



Design of Sales Accounting Information System Using EMKM Accounting Standard

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ABSTRACT

This study intends to design a sales accounting information system for UMKM Toko Utara Game. The purpose of this study is to design a sales information system with EMKM standards at Toko Utara Game that can be implemented as one of the human error risk management that might occur if the system is run conventionally and not computerized. The research method used in this study is a descriptive research method, in which the author analyzes and describes events that occur in the present with the intention of overcoming problems that occur at Toko Utara Game. The types of data used in this research are primary data and secondary data. Data collection techniques used in this study were interviews, observation and literature studies. The results of interviews and observations are used as primary data and the results of literature studies are used as secondary data. The system development methodology used in this study is the prototyping method with an object-oriented system design method using UML (Unified Modeling Language). The system design made in this study is a Use Case Diagram, an Activity Diagram, and uses an Entity Relationship Diagram (ERD). At the stage of creating the program code, researchers used the Java and MYSQL programming languages which were poured into the NetBeans IDE8.1 software using XAMPP as a web server. The result of this implementation is the design of a web-based sales application so that Toko Utara Game sales management can be computerized properly.

Keywords: Sales accounting information system, website, EMKM Accounting Standard

Introduction

Technology has become an inseparable part of human life. The current rapid development of technology is very helpful and facilitates all areas of life, especially in managing Accounting Information Systems. Increasing business needs affect business competition in that many companies use technology to manage company finances. The development of information technology is used by various business actors to develop the business world through information systems in every day-to-day business activity that almost touches all levels of the world's society. In this fourth generation industrial era, the size of the company is not a guarantee, but the company's agility is the key to quickly achieving achievements [1].

Accounting Information Systems play an important role in companies in managing company financial transactions, to produce accounting information that is used by stakeholders as a material consideration in decision making. The accounting information system in the Finance section is closely related to the function of managing the inflow of funds for company activities. The cash flow activity itself is in the form of funds needed to support the company's financial activities so that it is necessary to control the flow of funds so that they can be used effectively without manipulation. The accounting system can be processed so that it can be used as material for consideration in the development of a company. So that it has a very important role in a company to find out the activities carried out in a company.

With the development of the trading business, computerized sales accounting applications are also used to handle the sales transaction process. The company processes sales transactions using

a credit cash payment system so that it can be included in the company accountant category. Accounting information systems are very important to support the continuity of the development of a company. Economics can be defined as the study of human activity in economic activity to make choices by analyzing the costs and benefits of producing various types of goods and services and distributing them for consumption needs, now and in the future, to various individuals and groups [2].

The solution to the problem of managing sales data is to build an accounting system in the sales process. The accounting information system is a collection of both physical and non-physical components that are integrated to process financial data into financial information needed in decision making by managers and outsiders [3]. Accounting function is present quantitative data that will be used for decision making care should be taken in order for the information presented to have good quality [4]. Rapid decision-making has become increasingly important over the past two decades for productivity improvement [5]. SAK ETAP is also used as the main reference for the preparation of Islamic boarding school financial reports issued by the IAI Financial Accounting Standards Board, concerning the financial position and results of operations of the company which is often referred to as the output of the accounting process [6]. Making this system is also needed as a company risk mitigation to minimize the possibility of human error. Information risk planning involves a number of progressive steps: identifying potential risks to information, weighing those risks, creating a strategic plan to mitigate the risks, and developing these plans into specific policies [7]. This system is built on a web-based basis to link data that is managed between employees and leaders without having to submit report files. This system aims to find out whether a financial company is experiencing profit or loss so that it can normalize sales. The system built makes it easier to process sales transactions, saves more time for calculating the number of feed outs, complete information about goods information to maximize consumer relations through sales service applications.

Previous research on the sales information system was conducted by Dedi S Soegoto in 2018, with a case study on a fashion shop in the city of Bandung using a prototyping system development methodology [8]. Then there is research by Ahmad Habib et al. in 2020, namely the sales information system for MSMEs with the system development model used is the increment method with a structured system design method [9]. Santo Wijaya et al. has also conducted research on the Sales Information System in 2022 for MSMEs using a system development methodology using the waterfall method and object-oriented system design [10]. In this research, the researcher intends to design a sales information system with an object-oriented design.

In the current era of globalization, companies in Indonesia are increasingly diverse. One of them is a trading company. Trading company activities are also very diverse, from ordering goods to sending goods to stores. Sales in general can be interpreted as the amount charged to customers for merchandise sold. This study intends to design a sales accounting information system for UMKM Toko Utara Game. Toko Utara Game is one of the MSMEs located in the city of Bandung. The accounting standard used as the basis for the design is the Micro, Small and Medium Entity Financial Accounting Standards (SAK EMKM). SAK EMKM is used because this standard is suitable to be used to regulate financial reporting standards for MSMEs [11]. The purpose of this study is to design a sales information system with EMKM standards at Toko Utara Game that can be implemented as one of the human error risk management that might occur if the system is run conventionally and not computerized.

Method

The research method used in this study is a descriptive research method, in which the author analyzes and describes events that occur in the present with the intention of overcoming problems that occur at Toko Utara Game [9]. The types of data used in this research are primary data and

secondary data. Data collection techniques used in this study were interviews, observation and literature studies. The results of interviews and observations are used as primary data and the results of literature studies are used as secondary data.

The system development methodology used in this study is the prototyping method with an object-oriented system design method using UML (Unified Modeling Language). The use of the prototyping model aims to gather information about user needs quickly by presenting the aspects of the software that will appear to customers or users. Figure 1. Describes the stages of the prototyping system development model.

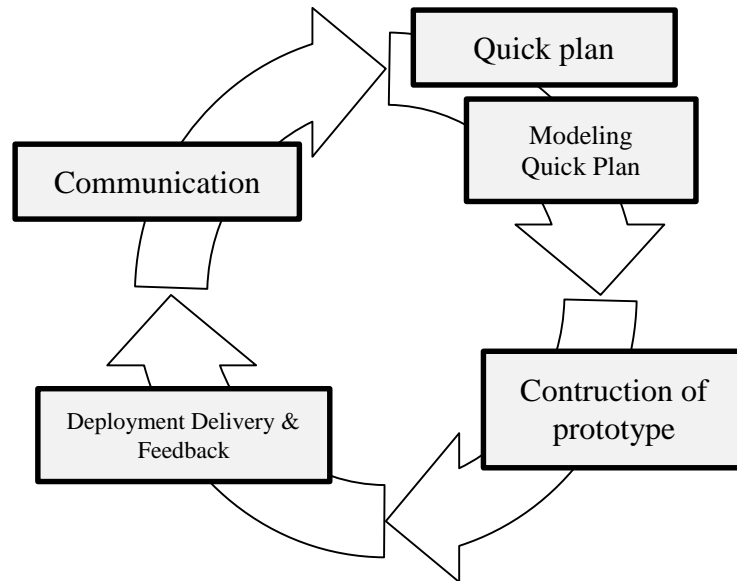




Figure 1. Prototyping Model

The system design made in this study is a Use Case Diagram, an Activity Diagram, and uses an Entity Relationship Diagram (ERD). At the stage of creating the program code, researchers used the Java and MYSQL programming languages which were poured into the NetBeans IDE8.1 software using XAMPP as a web server.

To simplify the explanation of the system design made in this study. Table 1 and Table 2 explain the use of symbols in the design of use case diagrams and activity diagrams.

Table 1. Symbol List Use Case Diagram [12]

No	Description	Symbol
1	Actor: Represents a user of the system. Naming actors using nouns.	 Actor
2	Use Case: is the work done by the actor. Naming use cases with verbs.	 UseCase1


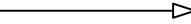



No	Description	Symbol
3	Association: The relationship between actors and use cases.	-End1 -End2 
4	Generalization: relationship between two use cases or two actors, where one inherits and adds or overrides the properties of the other component.	

Table 2. Symbol List Activity Diagram [12]

No	Description	Symbol
1	Starting Point	
2	Endpoint	
3	Activity	

Results and Discussion

The design that the author will make is an accounting information system as explained that a sales information system is an information system that regulates a series of procedures and methods designed to generate, analyze, disseminate and obtain information to support decision making regarding sales [13]. The output of the sales information system is the financial report used by the leadership as material for decision making. The output of the report also describes the current condition of the company and management as well as past conditions. Knowing the direction of management development will provide an overview of what must be prepared to equip oneself with the managerial skills needed in the future [14].

Errors that occurred when recording was done manually initiated Toko Utara Game to use a computerized system, namely a sales information system to reduce the risk of errors occurring resulting in losses to Toko Utara Game. The design of a sales information system at North Game Store begins with the stages of communication or interviews with the owner, accounting and sales department at Game North Store regarding the needs of the company's business processes and system requirements that will be made to be implemented. Based on the results of the interviews conducted, the analysis of system requirements is mapped in the following.

Table 3. Analysis of Information System Requirements

No	Description	Requirement
1	Hardware	RAM: Min. 2 GB Harddisk: Free space 5 GB
2	Software	Browser: Google Chrome, Mozilla, etc. XAMPP: >= Versi 3.2.2
3	Procedures	1. Buyers buy goods or products offered by Toko Utara Game employees.

No	Description	Requirement
		2. The admin will record transactions that have been paid for by the buyer and the admin will also record what items have been sold at the Toko Utara Game. 3. After writing it in the notes, the admin will write down the transactions and items in the daily recap book in the northern game shop. 4. After all transactions have been checked and checked again, the admin will submit a summary book to the owner for review. 5. After the owner receives the daily sales book, the owner will check again if something is not appropriate then the owner will check again with the admin, if it is correct then the owner will return the daily sales book and make a copy for the owner.

Based on the above information system requirements analysis, the information system design is mapped using the Unified Modeling Language (UML). Preparation of Reports in the Sales Accounting Information System is designed based on SAK EMKM, the entity's profit and loss statement includes income accounts, financial expenses, and tax expenses [15]. Based on the system flow that has been defined above, then the design of use case diagrams, activity diagrams, entity relationship diagrams, and system interface designs will be carried out.

1. Use Case Diagram

Figure 2 shows the design of a use case diagram for a sales information system. The following use case diagram is designed to explain the actors involved in the system and the cases used for actor interaction with the system. Several cases used in this system include logging in to the application, managing user data, managing inventory data, managing charts of accounts, conducting sales transactions, conducting cash receipts journal transactions and making reports.

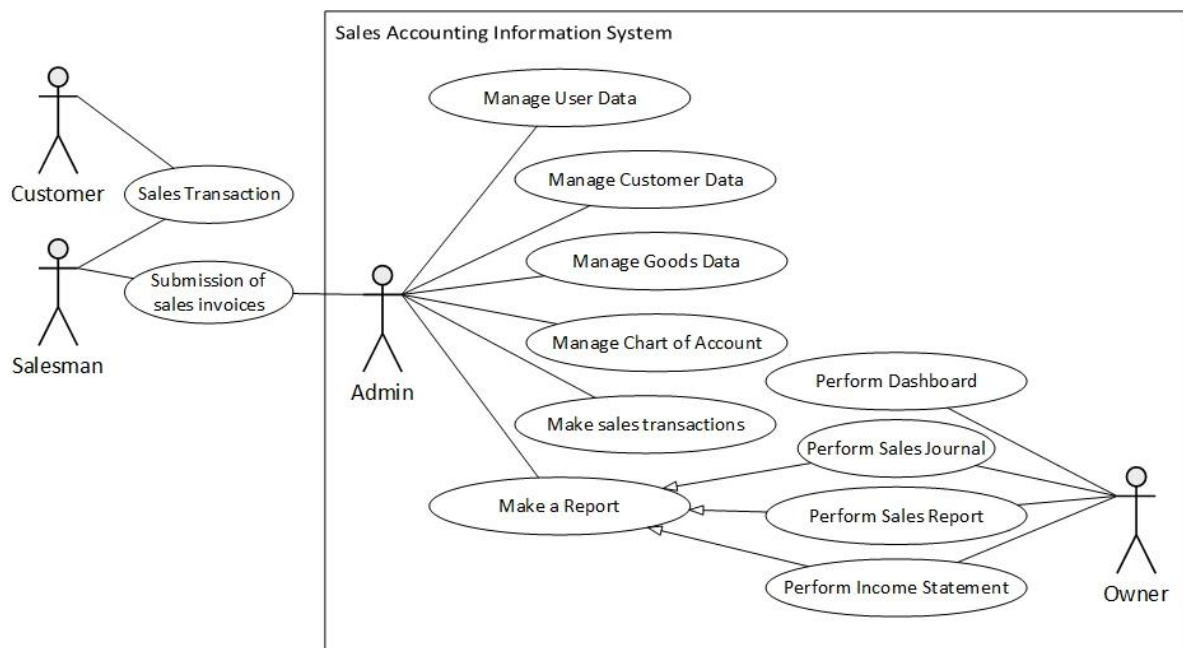


Figure 3. Use Case Diagram

a. Actor definition and description

Table 4 defines the needs, roles and functions of each actor involved in the system based on the use case diagram in figure 3.

Table 4. Actor definition and description

No.	Actor Name	Description
1	Admin	Admin functions to operate the sales information system on operational activities, starting from managing user data, customers, inventory, accounts. In addition, the admin also manages sales transactions on the system and makes profit and loss financial reports and sales reports.
2	Owner	The owner functions as a controller and makes decisions based on the data displayed on the dashboard, financial reports and sales reports.

b. Use case definition and description

Table 5. Use case definitions and descriptions

No.	Case Name	Description
1	Manage User Data	The process of managing user data that can use the system. User data can be added, deleted and updated.
2	Manage Customer Data	The process of managing customer data that can be added, deleted and updated.
3	Manage Goods Data	The process of managing inventory data and influencing sales in the stock section. Data can be added, deleted and changed.
4	Manage Chart of Account	The account governance process used. Data can be added, deleted and changed.
5	Make sales transactions	Sales transaction input process at the company. Data can be added, deleted and changed.
6	Make a Report	Access section of generalized sales journal, sales hassle and Income statement.
7	Perform Dashboard	Displays a dashboard containing graphs of sales reports as well as company income reports.
8	Perform Sales Journal	Displays a sales journal based on the desired data.
9	Perform Sales Report	Displays a sales report based on the desired data.
10	Perform Income Statement	Displays an income statement based on the desired data.

2. Activity Diagram

Figure 4 illustrates the login activity diagram to the system being designed. This login activity starts from the admin who inputs the username and password then clicks the available login button, and the system checks whether the input username and password are valid and according to the database so that the admin can enter the main menu page if no message appears then asked to repeat the process log in again.

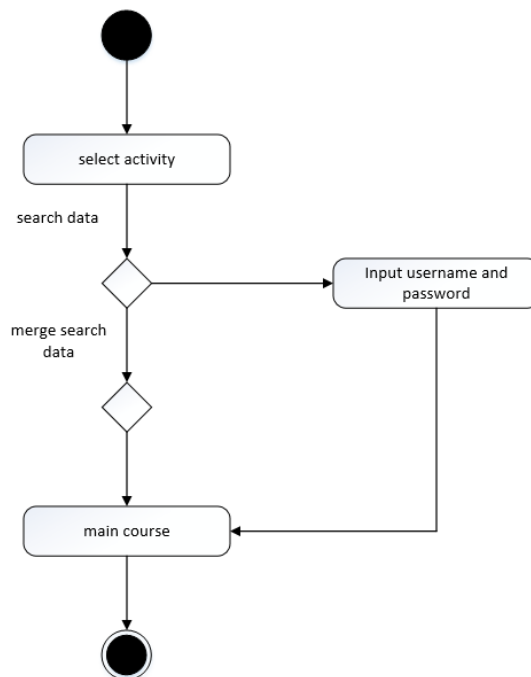


Figure 4. Activity Diagram of Login page

Figure 5 illustrates the activity diagram for managing user data. The User Activity diagram starts from logging in and adding, showing, deleting, and updating data.

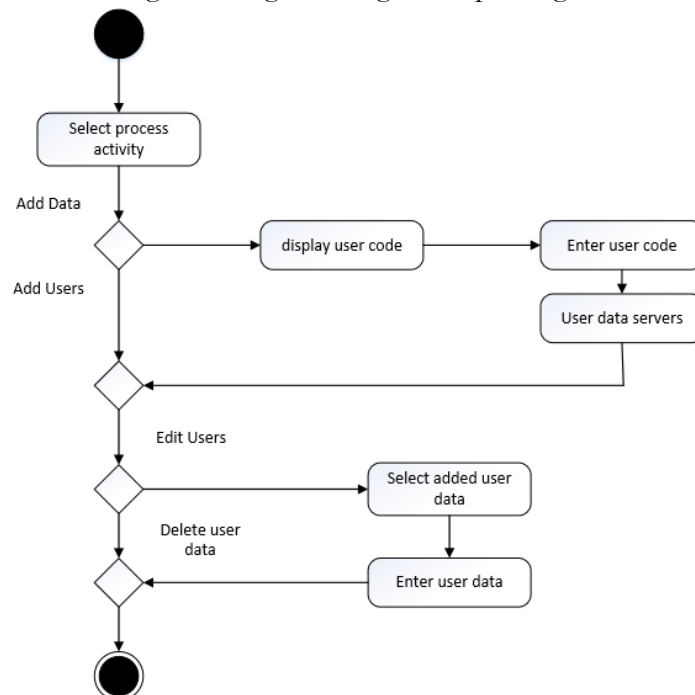


Figure 5. Activity Diagram of Manage User Data

Figure 6 illustrates the design of the activity diagram for managing the chart of accounts. The process carried out in managing the chart of accounts by adding, displaying, changing and deleting data for journal transaction purposes.

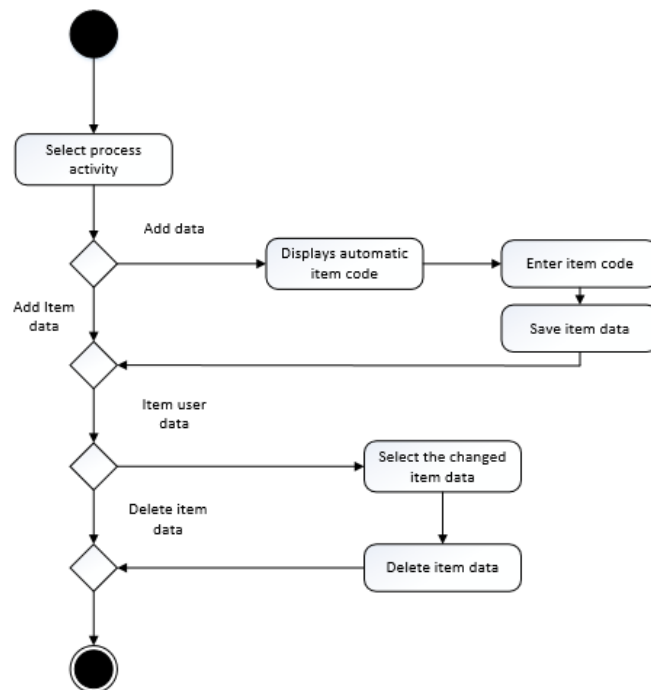


Figure 6. Activity Diagram of Manage Chart of Account

Figure 7 is a diagram of the activity of making sales transactions, explaining what activities are carried out in a sales transaction. In sales transaction activities the user can add, display, delete and update transaction data.

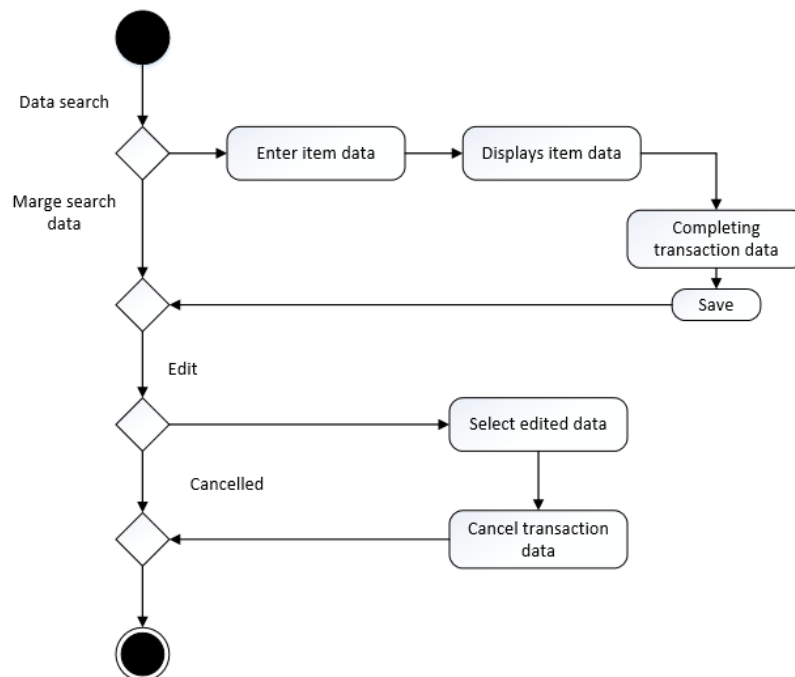


Figure 7. Activity Diagram Sales Transactions

Figure 8 is an activity diagram for creating a report. Existing activities explain what must be done in the activity of making a report. Starting from clicking the report button, select a date and print the report.

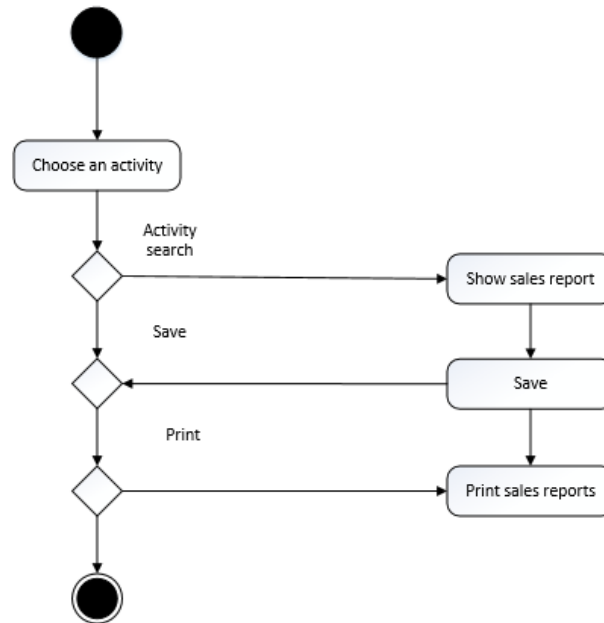


Figure 8. Activity Diagram of Report

Figure 9 explains what activities can be carried out by users with the system on cash receipts. The activity starts when selecting the cash receipt button and selecting the date the report is displayed.

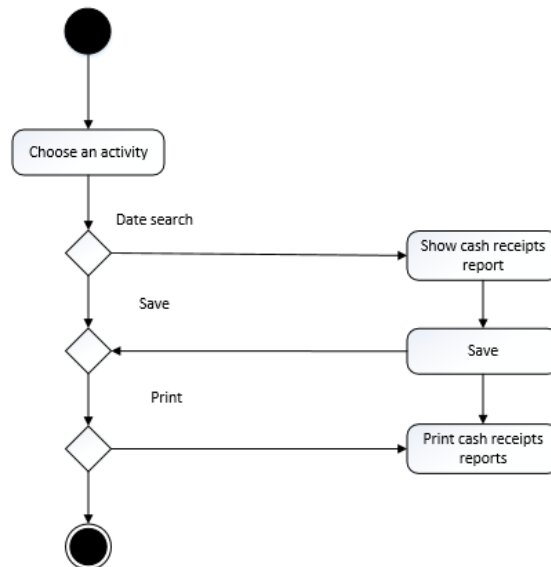


Figure 9. Activity Diagram of Cash Receipts

3. Entity Relationship Diagram (ERD)

Figure 10 shows the Entity Relationship Diagram in Toko Utara Game. ERD is structured to describe the relationship between entities in the database.

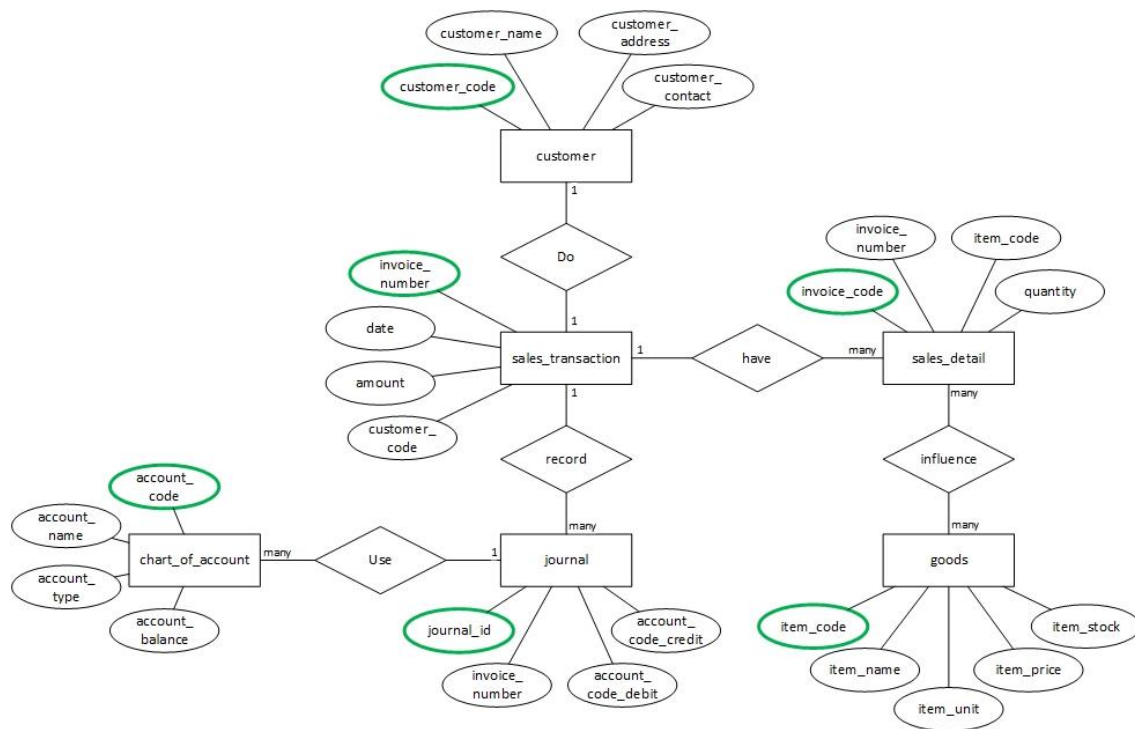


Figure 10. Entity Relationship Diagram (ERD)

4. Database Design

The database design resulted from the process of normalizing company transaction documents. Table 6 displays the design of the goods data table.

Table 6. Design of goods data table

No	Column	Data Type	Index
1	item_code	VARCHAR (10)	PRIMARY
2	item_name	VARCHAR (50)	-
3	item_price	BIGINT	-
4	item_unit	VARCHAR (10)	-
5	Item_stock	INT	-

Table 7 shows the customer data table design.

Table 7. Design of customer data table

No	Column	Data Type	Index
1	customer_code	VARCHAR (10)	PRIMARY
2	customer_name	VARCHAR (50)	-
3	customer_address	TEXT	-
4	customer_contact	VARCHAR (12)	-

Table 8 displays the design of the sales transaction table.

Table 8. Design of Sales transaction table

No	Column	Data Type	Index
1	invoice_number	VARCHAR (10)	PRIMARY
2	date	DATE	-
3	amount	BIGINT	-
4	customer_code	VARCHAR (10)	-

Table 9 displays the sales detail table design.

Table 9. Design of sales detail table

No	Column	Data Type	Index
1	invoice_code	VARCHAR (10)	PRIMARY
2	invoice_number	VARCHAR (10)	-
3	item_code	VARCHAR (10)	-
4	quantity	INT	-

Table 10 displays the journal table design.

Table 10. Design of journal table

No	Column	Data Type	Index
1	journal_id	VARCHAR (10)	PRIMARY
2	invoice_number	VARCHAR (10)	-
3	account_code_debit	VARCHAR (10)	-
4	account_code_credit	VARCHAR (10)	-

Table 11 displays the chart of account table design.

Table 11. Design of chart of account table

No	Column	Data Type	Index
1	account_code	VARCHAR (10)	PRIMARY
2	account_name	VARCHAR (50)	-
3	account_type	VARCHAR (10)	-
4	account_balance	VARCHAR (6)	-

5. User Interface Design

Figure 11-16 illustrates the design of the user interface including user data, inventory data, charts of accounts, sales transactions, sales journals, and income statements.

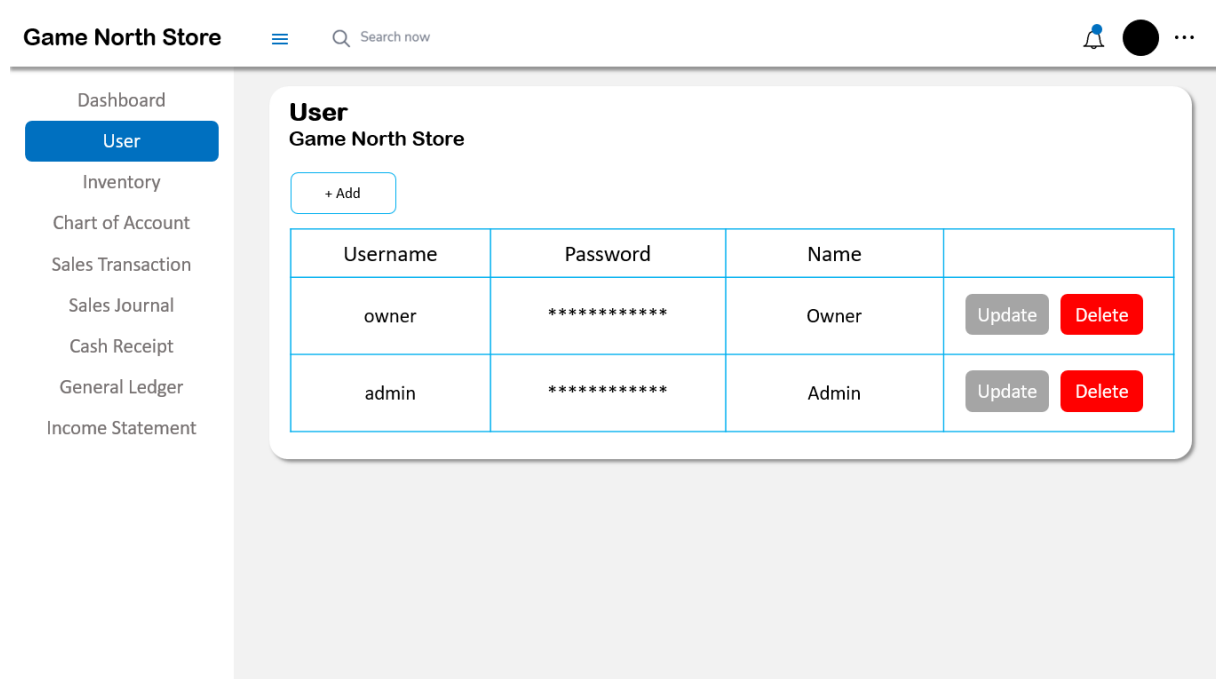


Figure 11. User Interface: User Data

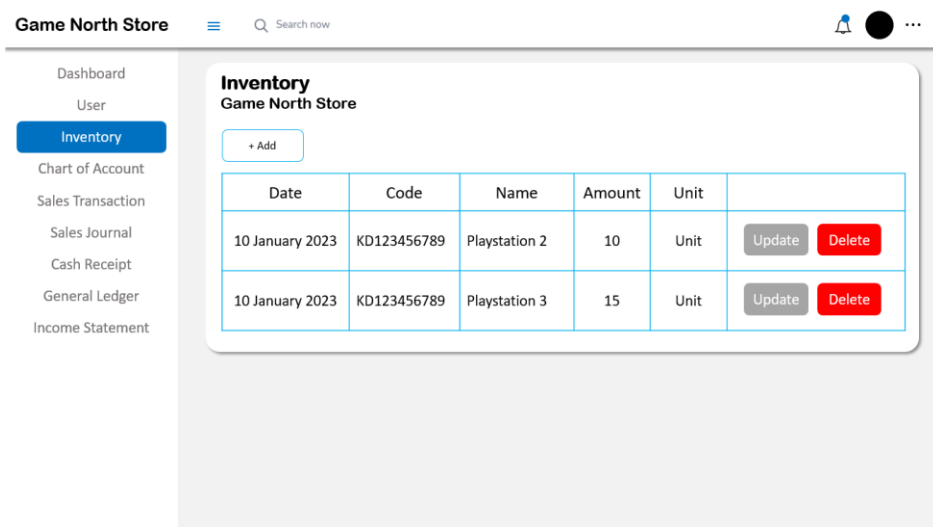


Figure 12. User Interface: Inventory Data

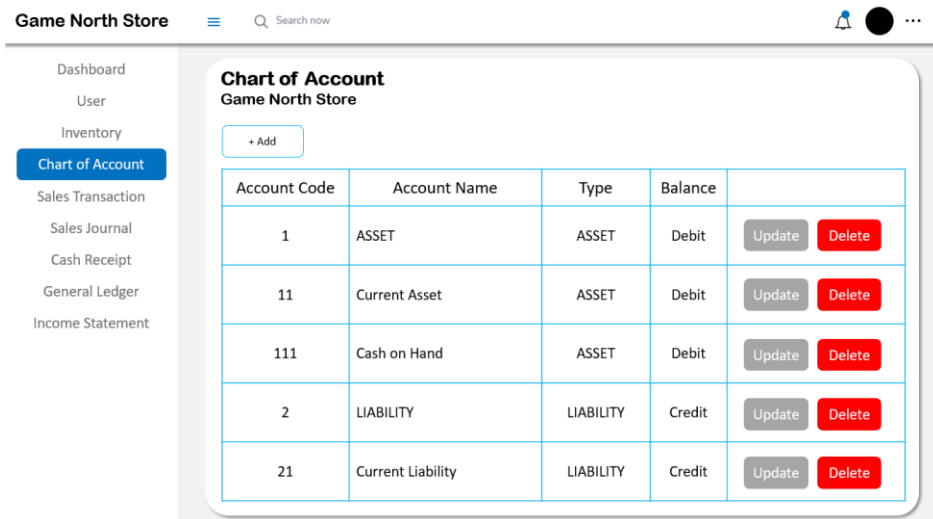


Figure 13. User Interface: Chart of Account

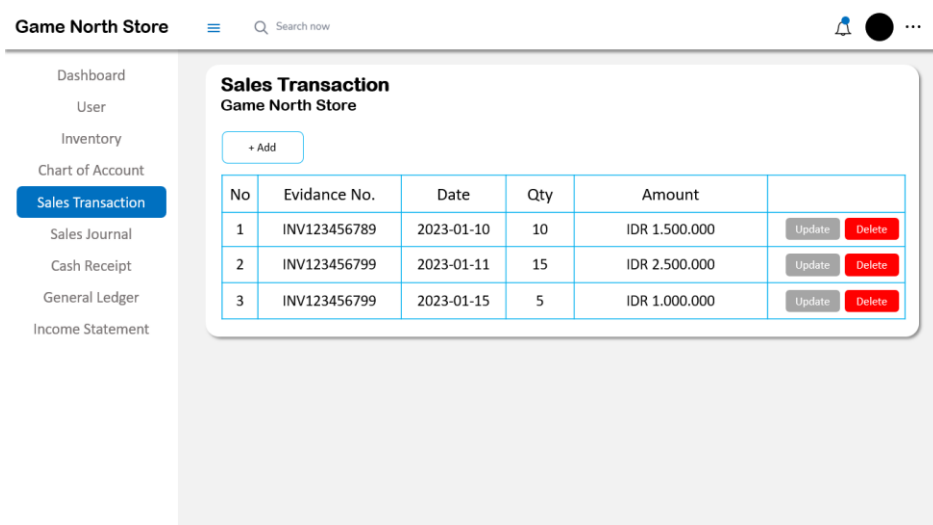


Figure 14. User Interface: Sales Transaction

Game North Store
Sales Journal
 For the years ended January 31, 2023
 (In thousand rupiah)

Date	Post Ref.	Description	Debit	Credit
2023-01-10	111	Cash on Hand	1.500	
	41	Sales		1.500
2023-01-11	111	Cash on Hand	2.500	
	41	Sales		2.500

Figure 15. User Interface: Sales Journal

Game North Store
Income Statement
 For the years ended December 31, 2021 and 2022
 (In thousand rupiah)

		2021		2022	
Revenue					
Sales Revenue	Notes	Rp	xx.xxx	Rp	xx.xxx
	10				
Other Revenue		Rp	x.xxx	Rp	x.xxx
Total Income		Rp	xx.xxx	Rp	xx.xxx
Expenses					
Operating Expenses		Rp	xx.xxx	Rp	x.xxx
Other Expenses	11	Rp	xx.xxx	Rp	xx.xxx
Total Expenses		Rp	xx.xxx	Rp	xx.xxx
Profit (loss) before income tax		Rp	xx.xxx	Rp	xx.xxx
Income tax expense	12	Rp	x.xxx	Rp	x.xxx
Profit (loss) after income tax		Rp	xx.xxx	Rp	xx.xxx

Figure 16. User Interface: Income Statement

Based on the system design described above, figure 17 describes the structure of the features that will be applied to this sales accounting information system.

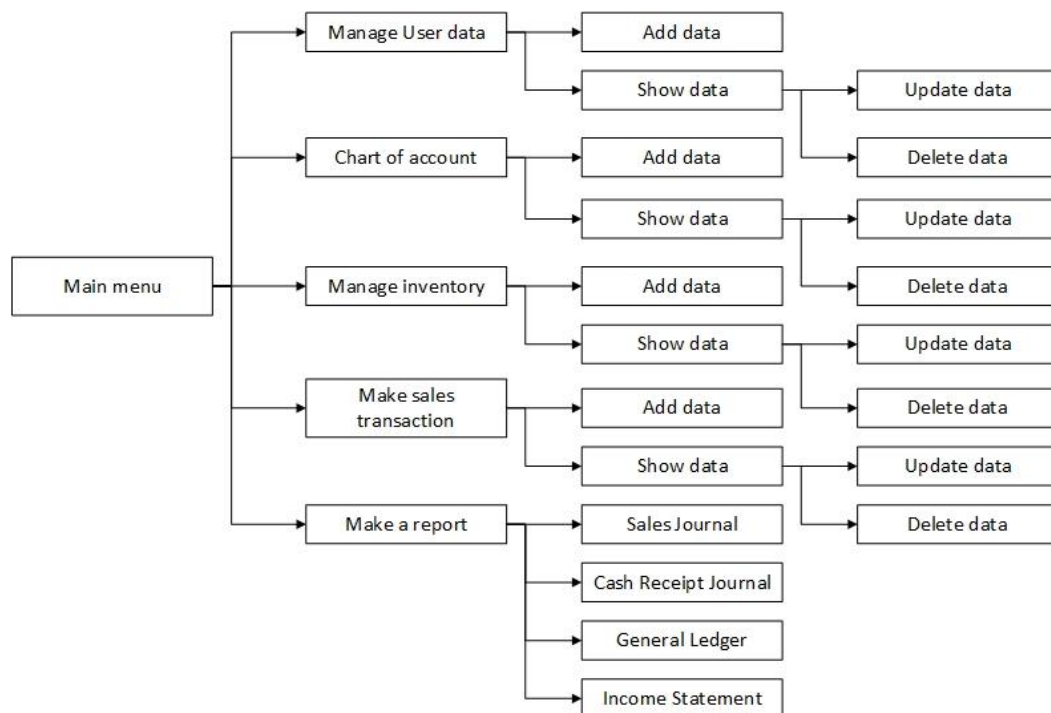


Figure 17. Program Menu Structure

The selling concept is a business approach in which goods are sold based on what the company produces, rather than what the customer needs. The main focus is on achieving sales and profits, rather than considering whether the product is truly needed by the customer. This approach is a part of the overall marketing concept, and can be successful if a company can generate high sales volume, but may not be effective in a competitive market. The concept of buyer alertness is also followed in this approach, where the company prioritizes sales over customer satisfaction, and consumers are persuaded to buy through advertising and other sales techniques. Toko Utara Game, for example, does not use a system for managing sales transactions and relies on manual documents and handwriting, which can lead to errors and problems.

Conclusion

System constraints at Toko Utara Game in the process of making sales reports and financial reports cause problems such as human errors, risks in data storage and require longer time, causing delays in reporting sales data from the sales and finance department, and ultimately impacting delays information to leaders needed for decision making, and resulting in losses that cannot be offset such as operational costs that are always increasing. Then a Website-Based Sales Accounting System is proposed to make it easier for Toko Utara Game to manage financial transactions in order to produce accurate and faster financial reports. This research resulted in the design of a sales accounting information system where users can manage goods data, user data, manage sales transactions, create sales reports and profit and loss reports. However, this research can still be developed further in further research with other system development methods so that the designed system can meet user needs and provide optimal benefits for solving problems faced by users.

Acknowledgement

A word of gratitude was conveyed to Toko Utara Game and the Computerized Accounting Study Program of the Indonesian Computer University.

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