

# Development of Accounting Information System for Matahari Store With RAD Method (Rapid Application Development)

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**Abstract**— Business company is a form of business in which business people purchase goods from vendors, then resell them to consumers without changing the form of the goods. Every business, be it large, medium to small businesses, requires an accounting system. From the accounting system, the owner can determine whether his business is running well or vice versa. One trading business that still does not use an accounting system is the Matahari Grocery Store. The accounting information system is needed by Toko Matahari to be able to compete with many other similar businesses. The method used in creating this accounting system is the Rapid Application Development method.

**Keywords**— accounting information system, rapid application development

## I. INTRODUCTION

Every business, be it large, medium to small businesses, requires an accounting system. From the accounting system, the owner can determine whether his business is running well or vice versa [1].

One business that still does not use an accounting system for its business is the Matahari Grocery Store in Kupang City. Toko Matahari is an MSME engaged in the sale of goods. The Matahari Store can be said to still have a lot of risks because it does not have a clear accounting system. These risks are when making a transaction

when a sale occurs, there is no sales note, there is no sales record, and there is no accounting system for income and expenses at this store. In addition, there is no financial position/balance sheet. In addition to transactions, this store also has risks related to inventory.

The owner does not record every time an additional inventory occurs for newly arrived goods, there is no accounting system for incoming and outgoing inventory. Several solutions so that these risks can be reduced, it is better if the Matahari Store makes an accounting system such as a buying, selling and inventory system. The method used in creating this accounting system is the Rapid Application Development (RAD) method. The RAD method is a system design method that emphasizes a relatively short and fast development cycle and focuses on design and prototyping models [2].

## II. METHOD

The system is a set of elements that are interrelated and influence each other in carrying out joint activities to achieve a goal [3].

Information in a company is something that is very important to support the continuity of the company's development [4].

An information system is an integrated human or machine system for providing information to support management operations and decision-making functions

within an organization [5]. This system stores, retrieves, changes, processes and communicates information received by using an information system or other system equipment [6].

Accounting is an information system that identifies, records, and communicates economic and organizational events to interested users [7].

An accounting information system is a system that collects, records, stores, and processes recording and accounting data to produce information for decision makers [8].

Rapid Application Development (RAD) is an object-oriented approach to systems development that includes a development method as well as software tools [9].

#### A. GENERAL DESCRIPTION OF THE RESEARCH OBJECT

Matahari Store is a Small and Medium Enterprise (SME) engaged in the sale of goods. This shop was founded in 2008. The goods sold are daily necessities such as groceries, toiletries and washing equipment, stationery, household equipment, snacks, drinks, cooking ingredients.

#### B. BUSINESS STRUCTURE

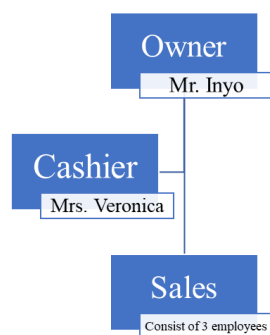


Figure 2. 1 Business Structure of Matahari Store

Job Desk:

- Owner 1: Orders out of stock items
- Owner 2: Supervise store operations and conduct sales transactions

- Employee: Serving buyers, taking goods and checking the completeness of the goods

#### C. PURCHASE CYCLE

When you want to purchase inventory, the owner will determine which supplier to buy and in what quantity. After selecting later the owner will call the supplier to place an order for goods. When there are goods that arrive, the number of goods that arrive is not recorded, only based on collecting a purchase receipt, then the shop owner immediately takes out the money/cash that is at the cashier and makes payments for the ordered goods [10].

#### D. INVENTORY CYCLE

When the owner purchases inventory, it starts with purchasing goods by determining which goods and suppliers to choose. After that place an order by telephone to the supplier. After the goods arrive, proof of the purchase receipt is kept by the owner and makes payments from the money/cash at the cashier to the supplier, then the goods are put into the warehouse without recording the number of goods that arrive.

#### E. SALES CYCLE

In the sales cycle, consumers come to visit the store to find the items needed. Employees serve consumers by asking what items consumers want. If the buyer makes a credit transaction, the owner will record it in the debt book. Before making a payment for the goods, first check whether the goods are appropriate, check the completeness of the goods and whether the goods are functioning properly because the Matahari Store does not accept returns after leaving the store.

### III. ANALYSIS RESULTS

#### 1) Requirements Planning

##### a. Investigation

The investigation and interview processes were held in March and December 2022. From the results of these

interviews, some information was obtained in the form of an overview of the store and the business processes that occur in the store.

After the interview process ended, the author made direct observations into the store related to store operations in the form of purchasing inventory, receiving inventory, selling merchandise and processing payments.

b. Problem Analysis

The following is a table of the results of the analysis of the problems and solutions that need to be addressed at the Matahari Store.

Table 3.1

No	Weakness	Solution
1.	There is no sales note during the sales process.	The system will provide a sales module to input data on goods purchased.
2.	There is no record of sales that have occurred.	The system will provide a sales module to input item data every time a sale occurs.
3.	There is no record of every credit sales transaction.	The system will provide a credit sales menu to record receivables.
4.	There is a need for records related to cash income and disbursements.	The system will be designed it can input journals related to cash income and expenses.
5.	There are no records related to inventory.	The system will provide an inventory module.
6.	The owner is not aware of the availability of goods in the storefront.	The system will design an inventory report menu.
7.	The owner himself does not know in detail the advantages/losses.	The system will design a report module.

c. System Requirements Analysis

The user who will later operate the system is Ms. Veronica who is the owner of the Matahari store. The writer found that Mrs. Veronica did not understand technology and its usage. Thus, later the author will create a User Interface that is simple and easy for Veronica to learn so as not to confuse the operation.

The software needed to run the system is a browser (chrome, opera, mozilla, etc.) to open the system and a MYSQL database to store the data needed by Matahari Store [11].

Based on the results of the analysis, the hardware needed to run the system is a laptop or computer and a printer to be able to print sales receipts or proof of transactions at the Matahari Store.

2) Design System

a. Use Case Diagram

Figure 3.2 is a Use case diagram of the Matahari Store system. This system has one actor who is the admin as well as the shop owner. Admin himself has access rights in managing the system as a whole. There are several modules in the Matahari Store system including: Login, Logout, Type Data, Goods Data, Accounting, Purchases, Sales, Reports, Suppliers, Users, Warehouses [12].

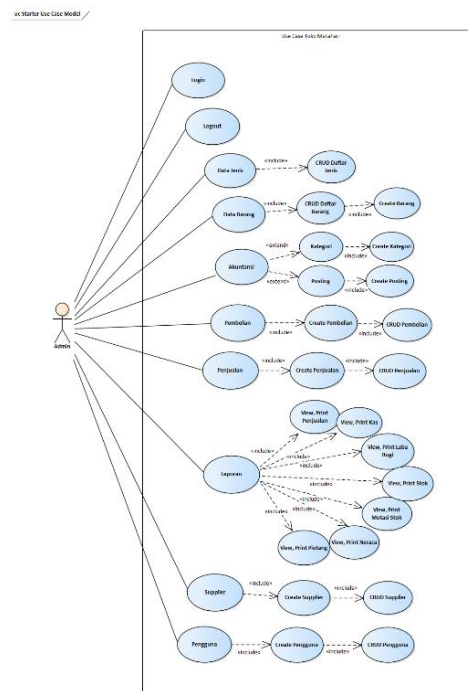


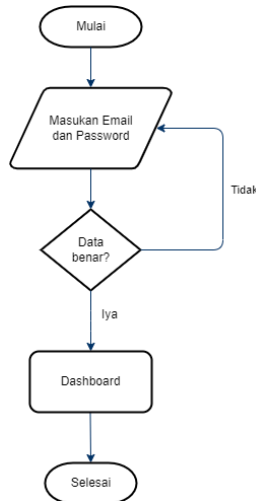
Figure 3.2 Use Case Toko Matahari

b. Flowchart Diagram

The flowchart describes the application flow. [13]

1. Login Page

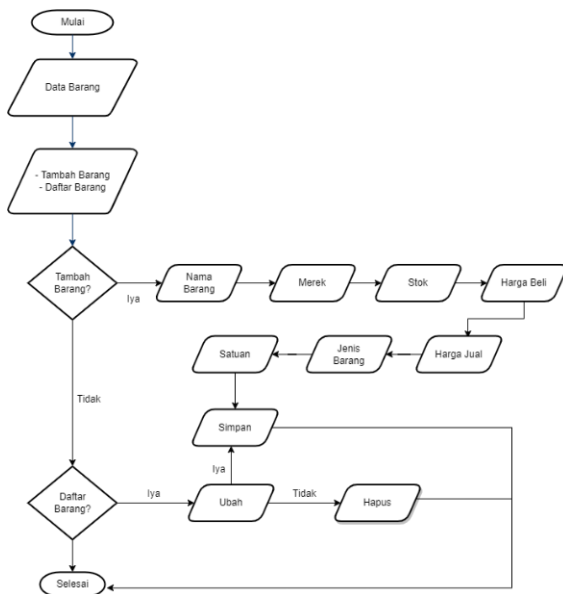
Figure 3.3 is a flowchart of the Login Page on the Matahari Store system.



**Figure 4.3 Flowchart of Login Page**

## 2. Inventory Menu

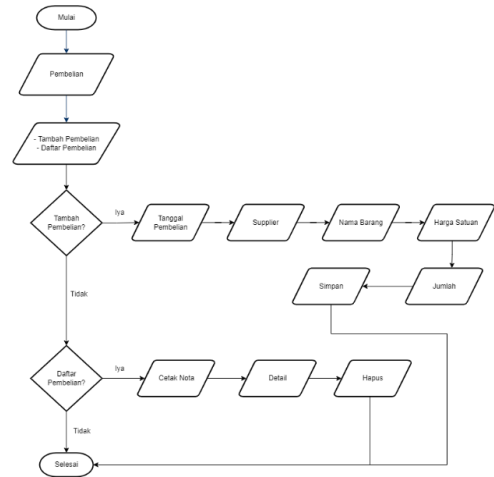
Figure 3.4 is a flowchart of the Goods Data menu on the Matahari Store system.



**Figure 3.4 Flowchart of Inventory Menu**

## 3. Purchase Module

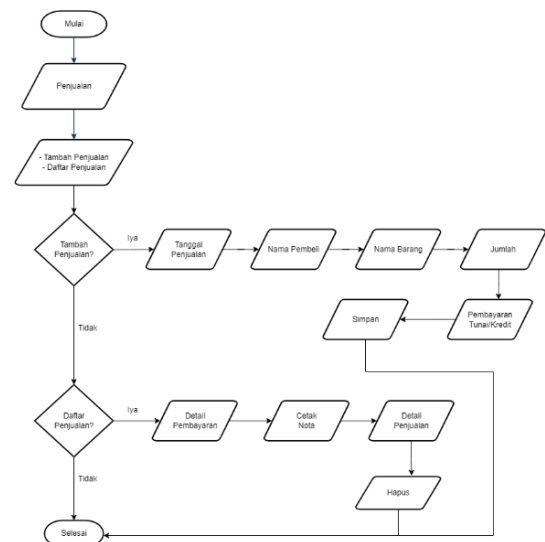
Figure 3.7 is a flowchart of the Purchase Module in the Matahari Store system.



**Figure 3.7 Flowchart of Purchase Module**

## 4. Sales Module

The following is a flowchart of the Sales Module in Toko Matahari's system.



**Figure 3.8 Flowchart of Sales Module**

## 5. Report Module

### a. Income Statement

Figure 3.9 is a flowchart of the Income Statement.

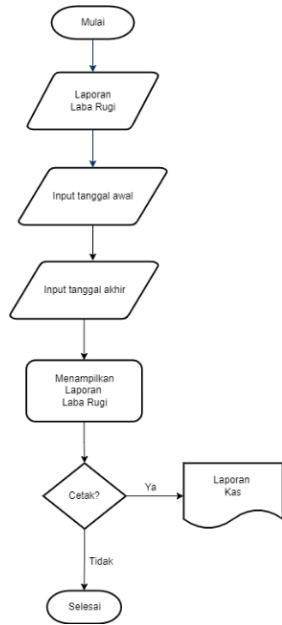


Figure 3.9 Flowchart of Income Statement

**b. Stock Movement**

Figure 3.10 is a flowchart of Stock Movements in the Report module in the system.

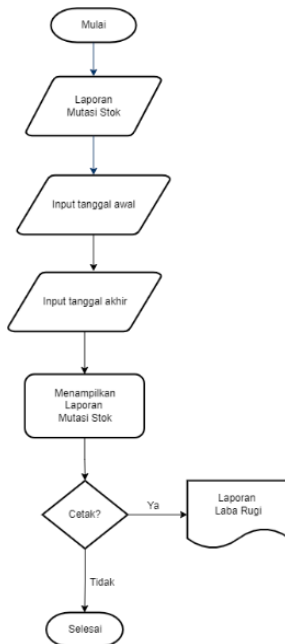


Figure 3.10 Flowchart Stock Mutation

**c. Balance Sheet**

Figure 3.11 is a flowchart of the Balance Sheet in the Report module in the system [14].

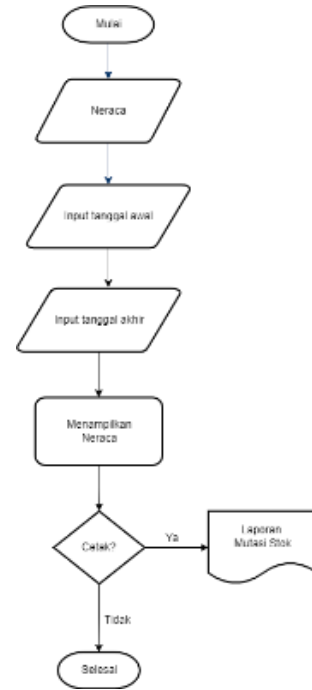


Figure 3.11 Flowchart of Balance Sheet

**3) System Development**

a. System Development and Testing [15]

**1. Login Page**

The following is the Login Page of the system that has been created for Toko Matahari.

**2. Data Type**

The following is the Type Data Menu from the system that has been made for Matahari Stores.

**3. Menu of Inventory**

The following is the Goods Data Menu from the system that was created for Matahari Stores.

**4. Inventory**

The following is the Inventory Menu from the Matahari Store system.

## Gudang

Nama Barang	Merek	Jenis	Stok	Harga Beli
Lem putih multiguna	Fox	Lain-lain	6	Rp 22.000,00
Buku tulis Sidu	Sinar dunia	Alat tulis	10	Rp 4.000,00
Buku gambar SIDU A4	Sinar dunia	Alat tulis	19	Rp 2.500,00
Folio Bergaris	Sidu	Alat tulis	10	Rp 500,00
Amplop Merpati putih	Merpati	Alat tulis	25	Rp 250,00
Penggaris lentur	Maped	Alat tulis	20	Rp 11.000,00
Lem stik	Kenko	Alat tulis	7	Rp 4.000,00
Penggaris besi 50 cm	Kenko	Alat tulis	5	Rp 22.000,00
Penggaris besi 30 cm	Kenko	Alat tulis	5	Rp 11.000,00
Rautan pensil	Joyco	Alat tulis	19	Rp 2.000,00

Figure 3.15 View of Inventory

## 5. Purchase Module

The following is the Purchase Module of the system that was created for Matahari Stores.

### Daftar Pembelian

No	Supplier	Tanggal Pembelian	Daftar Barang	Total Belanja	Nota	Aksi
1	UD. Pertama	28-06-2023	<ul style="list-style-type: none"> <li>Buku tulis Campus x 20</li> <li>Buku gambar SIDU A4 x 20</li> <li>Amplop Merpati putih x 50</li> <li>Lem putih multiguna x 10</li> <li>Pensil 2B Faber Castell x 25</li> <li>Rautan pensil x 20</li> <li>Penggaris besi 50 cm x 5</li> <li>Penggaris besi 30 cm x 10</li> <li>Penggaris lentur x 20</li> </ul>	Rp 935.000,00	Nota	Detail, Hapus

Figure 3.16 List of Purchase

## 6. Sales Module

The following is the Sales Module of the system that was created for Matahari Stores.

### Daftar Penjualan

No	No. Nota	Tanggal Penjualan	Daftar Barang	Total Penjualan	Pembayaran	Nota	Aksi
1	0001	28-06-2023	<ul style="list-style-type: none"> <li>Buku gambar SIDU A4 x 1</li> <li>Penghapus x 1</li> <li>Rautan pensil x 1</li> </ul>	Rp 8.500,00	Lunas	Nota	Detail, Hapus
2	0004	28-06-2023	<ul style="list-style-type: none"> <li>Penggaris besi 30 cm x 5</li> <li>Lem stik x 3</li> <li>Lem putih multiguna x 4</li> </ul>	Rp 214.500,00	Balasan Lunas (Rp -64.500,00)	Nota	Detail, Hapus
3	0007	28-06-2023	<ul style="list-style-type: none"> <li>Airmail map Executive x 10</li> </ul>	Rp 30.000,00	Lunas	Nota	Detail, Hapus
4	0008	28-06-2023	<ul style="list-style-type: none"> <li>Amplop Merpati putih x 5</li> </ul>	Rp 5.000,00	Lunas	Nota	Detail, Hapus
5	0009	28-06-2023	<ul style="list-style-type: none"> <li>Amplop Merpati putih x 20</li> <li>Buku tulis Campus x 10</li> <li>Buku tulis Sidu x 10</li> </ul>	Rp 150.000,00	Lunas	Nota	Detail, Hapus

Figure 3.17 List of Sales

## 7. Income Statement

The following is the Profit and Loss Report Module from Toko Matahari's system.

### Laporan Laba Rugi

No	No. Nota	Tanggal Penjualan	Total Penjualan
1	0001	28-06-2023	Rp 8.500,00
2	0004	28-06-2023	Rp 214.500,00
3	0007	28-06-2023	Rp 30.000,00
4	0008	28-06-2023	Rp 5.000,00
5	0009	28-06-2023	Rp 150.000,00
6	0012	03-07-2023	Rp 700.000,00
7	0013	08-06-2023	Rp 750.000,00
8	0016	14-06-2023	Rp 630.000,00
9	0023	28-06-2023	Rp 5.050.000,00
<b>Total Pendapatan :</b>			<b>Rp 7.538.000,00</b>
<b>Harga Pokok Penjualan :</b>			<b>Rp 1.690.000,00</b>
<b>Biaya Listrik :</b>			<b>Rp 500.000,00</b>
<b>Beban Gaji :</b>			<b>Rp 2.000.000,00</b>
<b>Biaya Lain Lain :</b>			<b>Rp 0,00</b>
<b>Laba :</b>			<b>Rp 3.348.000,00</b>
<b>Rugi :</b>			<b>Rp 0,00</b>

Figure 3.18 View of Income Statement

## 8. Stock Movement

The following is a Stock Movement Report from the Matahari Store system.

## 9. Balance Sheet

The following is a Stock Movement Report from the Matahari Store system.

### Laporan Neraca

No. Akun	Perkiraan / Akun	Debit	Kredit
101	KAS	Rp 6.303.500,00	
102	Persediaan	Rp 3.382.000,00	
103	Piutang	Rp 64.500,00	
106	Perengkapan	Rp 500.000,00	
111	Peralatan	Rp 1.000.000,00	
204	Utang Pajak		Rp 0,00
205	Utang Bank		Rp 1.000.000,00
300	Modal		Rp 13.000.000,00
301	Prive	Rp 2.750.000,00	
<b>JUMLAH</b>		<b>Rp 14.000.000,00</b>	<b>Rp 14.000.000,00</b>

Figure 3.20 View of Balance Sheet

#### 4) Implementation

In Toko Matahari's system, researchers conducted trials on 4 respondents. The respondents were Mrs. Veronica and Mr. Inyo as the owners of the Matahari Store and 2 shop employees who were the adopted children of Mrs. Veronica.

The following are the results and answers from respondents to the completed questionnaire:

1. Is the system able to display the Dashboard Menu properly? It is known that the 4 respondents answered strongly agree.
2. Is the Warehouse Menu on the system functioning properly? It is known that the 4 respondents answered strongly agree.
3. Is the Purchasing Module in the system functioning properly? It is known that from 4 respondents, 3 respondents answered strongly agree and 1 respondent agreed.
4. Is the Sales Module in the system functioning properly? It is known that from 4 respondents, 2 respondents answered strongly agree and 2 respondents answered agree.
5. Can the Report Module in the system function properly? It is known that from 4 respondents, 2 respondents answered strongly agree and 2 respondents answered agree.
6. Can the function of printing transactions and reports on the system work properly? It is known all respondents answered strongly agree.
7. Is the system easy to use? It is known that from 4 respondents, 3 respondents answered strongly agree and 1 respondent agreed.
8. Can the system help operational activities in Matahari Stores? It is known that all respondents answered strongly agree.

Based on the answers above, it can be concluded that the system can help operational activities in the Matahari Store properly.

#### IV. CONCLUSION

Based on the results of the research, it can be concluded that the writer has solved the problem with the research object, namely by designing and developing an accounting information system at the website-based Matahari Grocery Store using the RAD method.

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