WIKEN CAKES WEBSITE:
A SOLUTION TO CUSTOMER PROBLEMS

Michelle Naomi Yoan Vanessa S.[1], Tony[2], Novario Jaya Perdana[3]

[1,2,3] Department of Information Systems, Faculty of Information Technology
Universitas Tarumanagara, Jalan Letjen S. Parman No. 1 Grogol, Jakarta, Indonesia
Email : michelle.825200079@stu.untar.ac.id [1], tony@fti.untar.ac.id [2], novariojp@fti.untar.ac.id [3]

ABSTRACT

Wiken Cakes is a cake shop located in Bekasi, West Java. Currently, Wiken Cakes still applies conventional methods in carrying out its business processes. Starting from collecting product data only by writing it down in a notebook, product promotion only by word of mouth, the ordering process only via WhatsApp one by one, there are no invoices as proof of orders from customers and buyers. total costs and calculation of estimated courier costs just by using a calculator. As a result, there are many problems in the system that hinder product sales, and even cause losses for the shop. By looking at the existing problems, the idea arose to create a system design. The system design displays features that suit the seller's needs. However, because there is a lot of competition between cake shops entering the e-commerce business, Wiken Cakes has come up with a website that can help with customer problems, such as providing a sugar reduction feature for customers who are following a diet program. As well as matching color displays to match the cake with the customer's decorations or dress when celebrating the event. Website design uses HTML, CSS, PHP and Javascript programming languages. Users will carry out system testing. Users who test the system are divided into two, namely customers who will test the main website, and sellers who will test the admin dashboard. After passing testing and recording evaluations, this website was declared useful and easy to use.

Keywords*: cake shop, website, custom cake, matching colors, easy to use*

1. Introduction

Nowadays, the business needs technology development in supporting business progress. This condition encourages the emergence of other types of businesses or businesses that refer to E- commerce. With the existence of E-commerce, it is very easy for several parties, including sellers, customers and the community in conducting buying and selling transactions in the business process. In the business process, the seller finds a promising new revenue stream, where the revenue stream moves away from the conventional way. In addition, sellers can also increase market exposure, because it can facilitate product promotion in an efficient way. In addition to having a positive impact on sellers, this business process has a very positive impact on customers, one of which makes it easier for customers to make more flexible purchase transactions. However, because many people are flocking to involve their business processes in E-commerce, currently there are many competitors who run businesses selling the same products so that business competition is very strong.

By reviewing these things, Wiken Cakes is here to enter the business sector starting in 2020. Wiken Cakes sells a variety of cakes with different types, ranging from tarts, wet cakes to pastries

The types of cakes follow the needs of customers in each season or celebration. For example, in the celebration of Christmas or Eid al-Fitr, Wiken Cakes sells products such as pastries, and tarts. Wiken Cakes also provides ready stock cake sales products, where

customers can order on the same day if they need a cake suddenly. In addition, Wiken Cakes also pays attention to customer desires by providing examples or cake designs according to customer desires.

Currently Wiken Cakes still uses conventional methods in its business processes. As a result, there are many problems in the system that hamper product sales, even cause problems in the store, such as the obstruction of the sales process due to the sinking of the chat of customers because the seller's cellphone gets a full storage notification or the slow process of calculating financing so that all business processes run inefficiently. By looking at the existing problems, the seller needs a sales system design. The design of the sales system can help sellers in making online sales based on a website, where the website contains features that facilitate the sales process.

However, many cake sellers are potential competitors of Wiken Cakes in this E-commerce business process. Therefore, Wiken Cakes comes with a website that focuses on customer needs. Currently, there are many customers who are following a diet program or reducing sugar to avoid disease. It causes the customer to think twice to attend the cake in the celebration process. Therefore, the website system will display options that customers can choose by reducing the use of sugar or even increasing the use of sugar in the cake content. Apart from that, this website system also displays match colors, where colors that match the cake will appear to make it easier for customers to choose the color of clothes, suit colors or even decoration colors that must match so that the colors still blend with the cake. That way, the resulting photos will show a beautiful celebration.

Customers can buy products by logging in first. After that customers can see product details and checkout the product. The ordered products will be entered into the admin dashboard for further processing. Increased and decreased stock can also be processed on the admin dashboard. Next, the system will provide a payment receipt according to the user's order.

2. Related works

Irmayani *et al*. [1] developed a website-based system design which aims to increase sales promotion by creating a website as a medium for selling bread and cake products. This website was using the classic life cycle or waterfall method. This website has differences with the design of cake sales at Wiken Cakes shop, namely the absence of seller contact for discussions between sellers and customers. In addition, there is no container that accommodates custom cake requests or cake flavor requests.

Khairani [2] created a similar website-based design to show an increase in turnover by creating a website as a media for selling products. This website used the classic life cycle or waterfall method. It had a difference with the design of cake sales at Wiken Cakes shop, namely this website requires all customers to become members first before ordering cakes. Meanwhile, Wiken Cakes website requires login and account registration.

Dewi [3] built a system web-based design to help the traveling sellers in increasing sales. This website was using the Rapid Application Development (RAD) method. This method is different from our work which uses the waterfall approach.

Setiawan and Wijanarko [4] developed a web design through a case study. The website can help sales in terms of promotion and make it easier for customers to choose products online. This website was using the classic life cycle or waterfall method. This website has differences with the design of cake sales at the Wiken Cakes shop, namely the absence of seller contact for discussions between sellers and customers. In addition, there is no container that accommodates customer custom cake requests or customer cake flavor requests.

Trisnawarman *et al*. [5] produced an E-commerce application for small businesses. The web-based E-commerce applications can help MSMEs grow in increasing business
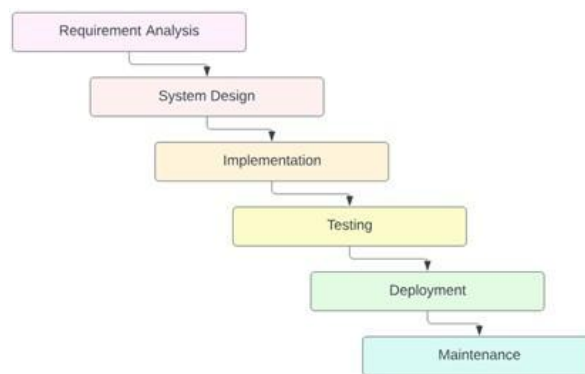
transactions. This website used the prototype method where between developers and users there is direct interaction with the model. This method is different from our work which adopts the waterfall method.

Further, Adrian *et al.* [6] design a goods inventory system and online sales website. This website can help the process of sales, purchases, returns and setting the amount of product inventory and time estimation by changing the manual inventory system to a computerized system. This website used the classic life cycle or waterfall method. It has a difference with our work that provides a place for product returns.

Farras *et al.* [7] built a web-based system design to help make predictions of stocking goods to reduce the sales budget. This website applied the Double Exponential Smoothing (DES) method.

3. Research Method

Using the waterfall methodology, all projects have a detailed and phased or sequential plan before the project starts. When the project starts, all activities move downward constantly likea waterfall. This method ensures that no processes are missed and optimizes all activities [8]. This method is set with a careful plan at the beginning, there is even an estimate of the time

Figure 1. SDLC Waterfall Method [8]

that will be run in the future. The process of designing a web-based sales information systemat the Wiken Cakes store has a process as in **Figure 1**.

At the requirements and analysis stage, to analyze user needs it is necessary to conduct interviews with sellers. The interview contains the seller's business goals to find out the future direction of the business, the seller's needs regarding website features and appearance, as wellas data in design such as product variations and product inventory. Interviews also focus on user needs according to the feedback the seller gets from customers. This is necessary to help consider future features by focusing on customer feedback.

At the system design stage, use a system planning overview, such as creating a website appearance first. There is a workflow diagram concept to help understand and plan the flowof the website by creating an Entity Relationship Diagram (ERD), Use Case Diagram, Activity Diagram, Sequence Diagram, and Class Diagram. This can help users understand the flow of the website with a brief diagram.

The next phase focuses on system improvement and development. Development in sales website design improves the initial design into a more optimal design. Design using Visual

StudioCode with the programming language HyperText Markup Language (HTML), Cascading Style Sheets (CSS), Javascript and Hypertext Processor (PHP). The admin manages all incoming and outgoing data using MySQL via XAMPP by storing it on localhost. save it on localhost.

After that, to ensure the program runs smoothly, the developer will carry out testing. This is useful for avoiding overall design errors or bugs. Additionally, developers can also learn about specific issues to avoid future problems.

Finally, the developer will continue to maintain and improve website performance in the maintennace phase. The maintenance process can go through 3 (three) phases, including Corrective Maintenance, Adaptive Maintenance and Perfektive Maintenance. The developer will carry out regular maintenance to ensure the website continues to run optimally by focusing on these 3 (three) phases [9]. This can ensure that the website avoids errors, remains competent with new versions, and ensures the optimization of previously built code.

4. Results and Discussion
4.1. Requirement and Analysis
At the initial stage, the seller is willing to conduct an interview. This interview serves to clearly know the seller's wishes and analyze customer needs according to the feedback that the seller got before. This helps to make the design easier and in accordance with the user's wishes. The results of the interview are in the form of detailed information about the product. The seller also shared his sales experience for approximately 3 (three) years using the business to customer model. So these cakes have a direct sales target to customers with a target audience of all groups, both children and adults. This website is useful for helping facilitate sales systems such as the purchasing process, product management process, product promotions, and clarity of product information with content such as product prices, about stores, delivery processes, product invoices, and customer feedback. The seller also has a product marketing plan via social media, where the website link will be in the bio of all platforms, using email by distributing the website link, and offline marketing by including the website link in the brochure. There are many complaints such as long chat replies and unclear product information. This is because it is difficult to see customer requests and customer questions because the chat room for purchases and questions becomes one.

After conducting the interview, the author will create a planning document and create a schedule for each phase that will occur. This makes it easier for the system creation process to run smoothly and efficiently. After that, the author also prepares the risks that will occur to prevent these things from happening. If these risks occur, the author prepares things that can be done to prevent existing risks.
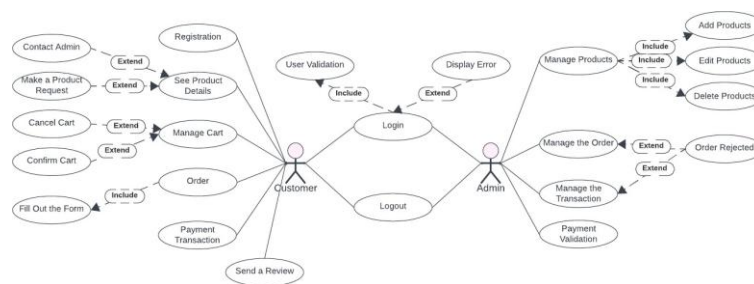
4.2. System Design
At this stage the system architecture uses design with the Unified Modeling Language (UML). In general, UML clearly defines conceptual components such as actors, business processes, system components and system activities [10]. At this stage, use case diagrams, activity diagrams and sequence diagrams function to support process design, as well as class diagrams, conceptual databases and logical databases to support database design. Diagrams have different views of a system, by explaining various aspects of the system's running process [10].
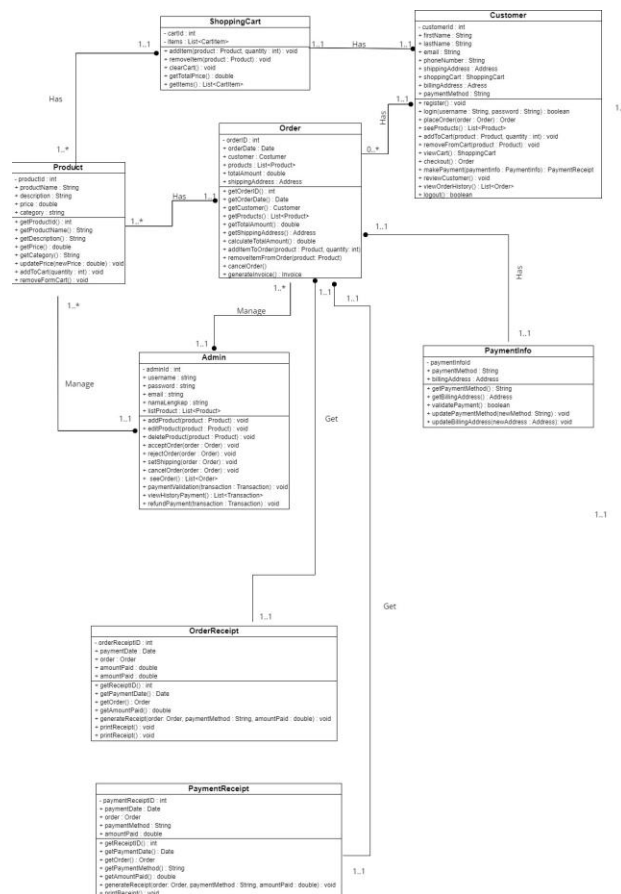
Process design using use case diagrams by explaining the functional requirements of all software. Use case diagrams can be useful for understanding how a system works, by taking the user's perspective. In its design, the use case diagram involves 2 (two) actors, namely the admin as the seller and the customer as the customer [11]. **Figure 2** shows our use case

diagram.

Database design using class diagrams that explain a specification and installation producesthe core stages of object-oriented development and design. Use case diagrams can be useful for understanding how a system works, by taking the user's perspective. Class diagrams have attribute descriptions as well as offering service manipulation methods or functions. The class

Figure 2. Use Case Scenario.
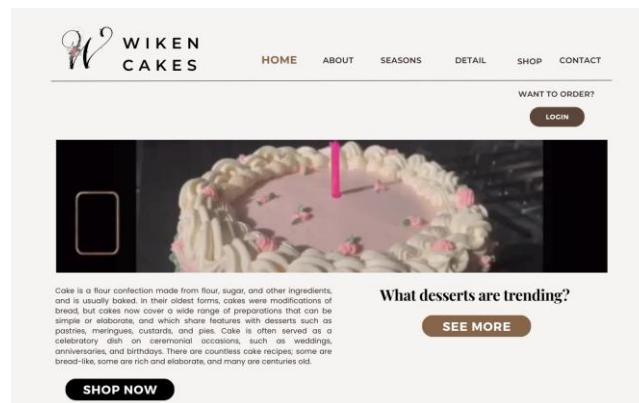

Figure 3. Class Diagram.

diagram also has a structural overview and description based on each class. These classes are usually related to each other, such as holding, association, or inheritance [12]. Class diagram
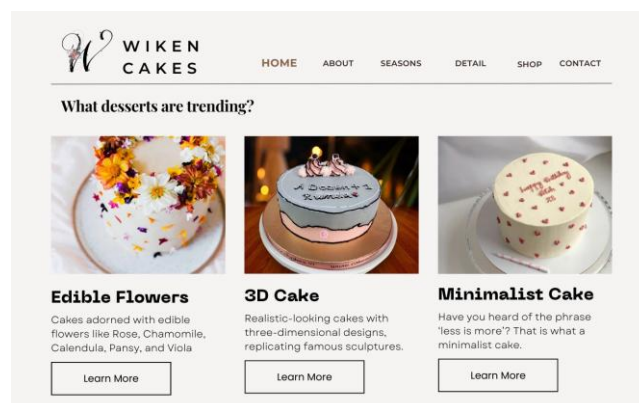
is shown in **Figure 3**.

4.3.   Implementation
The design of this website has aspects such as the following:
(i)   Computer or Laptop: Multicore processor and at least 8 GB RAM.
(ii)   Input Device: Keyboard or Mouse to help write code and run all designs.
(iii)   Code Editor: Visual Studio Code to help write and develop code.
(iv)   Website Hosting: InfinityFree.
(v)   Programming Language: HTML, CSS, Javascript, PHP written in Visual Studio.
(vi)   Database Management System (DBMS): MySQL to accommodate the data inputted by user input.
(vii)   Web Server: XAMPP as a local web manager on the computer.
(viii) Browser: Google Chrome, Mozilla Firefox, Microsoft Edge, or Opera.
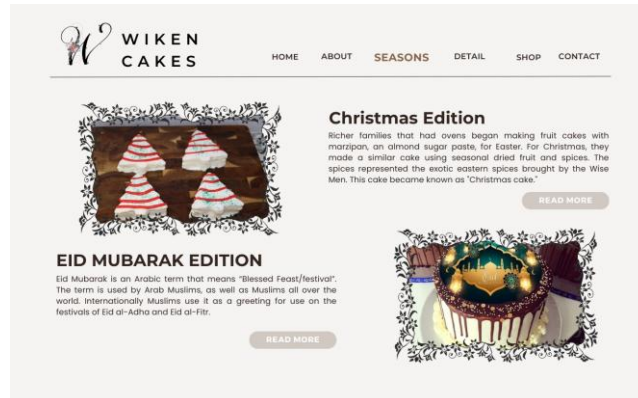

Figure 4. Main Page.

Figure 5. News Page.

Figure 4 illustrates the cake sales design. The image displays the main page of the website which contains a "shop now" button to place an order. However, ordering can be done by loggingin first for customers who already have an account. For customers who don't have any account, they must go through the account registration process so they can log in.
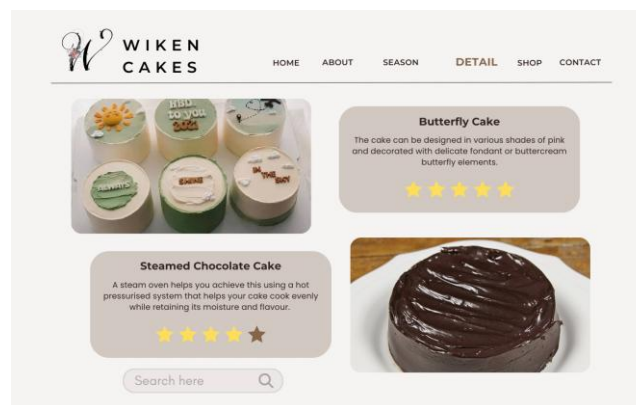
On the main page of the website, there is a "see more" button that can connect to certain trending dessert websites as shown in the figure 5. Trending dessert will always display the latest news

so that customers can consider buying cakes with trending cakes. So, the website can help customers if they want to order a cake but don't have a definite idea about the design or shape of the cake. After that, customers can immediately order the cake according to their wishes.

Figure 6. Season Page.

Further, this design also focuses on holidays, where all customers usually order cakes on these holidays. This design focuses on displaying the cake on a special feature as shown in the Figure 6. This can attract customer attention and enable customers to order cakes long before the holiday, the website always displays the cake. Apart from that, customers can also see all the cakes with the most feedback from other customers who have placed orders as shown in **Figure 7**.
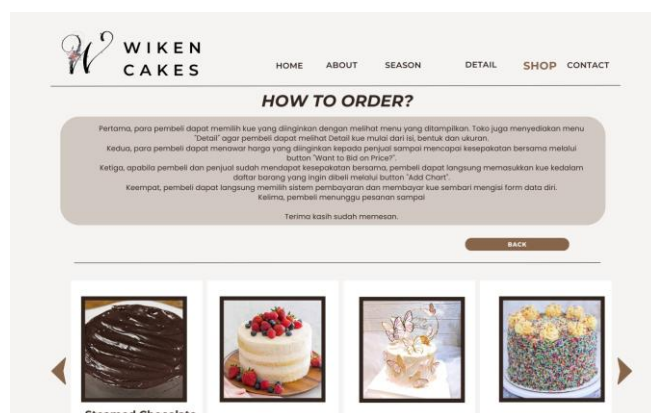

Figure 7. Feedback Page.

For customers who do not understand how to order, this website displays an explanation of how to place an order with an additional translate feature as shown in **Figure 8**. So, if parents want to do a surprise by buying a cake secretly for their child, they can follow the written order flow without having to ask their child. If customers need a clearer explanation, they can directly contact the seller via WhatsApp in our website.
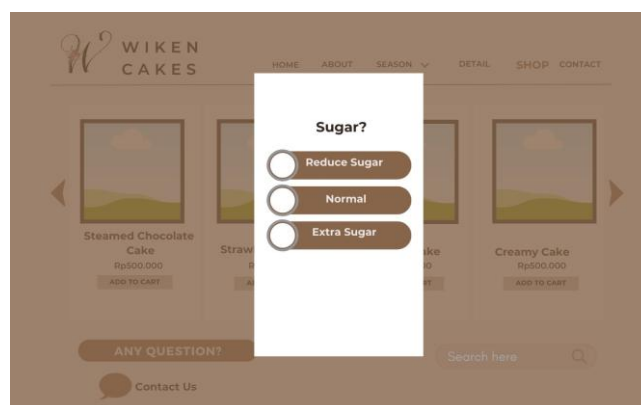
Customers who want to have a cake with their own design can also request a design by ordering it in the custom cake section. The buyer must fill out the form by uploading the design and wait for the seller's approval. After that, customers can also request a reduction or even addition of sugar as shown in the Figure 9 if customers are doing a certain routine program. This can allow customers to get cakes with sugar that can be reduced or increased

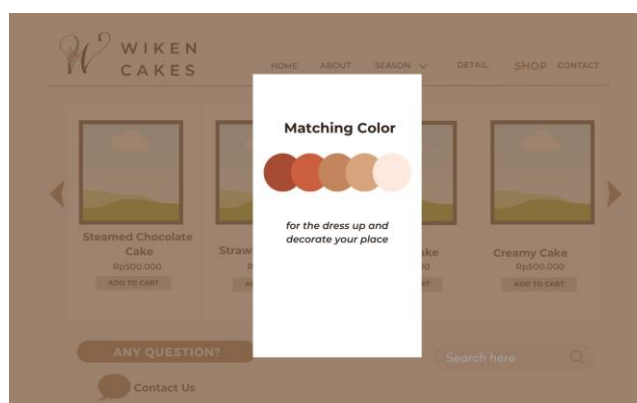according to request, but is still delicious.

Figure 8. Translate Feature.

Figure 9. Request Customer Feature for Sugar.

The focus of teenagers is to get a photo with the right color result, but it is difficult to adjust it. The website displays colors that match the product as shown in **Figure 10**. The colors consist of colors that match the color of the cake and are suitable as part of the event decoration or clothing worn. This can also make it easier for teenagers to match the theme.

Figure 10. The Matching Color for The Cake.

The admin will manage all products that appear on the website via the admin dashboard, where the dashboard can delete, add or edit the products you want to display on the website. Sellers can also easily see the overall results of customer orders.In addition, sellers can also easilycontact customers by viewing customer information by filling out the form beforehand. This way the website can run according to the correct flow.

4.4. Testing

After the website is designed, thorough direct testing with users is carried out on the website that has been built. This is done to ensure that the website created does not have bugs or errors. Apart from that, this also serves to confirm with the user that this website has met the user's desires and needs. The testing method used is black box which is based on testing through observing the input or output of the website to be tested without knowing the script code. The tests carried out had black box results on the Wiken Cakes website with recorded results as in **Table 1.**

Table 1. The Result of Testing

Feature	Action	The Result	Status
Registration	Register	The system displays a registration form and the user successfully logs in with the newly created account	Success
Login	Login with a customer account	The system displays a login form and the user successfully enters the customer's main website	Success
	Login with an admin account	The system displays a login form and the user successfully enters the admin dashboard	Success
Detail Product	View product details	The system displays details of each product	Success
Stock Product	Add, Edit, Delete Product	The system can save products that are added, edited or deleted on the admin dashboard and display them in the previous page table	Success
Cart	Add and Delete products in the basket	The system can store products adding and deleting products Unfinished items are added to the basket	Success
Checkout	Save order data	The system can store and display the payment amount for products according to the order	Success

Feature	Action	The Result	Status
Nota	Displays the results of product purchases	The system can display products purchased along with the payment amount which has been done	Success
Shopping History	Showing all purchase history	The system can display the entire purchase history as well as purchase and payment status	Success
Report Order	Displays all orders that needs to be processed and sent	The system can display all orders with customers who different along with the payment status	Success
Payment Input	Entering evidence payment	The system displays a form for filling in payments that have been made and payment status will change	Success
Input Delivery Status	Entering updates delivery status	The system will display details payment and a form containing product delivery status	Success
Logout	Logout from a customer account	The system has successfully logged out the user	Success

4.5. Conclusion

The Wiken Cakes website is here to help customers buy cakes online at the Wiken Cakes shop. This website has special benefits, especially for customers who have several requests such as reducing or adding sugar, choosing colors that match the cake, or cakes that have designs that come from customers. This website design flow starts from creating UML diagrams to support process design and database design. Apart from that, this website also helps sellers to make it easier to manage the products that will appear on the website. This design helps sellers to do business by switching from conventional methods to more advanced methods. The system gets good feedback from users through the black box testing method.

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