sales trend analysis, have helped store owners make better decisions regarding sales strategies and inventory management.

In the testing phase, the system has been thoroughly tested to ensure its stable and reliable performance. Various testing scenarios were conducted, including

functionality, reliability, performance and security testing. Test results show that the system is able to operate well and provide a fast response to user requests.

CONCLUSION

The final conclusion from the research "Designing a Sales Report Information System using the Waterfall Method at the Mocikeke Computer Store" is that the implementation of the Waterfall method in designing the sales report information system at the Mocikeke Computer Store was successful. The system development process is carried out in stages and in a structured manner, starting from requirements analysis, design, coding, testing, to implementation. With the Waterfall method, the system development process can be carried out in a more planned manner, so that the final result can meet the needs and expectations of the Mocikeke Computer Store. Apart from that, the conclusion also includes an evaluation of the success of implementing the information system with the features provided by this system, such as; item categories, daily sales recording, monthly report generation, sales transactions, out-of-stock items, and sales trend analysis have helped shop owners make better decisions regarding sales strategies and inventory management.

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