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Web-Based Sales Management Information System for UD Boima Agricultural Store

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Abstract

The development of information technology has driven transformation across various business aspects, including sales and stock management. Trading businesses often face challenges in managing information effectively and efficiently, which can impact operational performance and customer satisfaction. This research aims to design and implement a sales and stock information system using the Rapid Application Development (RAD) method. RAD was chosen due to its ability to develop software quickly and iteratively, enabling continuous testing and refinement. The proposed information system includes key features such as sales transaction recording, stock management, and sales reporting. System development is carried out through several stages: requirements analysis, design, development, and testing. The implementation results show that the information system improves sales and stock management efficiency, reduces recording errors, and provides accurate, real-time data for business owners. This information system is expected to help trading businesses optimize operations, enhance customer satisfaction, and gain a competitive advantage in the market.

Keywords

Information systems, sales, stock, management, Website

Introduction

Agriculture is an activity of cultivating crops using natural resources managed by humans to produce food, raw materials for industries, or as a source of energy. UD Boima Agricultural Store is a business in the agricultural sector that has been established since 2000. UD Boima Agricultural Store provides agricultural supplies such as fertilizers, seeds, medicines, and other agricultural tools. The store is located in the Simalungun Regency, specifically in Sidamanik District. It is strategically located near rice fields and situated on the main road, making UD Boima one of the most complete agricultural stores, attracting many locals to visit. This business has grown significantly and already has many loyal customers, but they

still manage their operations manually, both in sales and stock management. As a result, they often struggle with sales activities and inventory management.

In this context, UD Boima, as a fertilizer supplier, plays a strategic role in meeting the needs of farmers. Despite the growing demand for fertilizers, there are still challenges in the sales and distribution process. UD Boima frequently faces difficulties in stock management. The conventional system used tends to be inefficient and less responsive to the dynamic market demands. With the advancement of information technology and the internet, the implementation of a Web-Based Sales Management Information System has become an attractive alternative. Using a web platform can enhance accessibility in the sales system and accelerate inventory management processes. Based on these issues, the author presents the title "Web-Based Sales Management Information System for UD Boima Agricultural Store." To achieve this goal, the author employs the RAD (Rapid Application Development) method, which is expected to improve the operational efficiency of the agricultural store. RAD is an approach in software development aimed at increasing the speed and flexibility of the development process. The web-based application is designed to facilitate information exchange. Web-based information systems have been widely used in various service and business fields. These studies help expedite service delivery and management report generation. In the RAD method, the main goal is to develop applications quickly so that developers can easily make iterations and software updates without starting from scratch each time. This approach allows the development team to proactively respond to user feedback and needs, ensuring that the final result focuses more on quality and meets the end-user requirements.

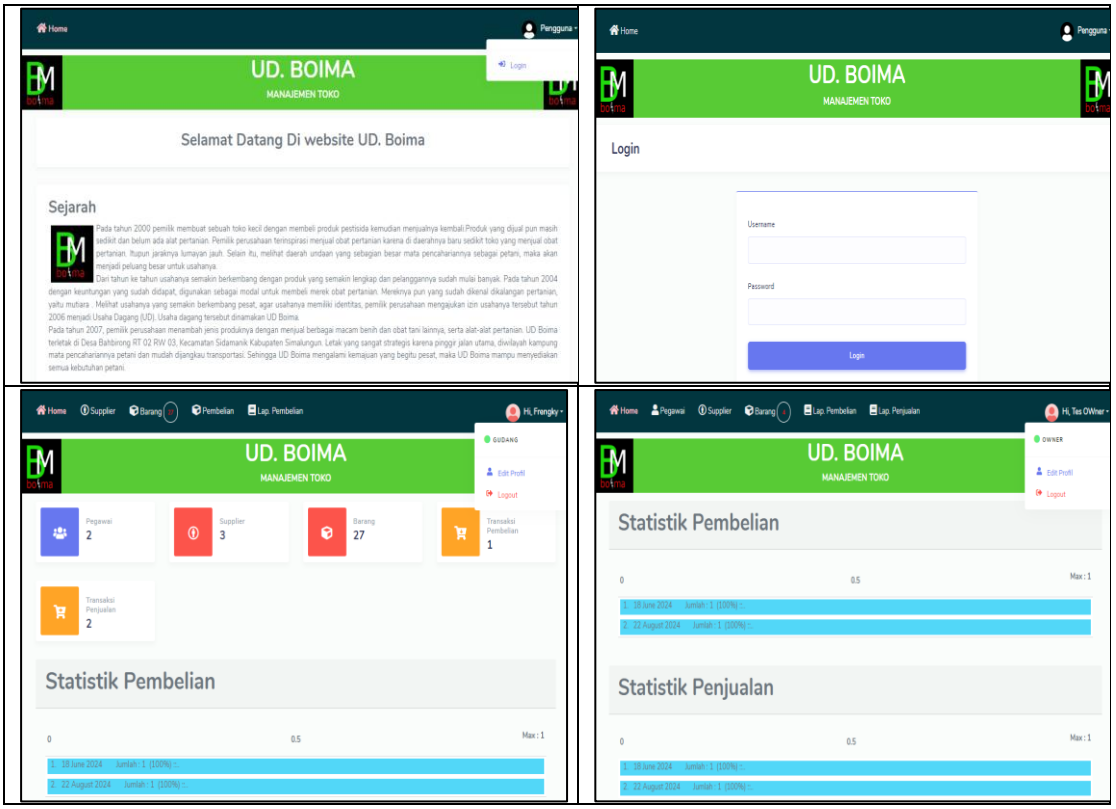
Methodology

1. **Research Stages**
   a. To address the issues in this research, observation is used for data collection through direct observation of the objects to be studied. This involves systematically recording information related to the objects within UD BOIMA, located in Sidamanik Village, Simalungun Regency. The observations will focus on the types of goods, their prices, and stock management.
   b. Interviews will be conducted to interact directly with respondents to obtain firsthand information from them, such as from the Owner and Employees.
2. **Design Method**
   a. The use case diagram helps model the system’s functionality from the perspective of the users or actors involved. The actors who can access the system include the owner, cashier, and warehouse staff.
   b. The activity diagram illustrates parallel behaviors or explains how all use cases interact with each other.
   c. The class diagram is divided into two parts: one for the client application and one for data processing on the server.
   d. Database design occurs at two levels. At the first level of system design, analysis and general design are carried out to establish user requirements.
3. **RAD Method**
   RAD (Rapid Application Development) is an approach in software development aimed at increasing speed and flexibility in the development process. A web-based application is created to facilitate information exchange. Web-based information systems have been widely used in various service and business sectors. These studies help accelerate service processes and the generation of management reports.

Findings

1. **DESIGN ANALYSIS**
   a. **Use Case Diagramv**
      The use case diagram helps model the system's functionality from the perspective of the users or actors involved. The actors who can access the system include the owner, cashier, and warehouse staff. Below are the interactions between actors in the system and the functionalities provided to the owner, cashier, and warehouse staff.
   b. **Class Diagram**
      Similar to the Use Case, based on its functionality, the class diagram is divided into two parts: one for the client application and one for data processing on the server.
2. **IMPLEMENTATION OF THE SYSTEM**
   1. **System Display Implementation**
      Implementation refers to the results of the system interface that has been built, as well as the testing conducted to determine whether the system operates according to the user's expectations

The implementation pages of the sales system include various views on the website, such as the Home page with navigation menus, the Login page, the main page for the Warehouse section, the main page for the Cashier, the Sales page, and other pages related to the system that has been developed.



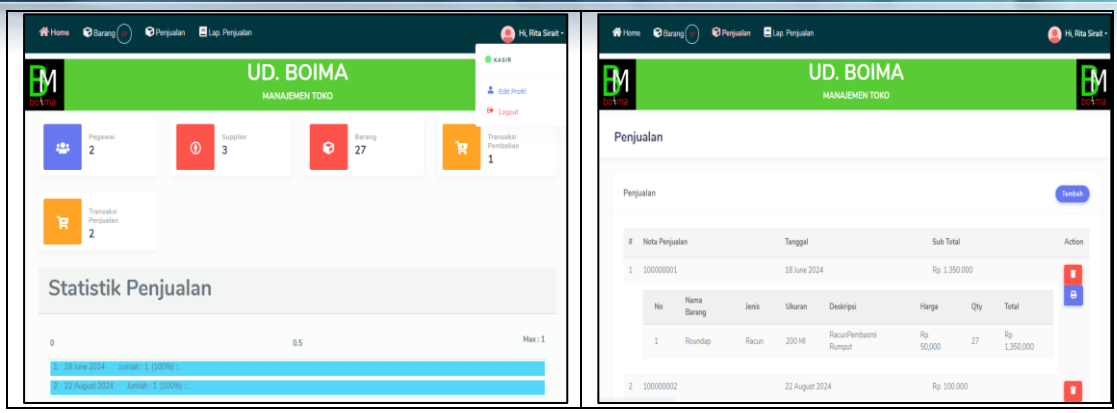


Figure 1. Implementation Result of the Web-Based Sales System for UD Boima Agricultural Store

Conclusion

The conclusion derived from the development of the web-based sales management information system for UD Boima Agricultural Store is that the data input process is faster. The owner can add employee data to enable them to log into the system. The actors who can log into the system include the owner, cashier, and warehouse staff. The warehouse staff can manage supplier, product, and purchase data. The cashier can input sales transactions. Purchases and sales are automatically reflected in the stock, where sales reduce the stock and purchases increase it. The system can generate reports on suppliers, products, purchases, and sales, which can be printed or downloaded.

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