Implementation of an Accounting Information System at a Grocery Store

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Abstract— In the digital era, both companies and MSMEs are starting to utilize technology to help their work. Grocery Store is store that sells various kinds of goods such as basic necessities, drinks, snacks, and daily necessities. This shop has many customers but the recording procedure is done manually. This research aims to help Grocery Stores by creating an accounting information system using the RAD (Rapid Application Development) method. This method was chosen in reason the effectiveness in developing and organizing the system structure. This accounting information system can help the store in managing transaction and inventory data better.

Keywords— accounting information system, system design, shop system, computerization, RAD method

I. INTRODUCTION

Progress in the field of technology has occurred very rapidly in recent years due to the encouragement of restrictions imposed during the Covid era which has resulted in many changes to using technology [1] . The emergence of new technologies is very helpful in work [2] . There are many examples of companies that have utilized technology, such as using technology to market their shares by looking at the KLSE, STI and TWSE indexes [3] . The many transitions using this technology are called computerization, which is the use of technology to help human work become more efficient and avoid various risks that might occur [4] . This transition not only has an impact on large companies, but on MSMEs, the transition to using this technology also occurs to help control the implementation of operational activities such as recording transactions and so on. In reality, accounting information systems really help business people to develop their businesses [5] . The accounting information system aims to present various information to manage new business activities, improve systems that have been used previously, improve control in accounting and carry out checks which are carried out to carry out checks related to accounting information used by the company including responsibilities related to the use of company assets. If it is felt that there is a need to improve the accounting information system itself, this accounting information system was created with the aim of making improvements in terms of accounting, as well as reducing clerical costs used to manage accounting records [6] .

The Lestari Grocery Store is the main focus in this research, where this store has quite a lot of customers, but in terms of recording it is still done manually and does not use a system. The aim of creating this system is to help stores have a good system for managing transaction data, inventory, and viewing financial reports. Financial reports have several types, namely profit and loss reports, balance sheets, capital changes reports, and cash flow reports [7] . Financial reports can reflect the financial condition of a company by looking at the various information contained therein, such as company profits [8] . The existence of good management in decision making also has an impact on the quality of the company's financial reports [9] . This system was created to record inventory or stock of goods from the shop. Inventory can be classified as a current asset where the amount of cash will continue to increase

along with the sale of goods in cash [10] . There are two methods for recording inventory, namely perpetual and periodic [11] .

Creating a system for Lestari Grocery Stores using PHP language. PHP was first created under the name Personal Home Page by Rasmus Lerdorf in 1995 in the form of a collection of scripts used to manage data from websites, but over time Rasmus changed its name from the initial Personal Home Page to Hypertext Preprocessor which is also abbreviated to PHP because released this source code as open source [12] . This system was created using a PHP framework, namely Laravel. The Laravel used in creating the system is Laravel version 8.

The use of the Laravel framework was chosen because Laravel has an artisan command line which is useful for installing bundles and packaging bundles [13] . Laravel also has a routing system which is useful as a link between requests originating from the user and the controller [14] .

II. METHOD

This research uses the RAD method in designing and creating the system. Rapid Application Development or commonly abbreviated as RAD is a method that is often used in creating or designing a system. RAD itself is a system development method for linear sequential software which has a relatively short or fast work time which ranges from 30 to 90 days [15] . The stages of system design using the RAD method can be seen in figure 1.

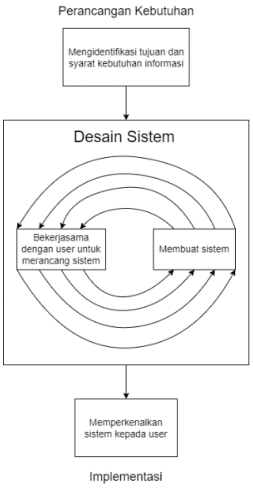

Figure 1. RAD Method Stages

The requirements design stage is the stage for collecting various requirements needed by the shop. From the analysis that has been carried out regarding what the shop needs, website designs will be created such as use case diagrams, ERD diagrams and activity diagrams. The design that has been created will be realized in the system at the system creation stage. The system that has been created will be tested regarding system features and will be given to the shop and provide direction in running the system.

III. RESULTS AND DISCUSSION

The results of creating a system at the Lestari Grocery Store can record purchase and sales transactions and provide various reports such as purchase reports, sales reports, inventory reports, profit and loss reports and balance sheets.

Implementation of a sustainable grocery store system

a. Login Page
   The login page is the initial stage for the system to verify the user and redirect to the dashboard page according to the user level.

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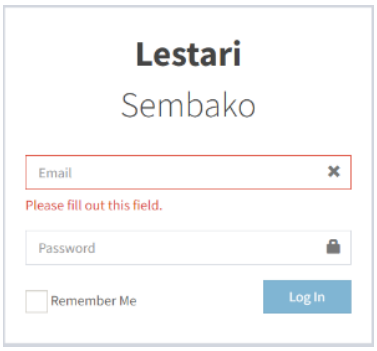

Figure 2. Login page

b. Sidebar Menu

The sidebar menu is a menu that contains all the activities that the user can do. At the admin level, users get a complete sidebar menu as in figure 3, while the sidebar menu at the cashier only contains sales transactions.

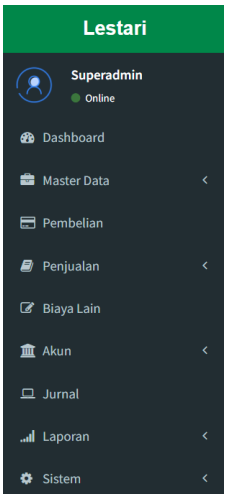

Figure 3. Sidebar Menu

c. Admin Dashboard

The admin dashboard page contains various information that occurs during operational activities, such as displaying sales graphs, number of sales transactions, number of product and product categories, and number of purchase transactions. This dashboard also displays various features that can be accessed by admins.

Figure 4. Admin Dashboard

d. Cashier Dashboard

The dashboard page at the cashier is designed simply because the cashier user level is only given access to manage sales transactions and manage profiles.

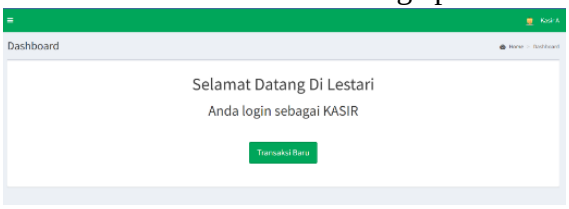

Figure 5. Cashier Dashboard

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e. Product Category Page

The product category page is designed so that users can CRUD the category data needed to group products as in figure 6.

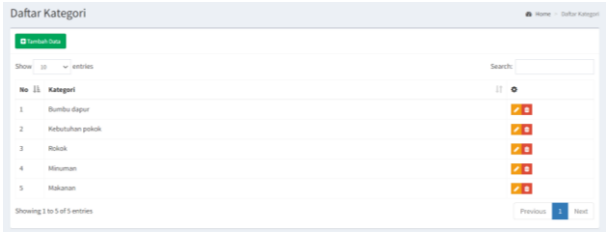

Figure 6. Product Category Page

f. Product Page

The product page on the system will provide a number of accesses for users to be able to CRUD data. The system will carry out calculations regarding the average price when the user saves the data according to figure 7. The data that has been saved will be displayed according to figure 8.

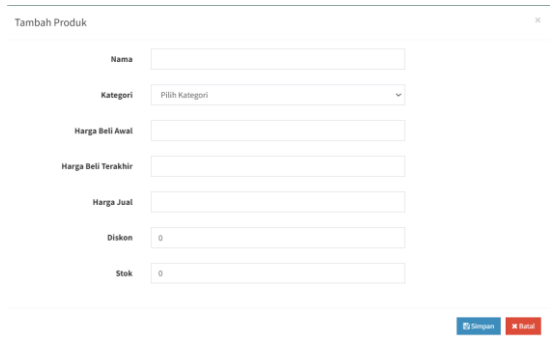

Figure 7. Add Product Page

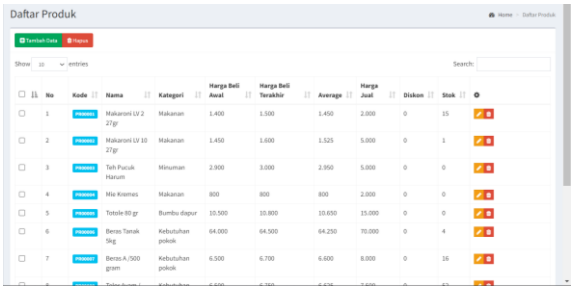

Figure 8. Product Page

g. Supplier Page

The supplier page in the system is designed so that users can CRUD supplier data needed to record purchase transactions as in figure 9.

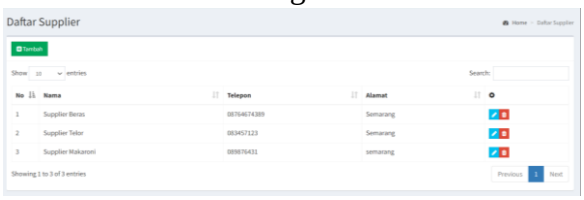

Figure 9. Supplier Page

h. Initial Balance Input Page

The input page for the initial balance is designed so that users can input the initial balance on the form provided. This page will display the status entered by the user as having the same amount of total assets as total liabilities and equity as in figure 10.

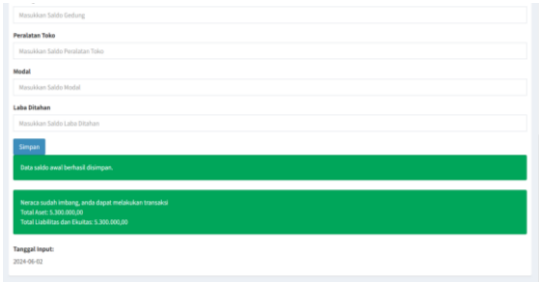

Figure 10. Initial Balance Input Page

i. Purchase Transaction Page

The purchase transaction page in the system begins by determining the supplier that will be recorded and will be displayed on the transaction page header according to figure 11.

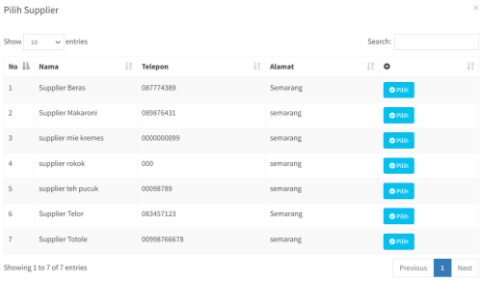

Figure 11. Determining Suppliers

Users will be redirected to the purchase transaction page to be able to input products and product quantities as in figure 12 after determining the supplier.

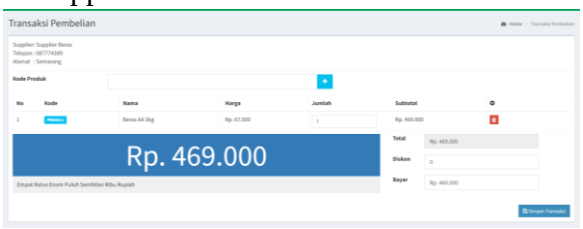

Figure 12. Purchase Transaction

The data will be saved and will be displayed by the system as in figure 13. Users get access to view details of purchase transactions and delete transaction data.

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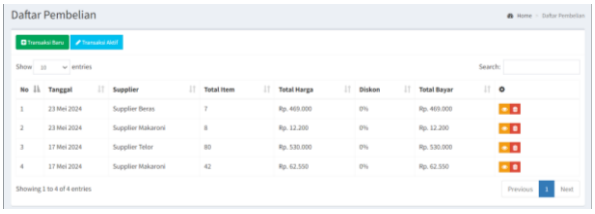

Figure 13. Purchase List Page

j. Sales Transaction Page

On the sales transaction page, the user can determine the product to be input and enter the amount of the product purchased by the customer and input the amount of money paid by the customer as in figure 14.

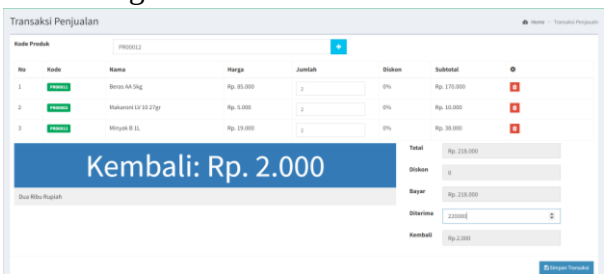

Figure 14. Sales Transaction Page

Transaction data will be saved by the system and the user will be redirected to the sales page which contains a list of sales transactions as in figure 15.

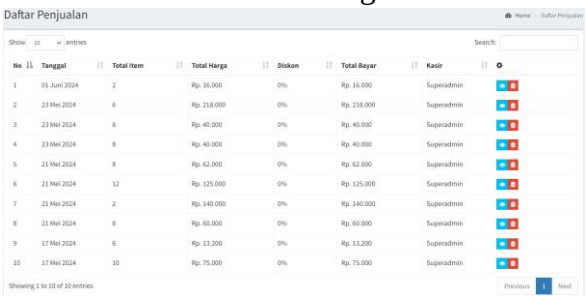

Figure 15. Sales Transaction List Page

k. Other Fees Page

The other costs page in the system allows users to perform CRUD on other cost transaction data as in figure 16.

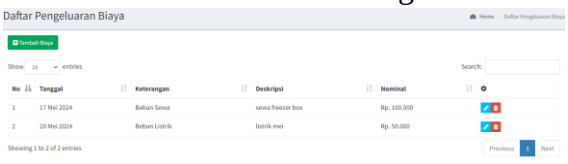

Figure 16. Other Costs Page

l. Account Category Page

The account category page is used to group accounts that will be used in the accounting module in the system as in figure 17.

Figure 17. Account Category Page

m. Account Page

The account page in the system can be seen in figure 18. The account page is designed so that users can add and edit data. The nominal value of the account created can be null and will be filled in by various data from transactions carried out.

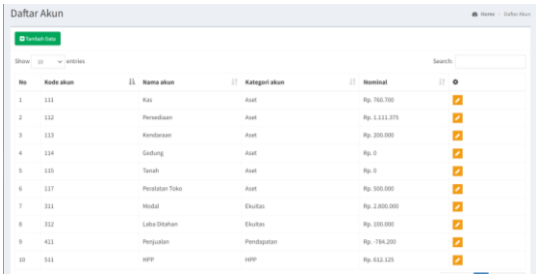

Figure 18. Account Page

n. Journal Pages

The journal page in the system is designed to record various journals from transactions carried out as in figure 20. The journal in this system is created to be able to automatically input transactions carried out and users can also input journals manually by pressing the add data button on the journal page. In the manual journal input process the user can input the journals one by one and if the total debit and total credit that the user

input are different then the system will display a warning as in figure 19.

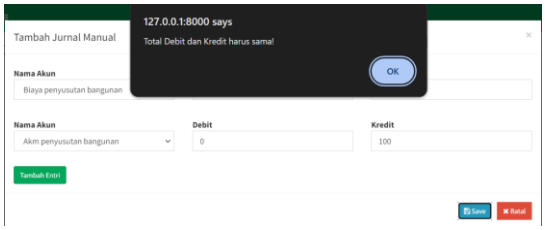

Figure 19. Add Journal Manually

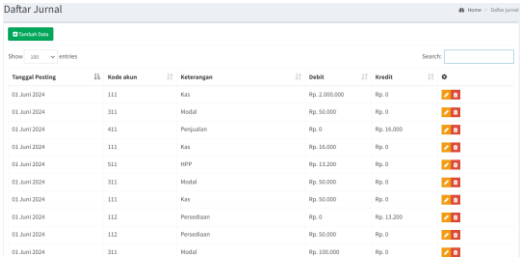

Figure 20. Journal page

o. Inventory Report Page

The inventory report page contains various data regarding the store's inventory using the average method and users can export it in PDF form as in figure 21.

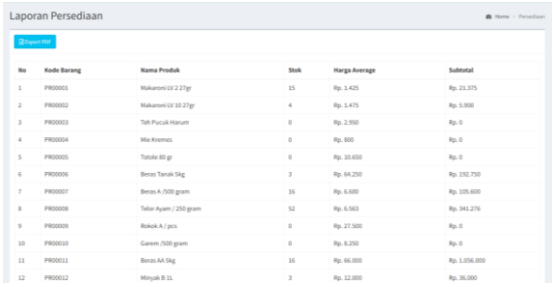

Figure 21. Inventory Report Page

p. Purchase Reports Page

The purchase report page in the system contains reports of various data from purchase transactions carried out. On this page the user is given access to change the reporting period and export it to PDF as in figure 22.

Figure 22. Purchase Report Page

q. Sales Report Page

The sales report page in the system functions to display all sales transactions carried out in a period that can be determined by the user and can make this report in PDF format as in figure 23.

Figure 23. Sales Report Page

r. Income Statement Page

The profit and loss report page in the system aims to display the profit or loss generated by the shop during the time period determined by the user from various kinds of transactions that have been carried out as in figure 24. Profit and loss can provide an idea of whether the shop has been run well or whether there is a need for it. changes in terms of management and so on to increase profits.

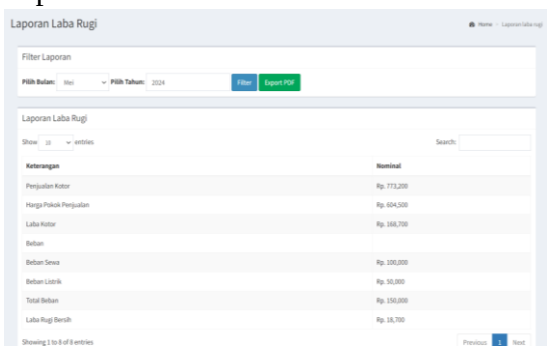

Figure 24. Income Statement Page

s. Preliminary Balance Sheet Page

The initial balance page is designed so that users can see the initial balance entered at the beginning of the period as shown in figure 25.

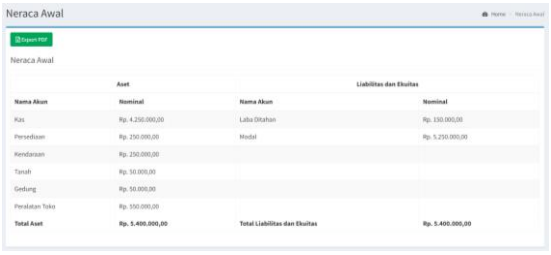

Figure 25. Initial Balance Sheet Page

t. Balance Sheet Report Page

The balance sheet report page is used to calculate whether assets with liabilities and equity have the same amount. The data displayed by the system is data from various transactions carried out by the user during the period specified by the user as in figure 26. Users can also export reports in PDF format.

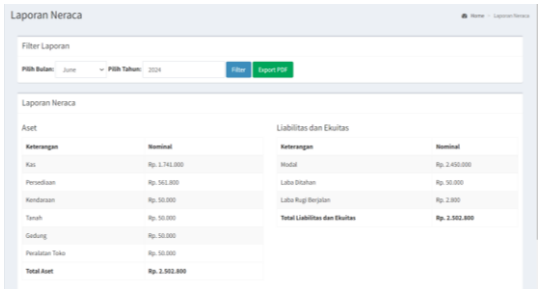

Figure 26. Balance Sheet Report Page

u. User Page

The user page in the system is used for users with the admin role. You can add users with the cashier role as in figure 27.

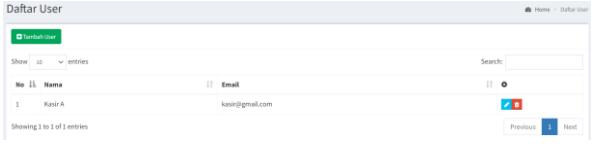

Figure 27. User page

v. Results of Interviews with Owners

Based on the results of interviews conducted, the owner said that the system that had been created was very helpful because data could be recorded, thereby reducing the risk of loss. Having reports also helps to see details of profits and balance sheets from transactions carried out.

IV. CONCLUSION

The result of the design and creation of the Accounting Information System for a Grocery Store was handed over and trained to the owner of Lestari Grocery Store. The owner can run all the features of system well.

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