Jurnal Riset Sistem Informasi Dan Teknik Informatika (JURASIK)
Volume 9, Nomor 1, Februari 2024, pp 366-373
Terakreditasi Nomor 204/E/KPT/2022 | ISSN: 2527-5771/EISSN: 2549-7839
https://tunasbangsa.ac.id/ejurnal/index.php/jurasik

Monthly Bookkeeping Report System Website Based Waterfall Method On Vinny Kitchen MDO Shop

Aaron Rumondor[1], Ai Rosita[2]
[1,2]Informatics Study Program, Faculty of Engineering, Universitas Widyatama, Indonesia
Email: aaron.lorenzo@widyatama.ac.id[1], ai.rosita@widyatama.ac.id[2]

Abstract

The Vinny Kitchen Mdo company is a private, family-owned business which is engaged in the production of bread and various types of cakes. This business was developed by the owner herself and operates independently so that the available systems are still in conventional or manual form. One example is a cashier system that still uses manual calculations using a calculator. Transaction calculations that are still manual often experience errors in goods data collection and monthly income calculations. Therefore, it is hoped that the design of the cashier application can help the admin or cashier process to provide services automatically to customers or shop owners so that it does not take time to calculate income or stock manually. This system is also capable of presenting monthly reports in the shop so that they can be recorded. The method used in this system is the Waterfall Method, namely a systematic and sequential process model so that it can be designed in a structured manner. This cashier system was created using a web-based application model, making it easy for admins and cashiers to calculate sales and availability of goods automatically.

Keywords: *Cashier System, Web Based Application Design, Waterfall Method, Monthly Bookkeeping Report*

1. INTRODUCTION

Information technology has developed over time and is growing rapidly in every aspect of human life. The need for technology is important for humans to simplify all processes in managing, storing and accessing data and information online. Vinny Kitchen Mdo shop is a business selling bread and various types of cakes. However, this shop still uses a simple cashier service system. Transaction recording still uses notes and monthly sales are recorded manually. The technology used still uses a calculator to calculate the number of transactions made by customers. The bookkeeping system also still uses books, so shop owners often feel overwhelmed when they need to look for transactions in the previous few months. Manual sales systems often have many weaknesses, usually errors in recording and data retrieval are difficult. The process for calculating stock is also affected because the availability of goods is informed manually. It is hoped that this shop will also experience rapid technological developments, therefore a web-based cashier application has been created to make it easier to manage and input data, especially monthly sales data for the Vinny Kitchen Mdo Shop. By using a web-based cashier system, data storage is recorded in a database and information is stored neatly. Searching for data is also made easier because by only needing to search for 1 keyword, the system will work automatically to search for admin needs. This cashier system is a web-based system. The results of this application research are expected to simplify all transaction processes at the Vinny Kitchen

Jurnal Riset Sistem Informasi Dan Teknik Informatika (JURASIK)
Volume 9, Nomor 1, Februari 2024, pp 366-373
Terakreditasi Nomor 204/E/KPT/2022 | ISSN: 2527-5771/EISSN: 2549-7839
https://tunasbangsa.ac.id/ejurnal/index.php/jurasik

Mdo store and make it easy to access the information needed by admins and cashiers.

2. RESEARCH METHODOLOGY

The techniques used to obtain data in this writing are observation techniques, literature studies, and interviews. Several data collection techniques used by the author are as follows:

a. Data Collection Technique

1. Observation. Data collection is carried out through observation at Vinny Kitchen Mdo, accompanied by notes on the condition or behavior of the target object especially the system used at shop.
2. Literature Studies. Collecting data and information through reading literature or written sources such as books, manually monthly bookkeeping at shop and some reports.
3. Interviews. Face-to-face meetings and direct questions and answers between the researcher and the owner of the Vinny Kitchen shop.

b. System Development Model

The Waterfall Model is an example of a planning process where all activities must first be carefully planned and scheduled before being carried out[1]. The paradigm of the stages of the Waterfall model is as follows:

1. Analysis.
2. System design.
3. Implementation.
4. Testing.
5. Maintenance.

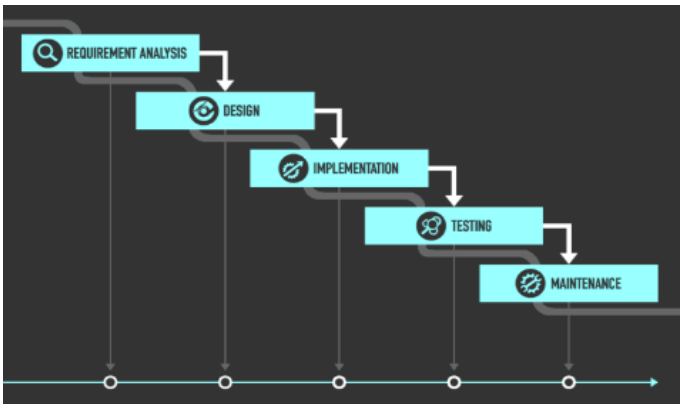

Figure 1. Waterfall Model

c. Information System

According to Robert A. Leitch, an information system is a system in an organization that meets the needs of daily transaction processing, supports operations, is managerial and strategic activities of an organization and provides certain external parties with the necessary reports [2]. According to Republic of

Indonesia Law no. 28 of 2007, Bookkeeping is a recording process that is carried out regularly to collect financial data and information which includes assets, liabilities, capital, income and costs, as well as the total price of acquisition and delivery of goods or services, which is closed by preparing a financial report in the form of a balance sheet, and profit and loss reports. Through bookkeeping, information about business finances can provide benefits for decision making for company management [3]. According to Azis Sholechul, a website is an information page provided via the internet so that it can be accessed throughout the world as long as it is connected to an internet network. A website is also a component or collection of components consisting of text, images, sound and animation so that it is interesting to visit [4]. The history of the web was first designed by a scientist named Tim Berners-Lee. Initially the website could only be accessed by the government and military, but in 1993, the website was released to the public [5].

2.1. Data Flow Diagram

Data Flow Diagram (DFD) is a description of the flow of information involved in a procedure that is connected manually or computerized [6]. The function of DFD is to convey system design, describe the system, and design models. The following are some commonly used DFD symbols:

a. External Entity
b. Process
c. Data Store
d. Data Flow

2.2. Programming Language

Programming language is a set of instructions that can be used to interact with and control a computer. The programming language used in this shop system uses several languages as follows:

a. HTML
   According to Arief (2011), "HTML is one of the formats used in creating documents and applications that run on web pages". HTML format consists of an opening tag and a closing tag. For example, tags are placed between a paragraph with the opening tag and closing tag [7].
b. CSS
   According to Jayan (2010), states that "CSS functions to regulate the appearance of HTML documents such as setting the distance between lines, text, border format, color and even the appearance of image files" [8].
c. Javascript
   According to Siahaan & Rismen, "Javascript is a dynamic programming language that can be used to build interactivity on HTML pages that look static. This is done by naming blocks of Javascript code almost everywhere on the web page" [9].
d. PHP
   According to Priyo Sutopo, et al, "PHP is a server side that is specifically designed for web applications. PHP is inserted between the HTML language,

the PHP language is executed on the server, so that what is sent to the browser is the result in HTML form, and the PHP code will not be displayed" [10].

3. RESULTS AND DISCUSSION

a. Data Flow Diagram Level 0

Data Flow Diagram Level 0 show a model to describe the origin of data and the destination of system data. The following is the DFD Level 0 of this system:

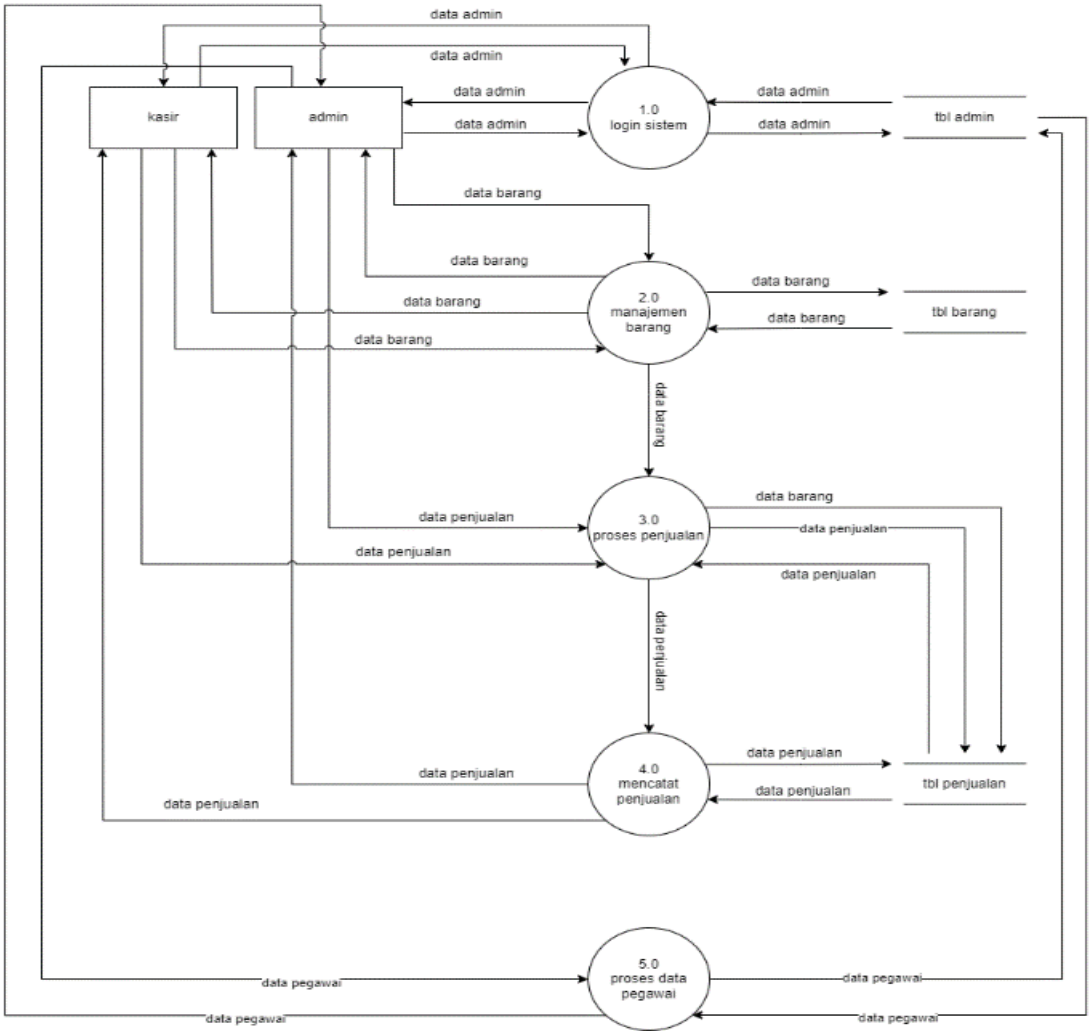

Figure 2. Image 2 DFD Level 0

b. Entity Relationship Diagram

The Entity Relationship Diagram in the web-based monthly opening report system at Vinny Kitchen Mdo illustrates the database in the system. The ERD design at Vinny Kitchen Mdo can be seen in the picture:

Jurnal Riset Sistem Informasi Dan Teknik Informatika (JURASIK)
Volume 9, Nomor 1, Februari 2024, pp 366-373
Terakreditasi Nomor 204/E/KPT/2022 | ISSN: 2527-5771/EISSN: 2549-7839
https://tunasbangsa.ac.id/ejurnal/index.php/jurasik

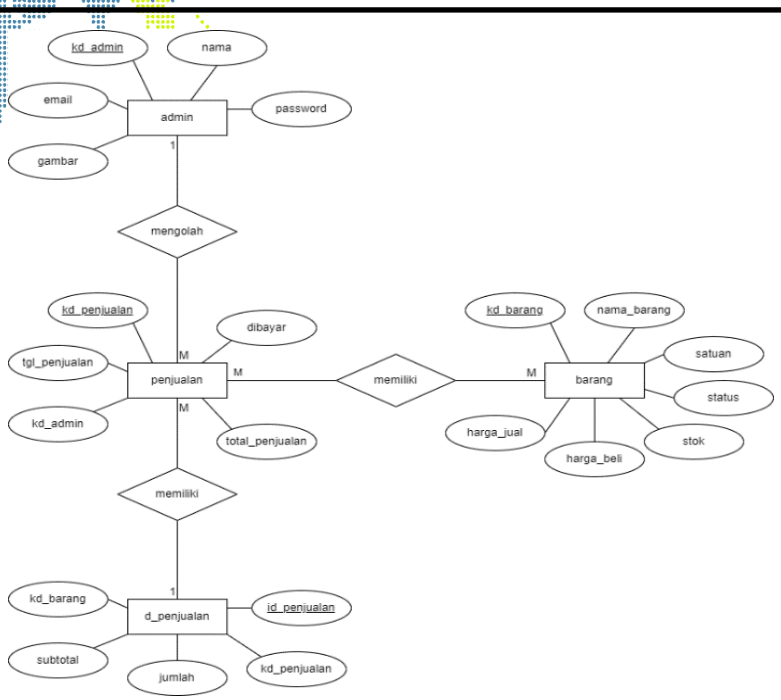

Figure 3. Entity Relationship Diagram

c. Database Design

The database design for the web-based bookkeeping reporting system at Vinny Kitchen Mdo consists of the following tables which explain the relationships between each entity.

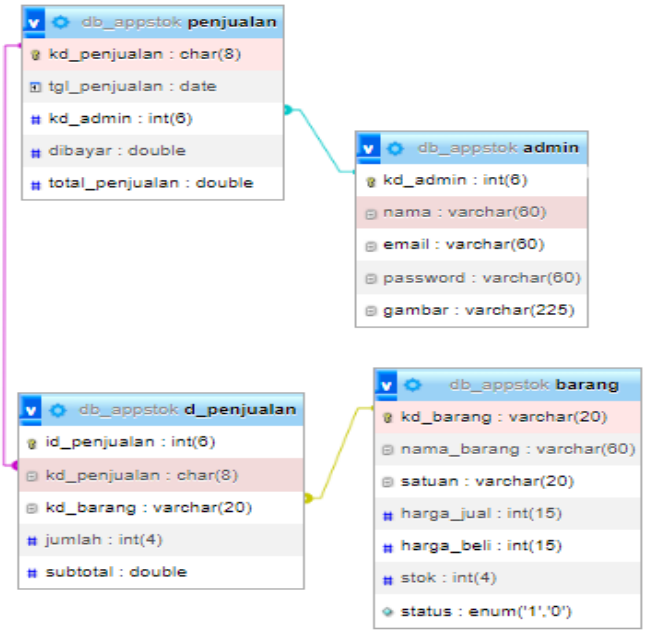

Figure 4. Database Design

Jurnal Riset Sistem Informasi Dan Teknik Informatika (JURASIK)
Volume 9, Nomor 1, Februari 2024, pp 366-373
Terakreditasi Nomor 204/E/KPT/2022 | ISSN: 2527-5771/EISSN: 2549-7839
https://tunasbangsa.ac.id/ejurnal/index.php/jurasik

d. User Interface

User Interface describes the design of a web-based bookkeeping report system designed on an application at the Vinny Kitchen Mdo store. The user interface can be seen in the following image:

Figure 5. Login Form

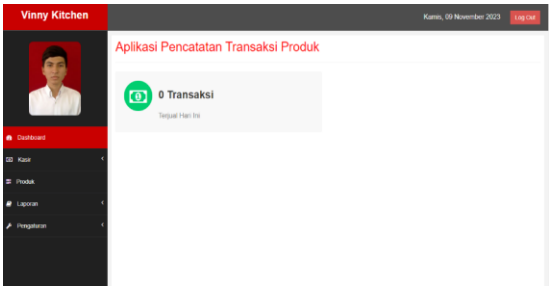

Figure 6. Dashboard

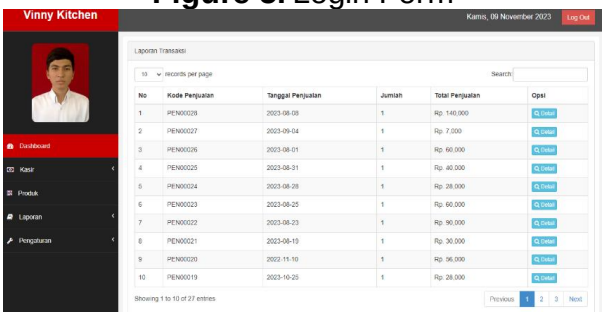

Figure 7. Transaction Reports

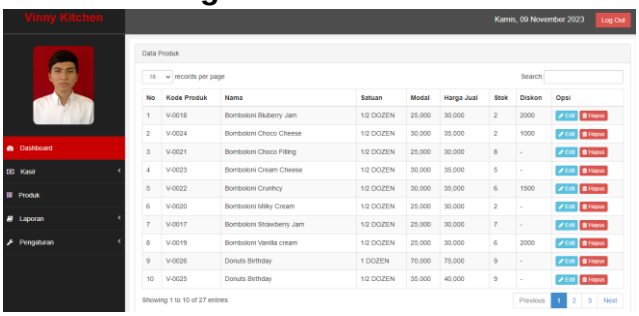

Figure 8. Products

e. Discussion

Discussions are held to check the performance of system components that have been implemented. The purpose of the discussion is to check and ensure that the system is running as expected by the system developer. The testing method taken is the black box testing method. Testing the system in accordance with the plan that has been built and determined produces system input and output which are described in the table as follows:

a. Transaction Menu

Table 1. Transaction Menu

No	Testing Scenarios	Expected Results	Conclusion
1	Fill in the "Number of Items" field then click Add	An empty data table will display sales data	Valid
2	Fill in "Total Payment" with a nominal payment that is less than it should be then click Save	The system displays the notification "Total Payment Is Not Enough!"	Valid
3	Leave the "Total Payment" field blank then click Save	Leave the "Total Payment" field blank then click Save	Valid

b. Products

Table 2. Products

No	Testing Scenarios	Expected Results	Conclusion
1	Fill in the Product Name, Unit,	The Product Code field will	Valid

No	Testing Scenarios	Expected Results	Conclusion
	Selling Price, Capital, Stock and leave the Product Code blank then click Save	display a red outline	
2	Change the selling price data from 20000 to 25000 and Capital from 18000 to 20000 then click Save	Displays the "Saved Data" notification when the changed data has been saved	Valid
3	Select the “Delete” option on the product data	Displays the notification “Continue Deleting? Data will be permanently deleted!”	Valid

c. Reports and Employee

Table 3. Reports and Employee

No	Testing Scenarios	Expected Results	Conclusion
1	Enter the sales date for one month, starting from 1 to 31 August 2023, then click Process	The system displays sales data from 1-31 August 2023	Valid
2	Change the password by clicking and changing the data in the password field then click Save	The system displays a "Data Changed" notification and returns the page to the Admin table with the changed data	Valid
3	Select the “Delete” option on admin data	The system displays the notification “Continue Deleting? Data will be permanently deleted!”	Valid

4. CONCLUSION

From the results of this research at Vinny Kitchen Mdo, several conclusions can be drawn as follows the monthly bookkeeping report system has been successfully designed and the bookkeeping report feature can be seen in the Sales Report menu in the Vinny Kitchen Mdo cashier system. This cashier application system makes it easy to search for sales data such as weekly or monthly sales data that has occurred at Vinny Kitchen Mdo, so the data only needs to be searched without having to search for it one by one manually.

REFERENCES

[1] Junita, Rosana. 2022. Website-Based Accounting Information System at PT Logistic One Solution. Bina Sarana Global Institute of Technology and Business. Tangerang.
[2] Amira. 2021. Understanding Information Systems: Objectives and Components. Gramedia Blog. Jakarta.
[3] Indonesia. Law Number 28 of 2007 concerning the Third Amendment to Law Number 6 of 1983 concerning General Provisions and Tax Procedures. State Secretariat. Jakarta
[4] Editorial Team, CNBC Indonesia. 2022. 7 Definitions of Websites According to Experts, Complete with Types & Functions. Cnbcindonesia.com. Jakarta.
[5] Afri. 2019. History and Development of Websites. Medium.com. Jakarta.

[6] Adriana, Anna. 2010. Functional Requirements Analysis. Unikom Journal. Bandung
[7] Nurjaman, Iman. 2015. Design of Goods Inventory Information System at YPI Al-Amanah. STMIK Raharja. Tangerang
[8] Setiawan, Andy. 2019. Unsrat E-Catalog Application Design. Sam Ratulangi University. Manado
[9] Siahaan & Rismon. 2020. Javascript Basics & Understanding. Darma Persada University. Jakarta
[10] Sutopo, Priyo. 2016. Executive Information System for Website-Based Sales Distribution of 2-Wheeled Motorized Vehicles in East Kalimantan. Mulawarman Informatics Journal. Samarinda.