Rancang Bangun Sistem Website Sebagai Sarana Penjualan Pada Konter Kilala's Cell

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Abstrak

Konter Kilala's Cell adalah sebuah konter yang bergerak di bidang penjualan dan layanan produk telekomunikasi. Penelitian ini bertujuan mengembangkan Sistem Website Sebagai Sarana Penjualan Pada Konter Kilala's Cell. Metode yang digunakan adalah Waterfall, mencakup analisis kebutuhan, perancangan, implementasi, dan pengujian sistem. Hasil pengujian fungsional sistem menggunakan metode Black Box Testing menunjukkan bahwa seluruh fungsi sistem berjalan dengan baik tanpa ditemukan kesalahan (error), dengan tingkat keberhasilan sebesar 99%. Selanjutnya, pengujian penerimaan pengguna melalui metode User Acceptance Test (UAT) memperoleh persentase keberhasilan sebesar 89,75%, yang menunjukkan bahwa pengguna sangat setuju terhadap penerapan sistem tersebut.
Kata Kunci: Sistem Informasi, Website, Penjualan, Konter, Waterfall, Black Box Testing.

Design and Development of a Website System as a Sales Medium at Kilala's Cell Counter

Abstract

*Kilala's Cell Counter is a retail outlet engaged in the sales and services of telecommunication products. This study aims to develop a website-based system as a sales medium for Kilala's Cell Counter. The method used in this research is the Waterfall model, which includes requirements analysis, system design, implementation, and system testing. The results of functional system testing using the Black Box Testing method show that all system functions operate properly without any errors, achieving a success rate of **99%**. Furthermore, user acceptance testing through the User Acceptance Test (UAT) method obtained a success percentage of **89.75%**, indicating that users strongly agree with the implementation of the system.*
Keywords: *Information System, Website, Sales, Counter, Waterfall, Black Box Testing.*

I. INTRODUCTION

The rapid development of information and communication technology has had a significant impact on various sectors, including the business world. One of the most noticeable aspects is the use of the internet as the main medium for marketing and selling products. Amid increasingly intense business competition, every business is required to adapt to technological developments in order to survive and grow. One way to do so is by using a website as an effective sales medium.

Kilala's Cell Counter is a retail outlet engaged in the sales and services of telecommunication products. Although it already has loyal customers, Kilala's Cell Counter still faces challenges in expanding its market reach and attracting new customers. In the current digital era, many consumers prefer to look for information about products and services on the internet before making a direct purchase. Therefore, having an informative and attractive website is very important to support the sales strategy.

Currently, the sales strategy used by Kilala's Cell Counter relies mostly on manual methods such as banners and simple social media. However, this approach is less effective in reaching a wider customer base and providing up-to-date information about products and promotions. In addition, customers often find it difficult to obtain detailed information without visiting the counter in person.

In the digital era, the presence of an online platform is very important for small and medium-sized businesses to improve their competitiveness. A website can serve as a promotional medium that not only displays information about products and services, but also builds business credibility and makes it easier for customers to obtain information. Therefore, Kilala's Cell Counter needs a solution in the form of a website system that can meet its sales needs, provide real-time information, and increase interaction with customers.

To ensure that the website can meet the needs of the counter and its users, a structured development process is required, one of which is by using the *Waterfall* method. The *Waterfall* method was chosen because it has clear stages, namely requirements analysis, system design, implementation, testing, and maintenance. It is hoped that Kilala's Cell Counter can increase its product sales, thereby expanding its market reach and improving the quality of its products and services.

Based on the background above, the author is interested in conducting a study entitled “Design and Development of a Website System as a Sales Medium at Kilala's Cell Counter”.

II. LITERATURE REVIEW

A. Related Studies

The following are studies related to the Design and Development of a Website System as a Sales Medium at Kilala's Cell Counter:

Amri et al. (2023) conducted a study entitled “Strategi Bersaing Konter Pulsa Konvensional di Era *E-Commerce*” [Competitive Strategies of Conventional Phone Credit Counters in the *E-Commerce* Era]. The study used a descriptive qualitative approach.

Amalia et al. (2023) conducted a study entitled “Sistem Informasi Penjualan Sparepart Handphone Pada Konter Fix Celluler Berbasis Web” [Web-Based Mobile Phone Spare Part Sales Information System at Fix Celluler Counter]. The system design stage used the *waterfall* method because its design stages suit the problems that occurred at Fix Celluler Counter.

Biludi et al. (2023) conducted a study entitled “Rancang Bangun Sistem Informasi Penjualan Aksesoris Handphone Berbasis Web Di Satriya Cell Kulon Progo Yogyakarta” [Design and Development of a Web-Based Mobile Phone Accessories Sales Information System at Satriya Cell Kulon Progo Yogyakarta]. The research stages followed the *waterfall* model: collecting the required data, allocating system requirements, and designing the system in the form of a context diagram, data flow diagram, *entity relationship* diagram, table relations, and input and output displays.

Afriansyah (n.d.) conducted a study entitled “Pengembangan Sistem Informasi Pelaporan Transaksi Penjualan Dengan Multilokasi dan Multi Harga Produk Pada Konter” [Development of a Sales Transaction Reporting Information System with Multi-Location and Multi-Price Products at a Counter]. The study used two methods: the *waterfall* method for developing the information system, consisting of system requirements analysis, system design, implementation, testing, and evaluation; and *Unified Modeling Language* (UML) for the system design, consisting of *use case*, *activity*, *sequence*, and *class* diagrams because the system built is object-oriented.

Permana et al. (2022) conducted a study entitled “Masa Depan Usaha Konter Pulsa di Era Digital” [The Future of Phone Credit Counter Business in the Digital Era]. The study used a descriptive method

in which data were collected directly in the field and analyzed, aiming to determine the future of the phone credit counter business in the digital era.

Cholis (2023) conducted a study entitled "Rancang Bangun Sistem Informasi Penjualan HP Dan Aksesoris Berbasis Website" [Design and Development of a Website-Based Mobile Phone and Accessories Sales Information System]. The study used the *waterfall* method to make it easier for buyers to search for mobile phones and accessories online without having to visit the store.

Haris and Syukron (2024) conducted a study entitled "Implementasi *E-Commerce* Penjualan Handphone Berbasis Website Pada Konter 76 Cellular Purbalingga" [Implementation of Website-Based Mobile Phone Sales *E-Commerce* at Konter 76 Cellular Purbalingga]. The research method used was *Waterfall*, consisting of the requirements analysis, design, implementation, testing, and maintenance stages.

Leonardo et al. (2022) conducted a study entitled "Sistem Informasi Penjualan Aksesoris Dan Jasa Service Hp Pada Allio Cell Menggunakan Metode *Waterfall*" [Mobile Phone Accessories Sales and Repair Service Information System at Allio Cell Using the *Waterfall* Method]. The system development method used in the study was *Waterfall*.

B. Theoretical Background

1) Design and Development

Design is an activity aimed at designing a new system that can solve the problems faced by users, obtained from the selection of the best system. The word "development" refers to the activity of creating a new system or replacing or improving an existing system, either as a whole or in part. Thus, design and development is an activity of translating the results of analysis into a software package and then creating a new system or improving an existing one (Sitanggang et al., 2022).

2) System

A system is a form of integration between one component and another, because a system has different objectives for each case that occurs within it. From this explanation, it can be concluded that a system is a set of interrelated units that carry out certain activities together in order to achieve a goal (Fitriyana & Sucipto, 2020).

3) Website

A *website* is a gateway to information for individuals, institutions, organizations, and companies. It contains the complete information needed by users, customers, or consumers of the *website* owner. To make it easier for users to obtain the information they need, a *website* must meet criteria such as having an attractive and non-boring appearance, being easy to use, containing complete information needed by users, being constantly updated, and being free of errors, among other criteria. Creating a website requires special skills. Websites play an important role in this information era. Sharing or disseminating information becomes easier when a person, organization, institution, or company has a website, so that information seekers only need to open the desired website. By definition, a website is a collection of pages within a domain that contains various information that can be read and viewed by internet users through a search engine (Ushud et al., 2021).

4) Sales

Sales is an integrated effort to develop strategic plans directed at satisfying the needs and wants of buyers in order to generate profitable sales. Sales is the source of a company's income, because profit is obtained from sales, and it is an effort to attract consumers by finding out what appeals to them so that the company can see the results of the products it has produced. Sales is also a transfer of rights to goods (Rachmawati, 2011).

5) Marketing Strategy

Marketing strategy is the marketing reasoning that a company uses in the hope of achieving its marketing objectives. Specific tactics for target markets, positioning, the marketing mix, and the amount of marketing expenditure are part of marketing strategy. Marketing is the result of commercial activities related to the transfer of goods and services from producers to consumers. The marketing concept is a marketing philosophy that focuses on customer needs and aspirations, supported by integrated marketing actions aimed at ensuring customer satisfaction as the key to a company's success in achieving its goals. The marketing idea is company-oriented, emphasizing that the main task of a company is to identify the needs and wants of the market and to fulfill them in ways that outperform competitors.

The marketing mix of a marketing strategy identifies the best combination of five marketing components or variables to help reach the target market while meeting the company's objectives. Product, price, place, promotion, and people are the five variable factors (Lestari & Aslami, 2022).

6) System Design

Design is a process of creating and designing a new system. System design is a process that follows analysis in the system development cycle in order to design a system. The system design stage has two main objectives, namely:

1. To meet the needs of the system's users.
2. To provide a clear picture and a complete design to computer programmers and other technical experts involved in the development or detailed creation of the system (Parinsi et al., 2021).

7) MySQL

MySQL is an open-source DBMS with two license forms, namely Free Software and Shareware (proprietary software with limited use). MySQL is thus a free database server under the GNU General Public License (GPL), so it can be used for personal or commercial purposes without paying any license fee. As mentioned previously, MySQL is a type of RDBMS (Relational Database Management System). Therefore, terms such as rows, columns, and tables are used in MySQL. For example, in MySQL a database contains one or more tables (Siregar, n.d.).

8) XAMPP

XAMPP is free software that supports many operating systems and is a compilation of several programs. Its function is as a standalone server (localhost), consisting of the Apache HTTP Server, the MySQL database, and interpreters for programs written in the PHP and Perl programming languages. The name XAMPP is an abbreviation of X (any of the four operating systems), Apache, MySQL, PHP, and Perl. The program is available under the GNU General Public License and is free; it is an easy-to-use web server that can serve dynamic web pages. XAMPP is an open-source PHP package developed by an open-source community. With XAMPP there is no need to install other programs because all requirements are provided by XAMPP. Some of the packages provided are Apache, MySQL, PHP, FileZilla, and phpMyAdmin (Harahap et al., 2023).

9) PHP

PHP, or Hypertext Preprocessor, is a server-side programming language that allows websites to interact with databases and generate dynamic content. PHP is a scripting language embedded in HTML and executed on the server side. This means that all the syntax we write is fully executed on the server, while only the result is sent to the browser. SQL is a relational database management system that stores the structured data of a website. By combining the PHP programming language and MySQL, we can build websites that store and display data in a structured way, such as product lists, user profiles, or news articles; provide interaction with users, such as login forms, comments, or shopping carts; and customize

website content based on user needs, such as product recommendations based on user preferences or different website displays for mobile devices (Sinlae et al., 2024).

10) HyperText Markup Language (HTML)

HTML is a readable text document that can be published on the World Wide Web (WWW), and all HTML document file names have the extension html or htm. Based on the opinions of the experts presented above, it can be concluded that HTML is a language that is very suitable for displaying information on web pages, because HTML displays information in the form of hypertext and also supports a set of commands that can be used to control how that information is displayed; as its name implies, the language uses tags to mark its commands (Tricahya, 2023).

11) Unified Modeling Language (UML)

UML is used as the main design tool, using *Use Case* diagrams to identify the functions and interactions between system users, *Class* diagrams to define the entities and attributes involved, and *Activity* diagrams to describe the flow of steps in a process. UML provides a standard for creating system blueprints, covering business process concepts, the creation of classes that can be implemented in a specific programming language, database design, and the components required in system development (Mahardika et al., 2023).

12) Entity Relationship Diagram (ERD)

An ERD is a network model that uses a data structure stored in a random system. It is used to show data objects and the relationships between those objects using entities and relationships. An Entity Relationship Diagram (ERD) is the earliest form of relational database design. An ERD usually has binary relationships (one relationship connects two entities). Some ERD design methods tolerate ternary relationships (one relationship connects three entities) or N-ary relationships (one relationship connects many entities), but many ERD design methods do not allow N-ary relationships (Mardiyati et al., 2022).

13) Waterfall Method

The *waterfall* method is the most widely used model for the development stage. It is also known as the traditional or classic model, and is often called the classic life cycle. This model provides a sequential approach to the software life cycle, starting from analysis, design, coding, testing, and the supporting stage (Anggraini et al., 2023). The stages of the method are shown in Figure 1.

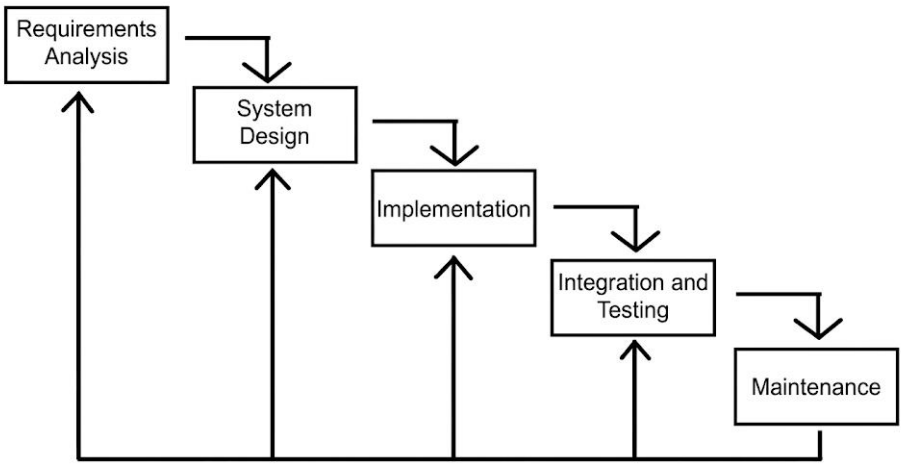

Figure 1. *Waterfall* Method

14) Testing Systems

a) User Acceptance Testing

User Acceptance Testing is testing carried out by end users who interact directly with the system, in order to verify whether the existing functions run according to the requirements. *Acceptance testing* is testing carried out by users using *black box* testing techniques to test the system against its specifications (Wahyudi & Alameka, 2023).

b) Black Box Testing

Black Box Testing is a software testing method that examines the functionality (*Functional Testing*) of an application without looking into its internal structure or performance. This testing method can be applied to almost every level of software testing, such as unit, integration, system, and acceptance (Fahrezi et al., 2022).

III. RESEARCH METHOD

A. Research Time and Location

This research was planned to run from November 2024 to April 2025 and was conducted at Kilala's Cell Counter, Jl. Abdul Gani, Malango', Rantepao, North Toraja Regency.

B. Research Tools

The tools used in this research are as follows.

1. Hardware

   A Lenovo laptop with the following specifications:

   a. RAM: 8 GB

   b. Intel Core i3 processor

2. Software

   a. Microsoft Word

   b. Windows 11 operating system

   c. Web browser

   d. Visual Studio Code

   e. XAMPP

   f. CodeIgniter framework version 4

C. Research Stages

The research stages are shown in Figure 2.

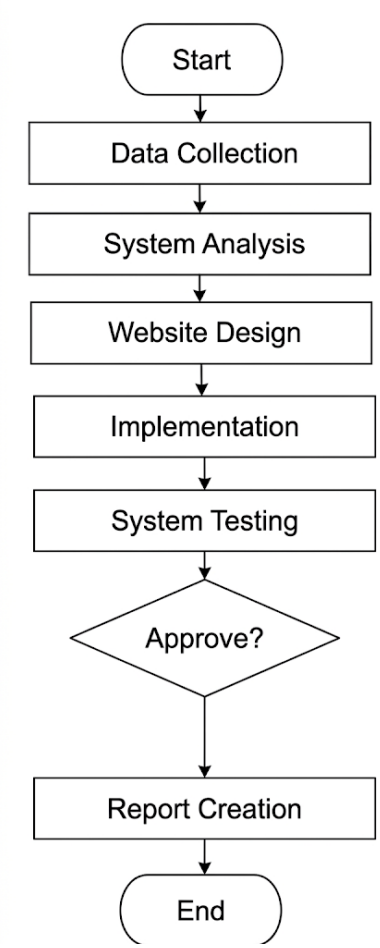

Figure 2. Flowchart of the Research Stages

IV. RESULTS AND DISCUSSION

A. Requirements Analysis

1) Functional Requirements Analysis

Functional requirements analysis is the process of identifying the core features or functions that a system must have in order to achieve its stated objectives. The following are the features of the system to be built:

a) Buyer

The following are the system features available to buyers:

1. Login feature

   In this feature, buyers must enter an account that has already been created in order to log in.

2. Dashboard feature

   After logging in successfully, buyers are directed to the dashboard page, which is the main page after login.

3. Buy Now feature

   In the buy now feature, buyers must go to the cart above the dashboard.

4. Checkout feature

   In the checkout feature, users must fill in buyer information and address information.

5. Payment feature

   This feature gives buyers the convenience of making payment transactions securely and quickly using the various payment methods available.

6. Order History feature

   In this feature, buyers can view what they have ordered.

7. Billing History feature

   In this feature, buyers are directed to the proof of payment; if the proof has not been uploaded, the status will be pending.

8. Invoice History feature

   In this feature, buyers can view the orders that are complete and verified.

b) Admin

The following are the system features available to the admin:

1. Login feature

   In this feature, the admin must log in using a predetermined *username* and *password*.

2. Dashboard feature

   This feature has several parts, namely:

   (1)Order Chart, where the admin can see unpaid and paid orders.

   (2)Incoming Orders, where the admin can see orders that have not yet been verified.

   (3)A notification icon at the top that informs the admin who is currently placing an order.

3. Product feature

   In this feature, the admin can add and delete products, and can also see what is included in each order.

4. Invoice feature

   In this feature, the admin views the proof of payment; if the proof matches, the admin confirms the payment.

2) Non-Functional Requirements Analysis

The system must be able to process payment transactions quickly, with a maximum response time of 5 seconds for each transaction made by a user.

B. Design

1) Use Case Diagram

A *use case* diagram is a diagram used to model the behavior of the system to be built. A *use case* diagram describes an interaction between actors and the system in order to understand what functions exist in a system and who can use those functions. The *use case* diagram of the developed system can be seen in Figure 3, and its description is given in Table 1.

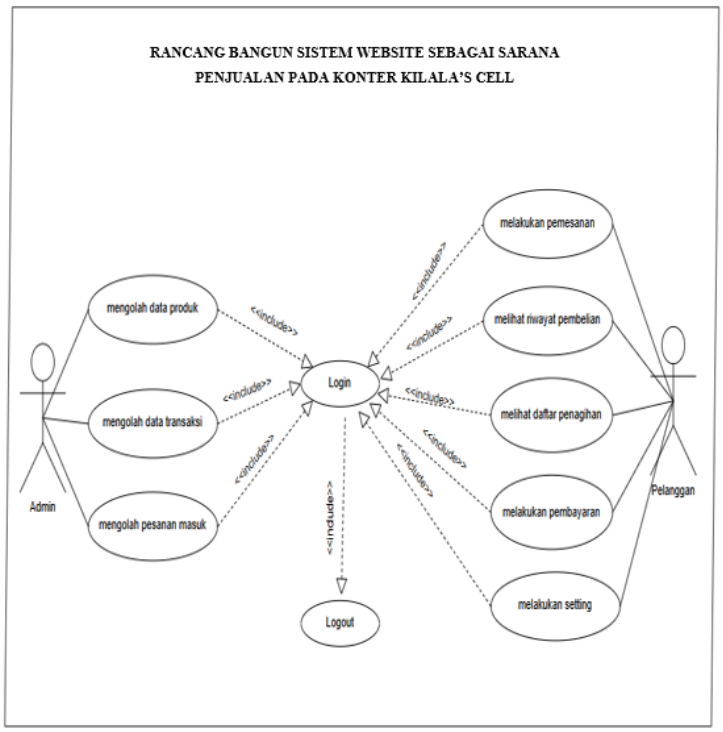

Figure 3. *Use Case* Diagram of Kilala's Cell Counter

Table 1. *Use Case* Descriptions of the Menu Ordering Information System

No	*Use Case*	Description
1	Login	A function to authenticate users who have access rights to enter the system.
2	Manage product data	A function to display, add, and delete product data.
3	Manage transaction data	A function to display and confirm payments.
4	Manage incoming orders	A function to display customers who order products.
5	Place an order	A function to place a product order.
6	View purchase history	A function to view products that have been verified.
7	View billing list	A function to see whether a product has been verified or not.
8	Make a payment	A function to make payment for the products to be purchased.
9	Configure settings	A function to update the profile.

2) Login Activity Diagram

The *activity diagram* of the login process is shown in Figure 4 and described in Table 2.

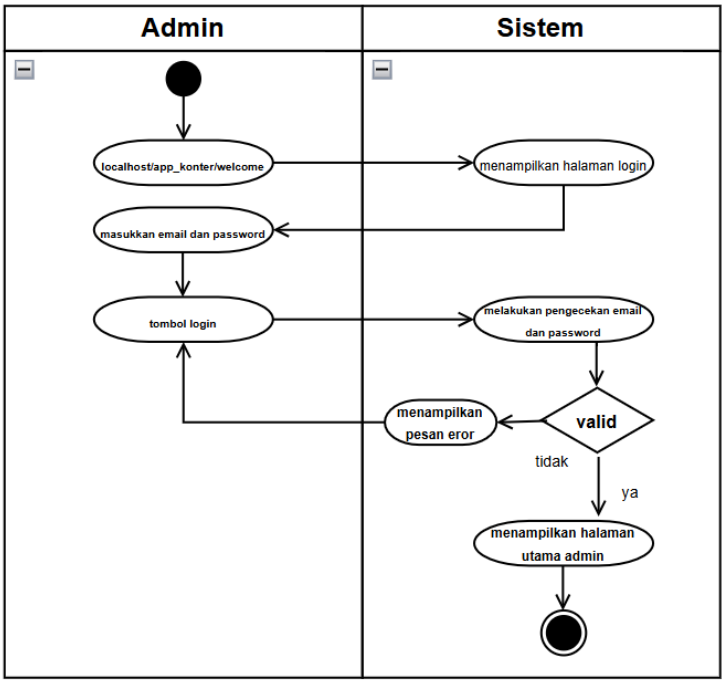

Figure 4. *Login Activity Diagram*

Table 2. Description of the *Login Activity Diagram*

No	Activity	Description
1	Open the *browser* and visit the system URL	The admin opens the *browser*, then visits the URL of the system.
2	Display the *login* page	The system displays the *login* page.
3	Enter *email* and *password*	The admin fills in the *login form* by entering the *email* and *password*.
4	*Login* button	The admin clicks the *login* button.
5	Check *email* and *password*	The system checks the *username* and *password*. If they are valid, the system displays the home page of the system; if they are not valid, the system displays an *error* message and returns to the *login* page.
6	Display the admin main page	The system displays the admin main page.

3) Use Case Scenario

The scenario of the login *use case* is presented in Table 3.

Table 3. *Login Use Case* Scenario

Identification	
***Use Case* Name**	Login
Actor	Admin
Description	Performs user authentication
Initial Condition	The *login* page is displayed
Actor	**System**
Normal Scenario	
1. Display the login page 2. Enter the *username* and password	
	3. Validate the *username* and *password* entered 4. If they are correct, proceed to the home page of the system

Alternative Scenario (If Failed)	
1. Display the *login* page 2. Enter the *username* and *password*	
	3. Check the *username* and *password* entered 4. If the authentication process fails, an *error* message is displayed
5. The actor repeats the login process	
Final Condition	Successfully opens the home page of the system

4) Sequence Diagram

The *sequence diagram* of the login process is shown in Figure 5 and described in Table 4.

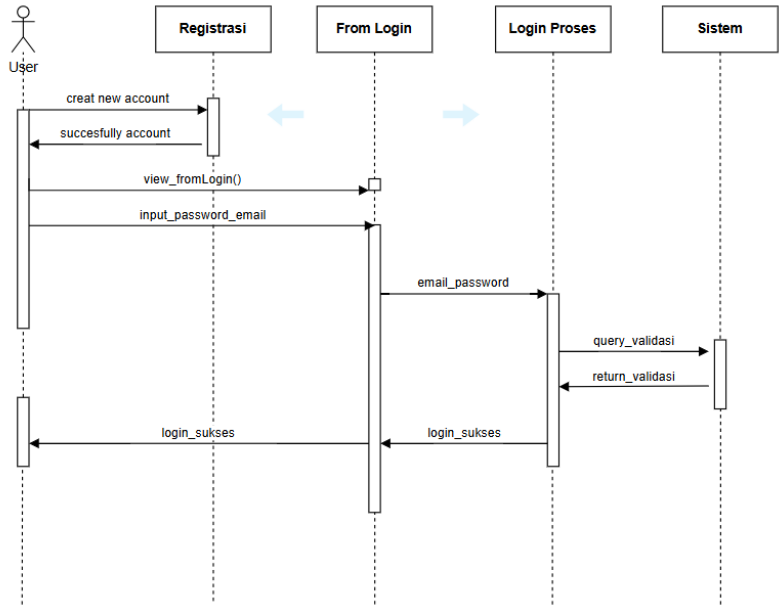

Figure 5. *Login Sequence Diagram*

Table 4. *Login Sequence Diagram*

Sender	Receiver	Message/Interaction	Description
1. *User*	*Registrasi*	*create new account*	The user creates a new account.
2. *Registrasi*	*User*	*successfully account*	The system confirms that the account was created successfully.
3. *User*	*From Login*	*view_fromLogin*	The user opens the login page.
4. *User*	*From Login*	*input_password, email*	The user enters the email and password.
5. *From Login*	*Login Proses*	*email_password*	The login data is sent for processing.
6. *Login Proses*	*Sistem*	*query_validasi*	The system validates the data.
7. *Sistem*	*Login Proses*	*return_validasi*	The validation result is returned.
8. *Login Proses*	*From Login*	*login_sukses*	The login is processed successfully.
9. *From Login*	*User*	*login_sukses*	The system displays a successful login status.

C. Database Design

The database design is shown in Figure 6, and the structure of each table is described in Tables 5 to 8.

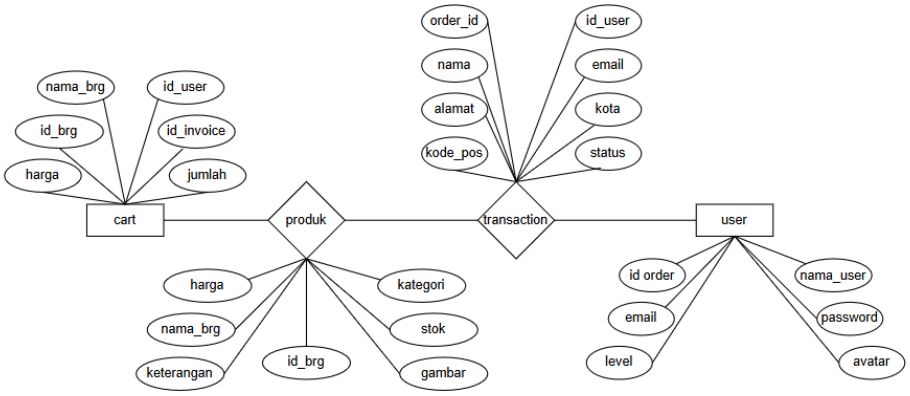

Figure 6. Database Design

Table 5. Structure of the User Table

No	*Field*	Data Type	*Length*	Description
1	id_user	integer	11	*Primary key*
2	Nama_user	varchar	255	User name
3	Email	varchar	255	User email
4	password	varchar	255	User password
5	Level	varchar	255	Level
6	Avatar	text		User photo

Table 6. Structure of the Product Table

No	*Field*	Data Type	*Length*	Description
1	Id_brg	Int	11	*Primary key*
2	Nama_barang	Varchar	255	Product name
3	Keterangan	Varchar	255	Product description
4	Kategori	Varchar	60	Product category
5	Harga	Int	11	Product price
6	stok	Int	4	Product stock
7	Gambar	Text		Product image

Table 7. Structure of the Cart Table

No	*Field*	Data Type	*Length*	Description
1	Id	Int	11	*Primary key*
2	Id_user	Varchar	25	User ID
3	Id_invoice	Varchar	30	Invoice ID
4	Id_brg	Int	11	Product ID
5	Nama_brg	Varchar	255	Product name
6	Jumlah	Int	3	Quantity of products
7	Harga	Int	10	Product price

Table 8. Structure of the Transaction Table

No	*Field*	Data Type	*Length*	Description
1	Oerder_id	Char	30	Primary key
2	Id_user	Varchar	5	User
3	Name	Varchar	255	User name
4	Email	Varchar	255	User email

No	*Field*	Data Type	*Length*	Description
5	Alamat	Varchar	255	User address
6	Mobile_phone	Varchar	15	Phone number
7	City	Varchar	255	User city
8	Kode_pos	Varchar	100	Postal code
9	Payment_method	Varchar	100	Payment method
10	Ekpedisi	Varchar	100	Shipping service
11	Tracking_id	Varchar	30	Tracking number
12	Transaction_time	Detetime		Transaction time
13	Payment_limit	Detetime		Payment deadline
14	Status	Varchar	2	Order status
15	Gambar	Text		Upload of proof of payment

D. Database Implementation

The implementation of the user table in the database is shown in Figure 7.

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
☐	1	**id_user** 🔑	int(11)			No	*None*		AUTO_INCREMENT	Change Drop More
☐	2	**nama_user**	varchar(255)	utf8mb4_general_ci		No	*None*			Change Drop More
☐	3	**email**	varchar(255)	utf8mb4_general_ci		No	*None*			Change Drop More
☐	4	**password**	varchar(255)	utf8mb4_general_ci		No	*None*			Change Drop More
☐	5	**level**	varchar(255)	utf8mb4_general_ci		No	*None*			Change Drop More
☐	6	**avatar**	text	utf8mb4_general_ci		No	*None*			Change Drop More

Figure 7. Implementation of the User Table

E. Interface Implementation

The main page and the login page of the system are shown in Figures 8 and 9.



Figure 8. Main Page

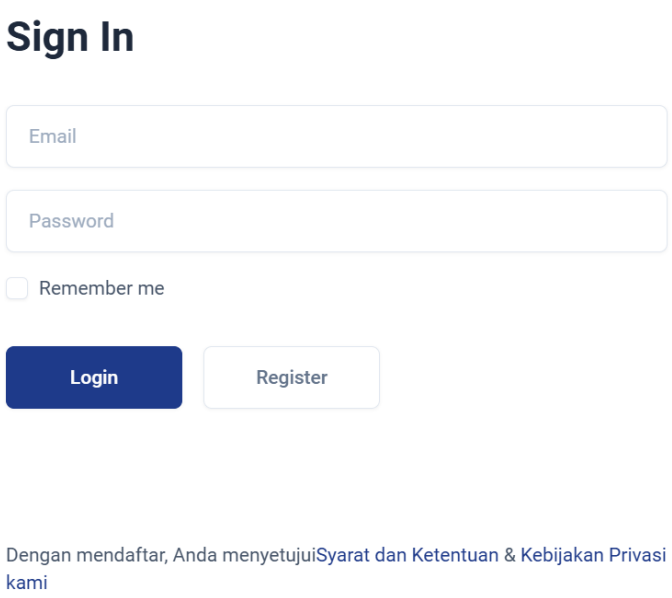

Figure 9. Login Page

F. Testing

1) Black Box Testing

Black box testing is a software testing method in which the tester does not know the internal structure or implementation of the system being tested. The tester only focuses on the input and output of the system. In the *black box* testing, the home function, buttons, login, the function to add products, edit data, and delete data were tested. The result of the *black box* testing is whether or not any errors occurred; the results can be seen in the appendix.

2) User Acceptance Testing (UAT)

UAT was carried out by distributing questionnaires to customers who visited Kilala's Cell Counter in order to find out the customers' responses to the system that had been built and whether it met the criteria for successful system implementation. This test involved 20 respondents from among the customers of Kilala's Cell Counter, with the UAT results assessed using five weighted value categories, namely SA (Strongly Agree) = 5, A (Agree) = 4, F (Fair) = 3, D (Disagree) = 2, and SD (Strongly Disagree) = 1. From the questions given, the data were analyzed using the Likert scale model, which is a scale used to measure a person's opinion about an event or phenomenon determined by the researcher.

G. Discussion

A counter is a small business that provides sales services as well as other digital services such as balance top-ups and electricity tokens. This type of business is very common in many regions because it provides convenience and speed of service to the public in meeting their communication needs. As it has developed, counter management is no longer done manually. Many counter owners have begun to use web-based or application-based sales systems to help record transactions, manage stock, print sales receipts, and compile daily and monthly sales reports. This digital system greatly helps improve recording accuracy, reduce the risk of data loss, and make it easier to monitor the business. One example of a counter that implements this system is Kilala's Cell Counter. In an effort to improve efficiency, this counter built

a web-based sales system that can be used by the admin to manage product data, carry out transactions, print receipts, and view sales reports. Before the system is used fully, a trial stage is carried out by end users, called *User Acceptance Testing* (UAT). UAT is carried out to ensure that all features in the system match the needs and run as they should. Testing is carried out based on real usage scenarios, for example logging in, adding products, and deleting products. If all features work as expected, the system is declared fit for use. However, if errors are found, the developer fixes them before re-testing. With the implementation of this digital system, counters such as Kilala's Cell Counter can operate in a more structured and professional manner. The use of technology helps businesses such as counters compete and grow in the digital era.

V. CONCLUSION AND SUGGESTIONS

A. Conclusion

Based on the results of the research that has been conducted using the Waterfall system development method, it can be concluded that the web-based product ordering information system that can be accessed by customers of Kilala's Cell Counter is able to optimize the ordering process. The results of functional testing of the system using the Black Box Testing method show that all system functions run properly without any errors, with a success rate of **99%**. Furthermore, user acceptance testing using the User Acceptance Test (UAT) method obtained a success percentage of **89.75%**, which indicates that users strongly agree with the implementation of the system. Thus, this web-based information system is considered feasible to use as a product ordering medium by customers of Kilala's Cell Counter.

B. Suggestions

Based on the research results obtained, the author offers two suggestions for the future. First, for further system development, the system can be developed as a mobile application so that it can be accessed with a *smartphone*. Second, the sales information system at Kilala's Cell Counter can be developed further so that it can be accessed online.

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