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Prototype of laundry status tracking information system using codeigniter framework

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Abstract
Laundry is a business in the service sector that offers clothes washing services. The tracking system at laundry outlets currently still uses a manual tracking system. The laundry status tracking information system is a system that can make it easier for laundry service users and computerized laundry service business owners. This system can facilitate the process of laundry activities in providing information on the status of laundry to customers. This laundry status tracking information system is built with a codeigniter framework as a framework and uses the SDLC (Software Development Life Cycle) method. Codeigniter is a framework for developing a web-based application with the PHP programming language which aims to speed up the process of making web-based applications by utilizing the provided libraries. The results of the laundry status tracking application prototype have a feature to send messages directly to WhatsApp when the laundry status changes. Order data will be inputted first into the application. The expected result of this application is that the laundry service business transaction process can run more practically and quickly so that it can make it easier for customers to track the laundry process and make it easier to manage data and laundry services.

Keywords: Laundry, tracking, whatsapp

1. Introduction
The high busyness of the community, especially in places such as offices, factories and universities, causes difficulties in completing household work, especially in washing clothes. Washing clothes is one of the daily jobs that must be done for some people. According to (Melany *et al*., 2018) [6], modern humans have a characteristic with a lifestyle that is practical and fast, one of which is washing clothes. In a family washing is a routine activity that must be done.

Laundry is a business in the service sector, namely washing services for clothes, shoes and others. Laundry is a business that helps many people in washing. People who are highly busy (workers), students and housewives who do not have time to wash feel the benefits of having a laundry (Hoesen & Manik, 2019) [4]. According to Melany *et al*. (2018) [6], from time to time, the laundry business is increasingly popping up. This shows that the demand for laundry is increasing. In addition, according to Susanti *et al*. (2019) [8], businesses in the service sector are currently growing very rapidly, mainly laundry and maintenance businesses.

Currently, the laundry status checking and recording system is still done manually. The manual recording system using this book is very inhibiting in the laundry data processing process, and the level of accuracy in making financial reports is still less accurate. In the process of making financial reports, it will also be more complicated because you have to add up transactions manually, not to mention if there are transaction reports that are tucked away or lost, so it will be difficult to distinguish between those who have paid and those who have not paid. When a customer asks how far the laundry process is going, they have to check one by one and have to answer one by one to the customer. In terms of customer efficiency, it is still not good and does not respond quickly because customers have to ask via messages or have to come to the location to find out the laundry process. According to (Ponorogo, 2021) [7], the process of recording transactions manually is considered ineffective because it is prone to errors and takes a long time, while the use of computer-based information technology can facilitate data collection by accelerating data collection, accelerating calculations and also facilitating data storage.

The application of information technology in the laundry status tracking system in this digital era is needed to make it easier for laundry business actors to record financial reports

and make it easier for customers to check the laundry process. A laundry status tracking information system can be created using the SDLC (Software Development Life Cycle) method. According to Gajhalaksmi (2016) [3], SDLC is a series of stages used to create a software application. The SDLC method has advantages such as being easy to understand, easy in preparing assignments, processes and results are well documented, each phase has a specific review, and the resulting quality is good. According to Dora & Dubey (2013) [2], the SDLC method has several stages, namely requirements analysis, design, coding, testing, installation and maintenance. The SDLC method has many types, including waterfall, prototype, agile, fountain and many more. However, in this study using the SDLC method with a prototype type.

The framework used in making this laundry status tracking software application is the codeigniter framework. According to Afuan (2010) [1], the use of the framework aims to facilitate the creation of applications quickly and maintain flexibility. According to Jahagirdar & Puranik (2018) [5], Codeigniter is an application development framework or can also be called a tool for web-based application developers with the PHP programming language. The goal is to speed up the process of making web-based applications by utilizing the provided libraries.

Making a laundry status tracking information system aims to make it easier for laundry business owners to record and record transaction data, income and expenses. In addition, this system also aims to make it easier for laundry customers to check the status of laundry laundry. With this laundry status tracking information system, it is hoped that the laundry business will be more modern and easier to manage laundry data.

2. Method

2.1 Tools and Materials

The tools and materials used in this research are the V Scode text editor for the application script code process, the Laragon web server for the application creation process and application testing on the local server, Draw.io, and the browsers used are Google Chrome and Microsoft Edge.

2.2 SDLC Method

In making this laundry status tracking information system using the Software Development Life Cycle (SDLC) method. There are 5 stages in the SDLC method, the stages are as follows:

1. Analysis

The analysis phase was carried out by collecting data, identifying problems and studying literature. This stage was passed through discussions, interviews and by observing the laundry actors.

2. Prototype Development

The prototyping process goes through the system flow design process starting from the data input process flow from the admin (laundry owner) to tracking the laundry status (laundry customers).

3. Prototype Evaluation

Evaluation of the prototype is carried out in order to review the flow of the system that has been made, this is done by carrying out a small engineering transaction.

4. System Development

Making the system is done after the evaluation of the prototype is complete, making the system is done by translating the system flow into program code so that a system is formed.

5. System Testing

Testing the system, after the system was created, a trial was carried out to try all the features of this system, from inputting laundry transaction data to the laundry status tracking process.

6. System Evaluation

System evaluation, after the test is complete, the system evaluation is carried out by looking at the feature-by-feature constraints on the system.

7. Instalation and Maintenance

After the test is complete, the evaluation of the system is carried out. After all is complete, the system is ready for mass use or ready for publication. Maintenance is carried out so that the system always runs well, then maintenance is carried out by monitoring the server and evaluating the system by looking at feature-by-feature constraints on the system.

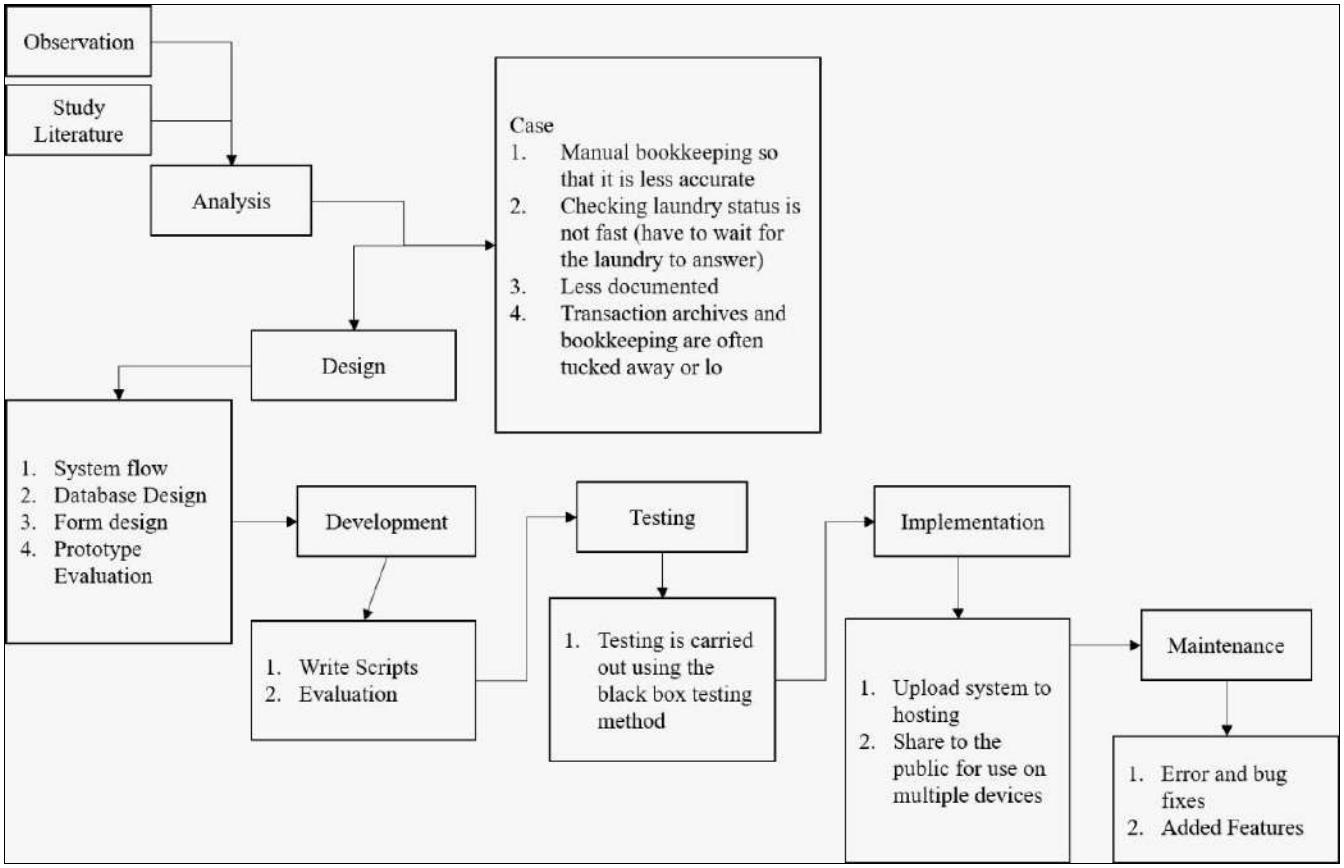

Fig 1: Framework

3. Result and Discussion

The laundry status tracking information system application has been successfully designed using the SDLC method and the codeigniter framework. In this application, customers can track the status of laundry using an invoice number or scan a QR code. This laundry tracking system can help streamline customer time and make it easier for customers to review laundry status.

3.1 System Planning

Design is the step of the description of a system that will be made. The purpose of doing a design that is used to provide a more detailed picture for users of the system to be built and provide a complete design with a function as a guide for the author in building this system. In this study, the author will design and create a design and flow regarding the process of the laundry status tracking system. There are several designs that will be carried out including: flowchart design, activity diagram design and sequence diagram design.

3.1.1 Flow Chart

The flowchart design is carried out in the early stages of making the application. Flowcharts to make it easier to know the flow of the system so that it can help simplify system planning. Flowcharts are often used to help understand how a process is going and can organize a process more systematically. The flowchart of the laundry status tracking application can be seen in Figure 2.

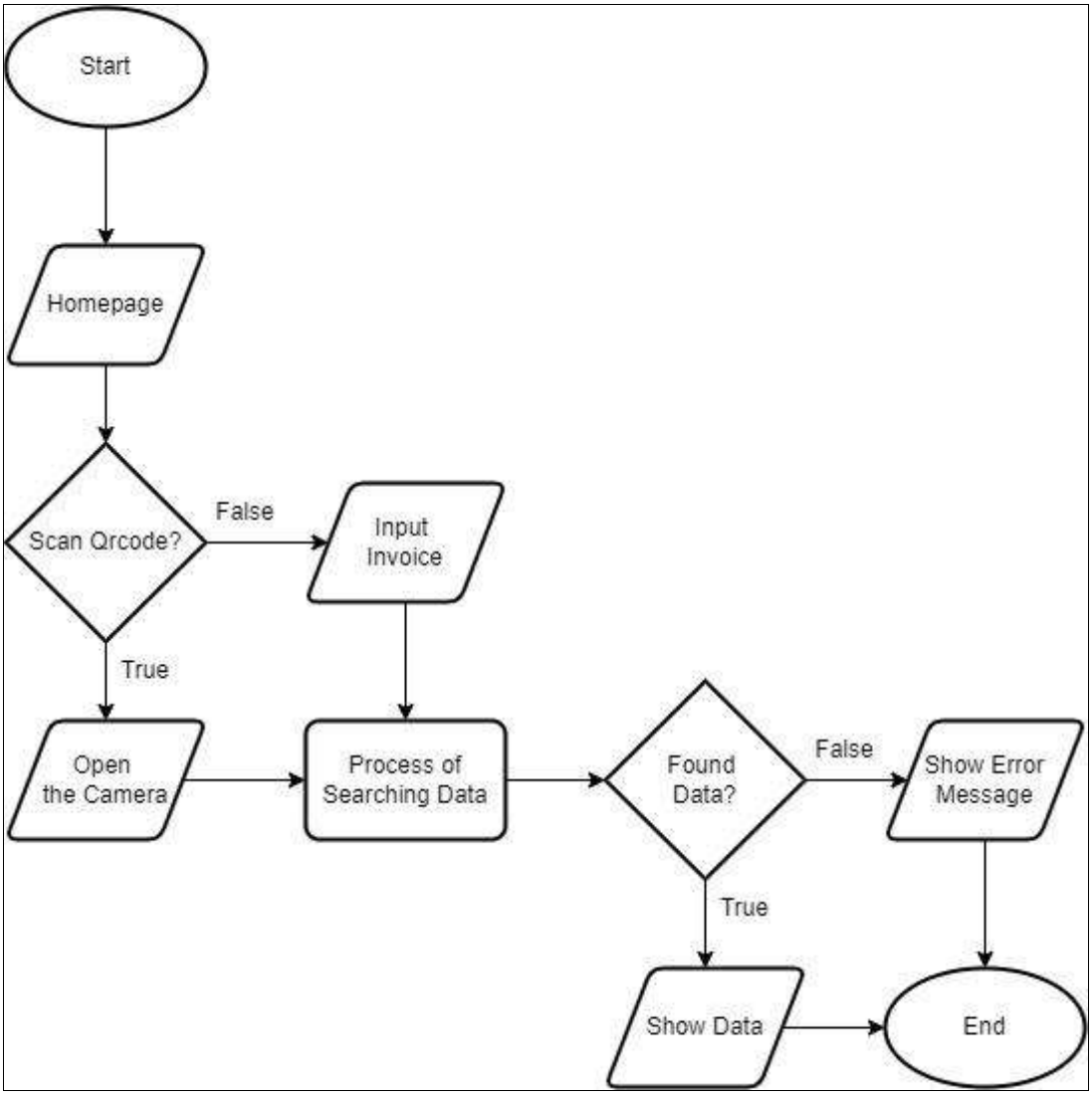

Fig 2: Flow Chart of Laundr Status

The flowchart starts from the start which will then bring up the front page (homepage). Users can choose an invoice or scan a QR code. The application will perform the data search process according to the invoice or barcode. If the data is found it will display the tracking results. If the invoice is entered incorrectly, the data is not found and the display will show an error.

3.1.2 Activity Diagram

The activity tracking diagram of the laundry status can be seen in Figure 3. The activity diagram (Figure 3) shows the process of tracking the laundry status from the client (user), system and database side. The activity starts from the user who will track whether the data input uses an invoice number or scanned a qr code, then the data will be sent to the system. The data will then be forwarded to the database for the data search process. The required data or desired data will then be returned to the view so that it will appear in the user application regarding the status of the user's laundry process.

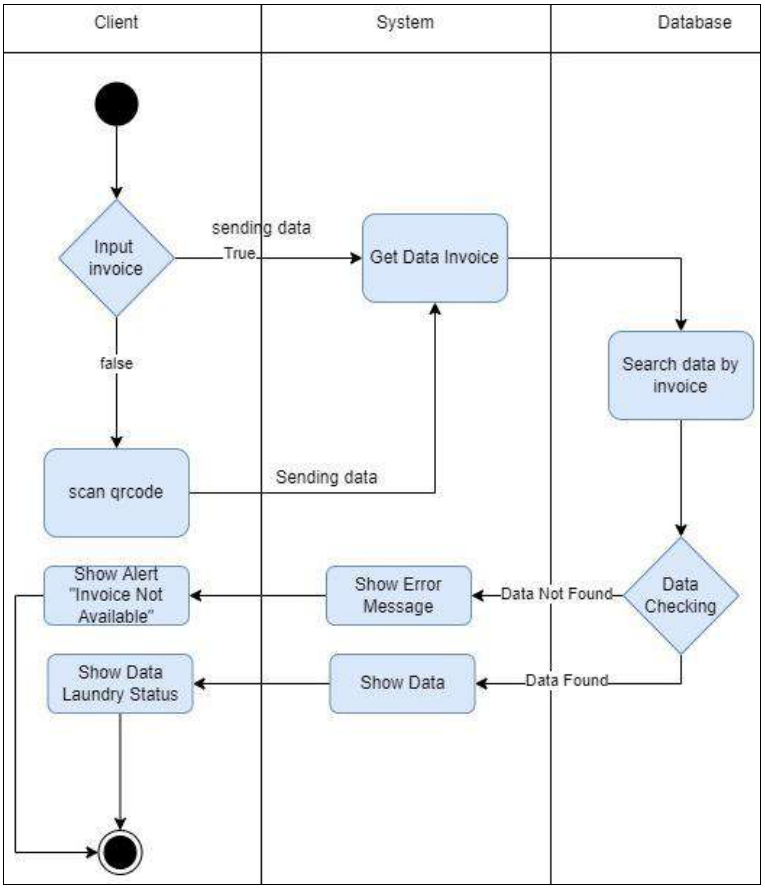

Fig 3: Activity diagram of tracking laundry status

3.2 Result and Implementation

The result of this research is the formation of a laundry laundry status tracking application system to make it easier for laundry business actors and laundry customers. This application provides the main features, namely tracking the status of laundry laundry and sending notification messages.

3.2.1 Owner Page

The laundry status tracking process can be done in 2 directions from the customer side and from the owner. The login display for the administrator or owner (Figure 4), the login display is similar to the login display for members, but the address for displaying this page is different from the address for displaying the member login page.

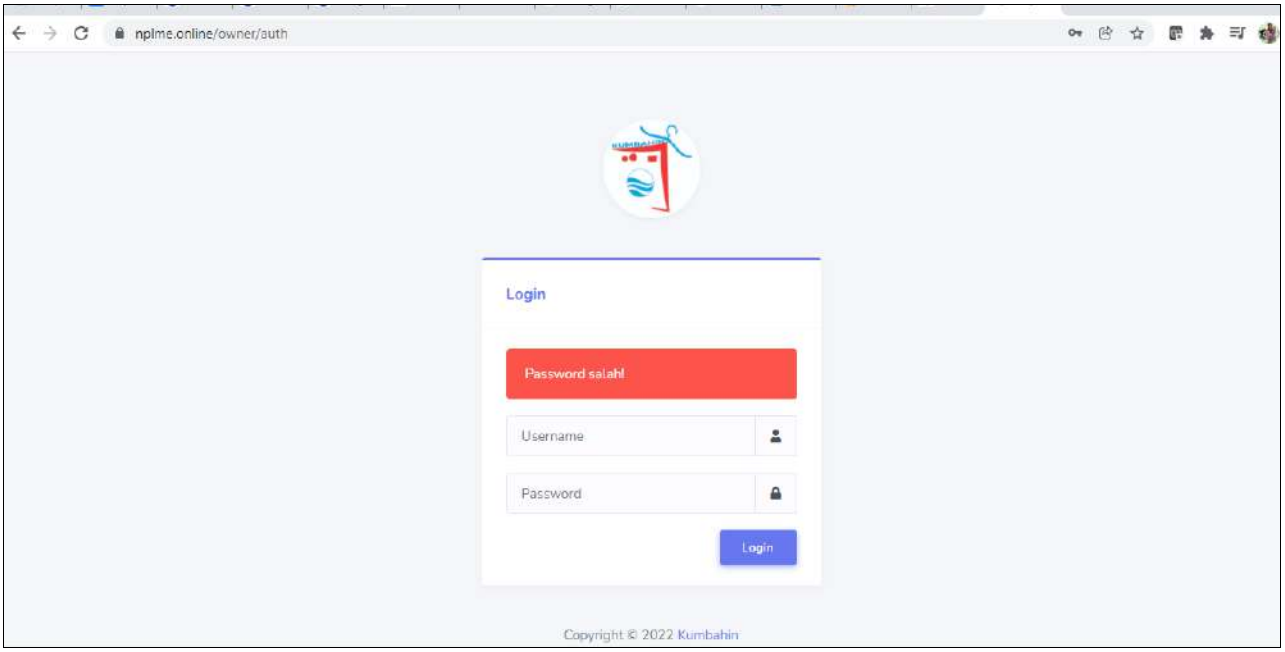

Fig 4: Login page for administrator

After registering and logging in to the application, the owner./administrator dashboard will appear. On the owner/administrator dashboard (figure 5), there is a total of today's activity, top member transactions and a graph of expenses and income per month. From this view, it can be seen that not only the tracking process but also the laundry management or recording process will become easier and more systematic.

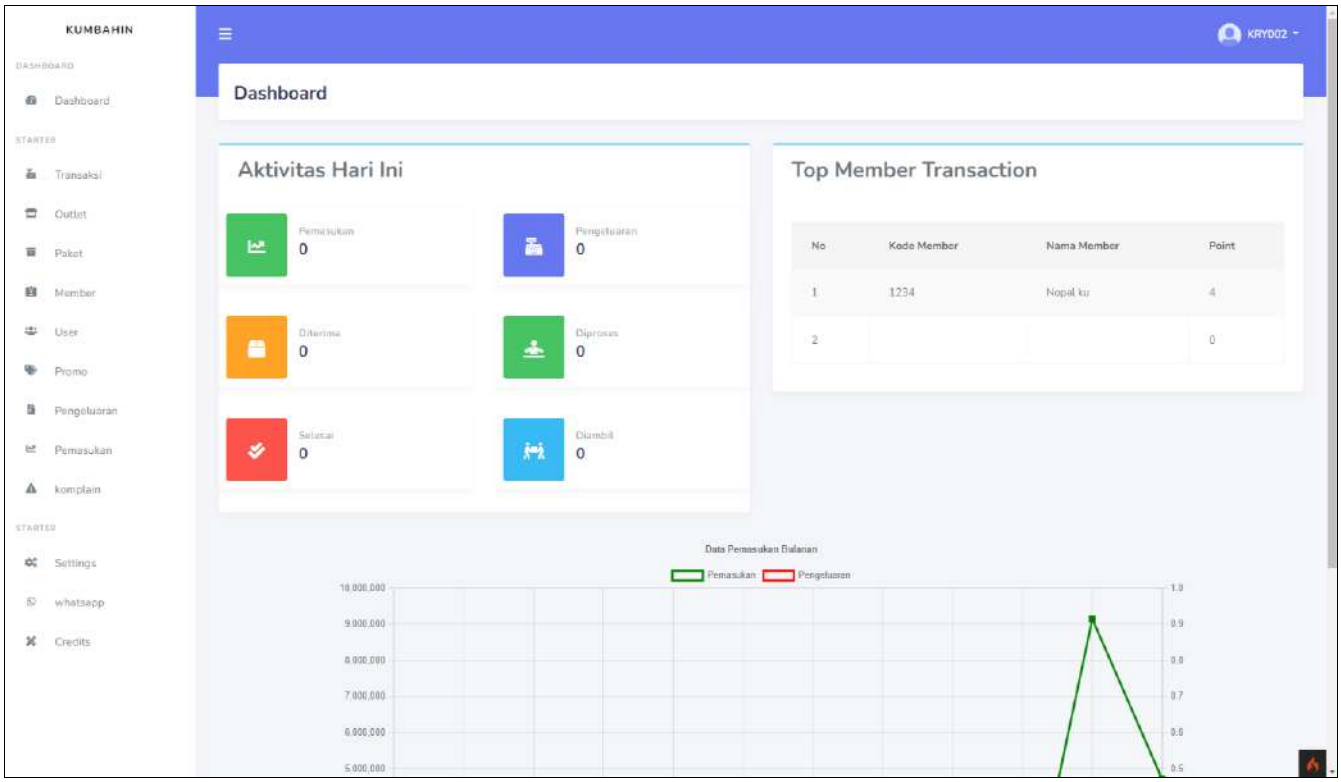

Fig 5: Dashboard Owner/administrator

So that the status of the laundry can be seen by the customer, the owner or admin of the laundry outlet first creates an invoice in which there is a specific number and qr code on the laundry transaction note. The invoice will later be used as a key to track the status of the customer's laundry. Invoices can be created by the administrator on the added transaction feature. The transaction process is carried out in several stages, namely package selection, input promo code (if any), input notes (if any), take pictures for transaction documentation, input member code (if members).

After getting an invoice, customers can track the laundry status independently. The status of the laundry can be updated according to the condition of the customer's laundry order. In updating the laundry status process, it can be done on the page. In the process of updating the laundry status, editing the payment status and also to print the online transaction proof, it is found on the transaction data page. The laundry process update can be automatically sent to the WhatsApp number. Customer.

The status of the laundry can be sent to the customer's WA number. The admin first connects the WA number by scanning the WA gateway on the WA gateway feature page figure 6. When the WA number is connected, the admin can send the laundry status automatically when the laundry status is updated. If the laundry status is not sent automatically to the WA number, a notification will appear as shown in Figure 7.

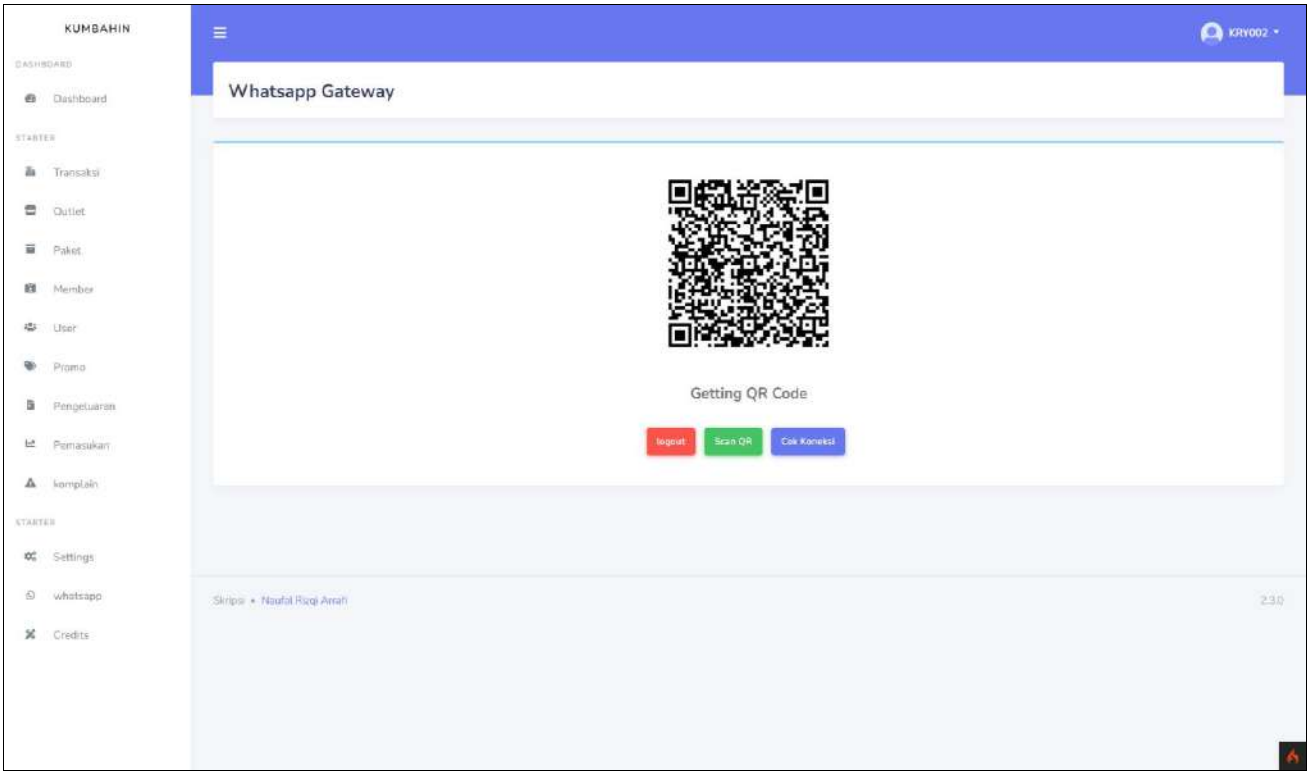

Fig 6: WA (WhatsApp) Gateway

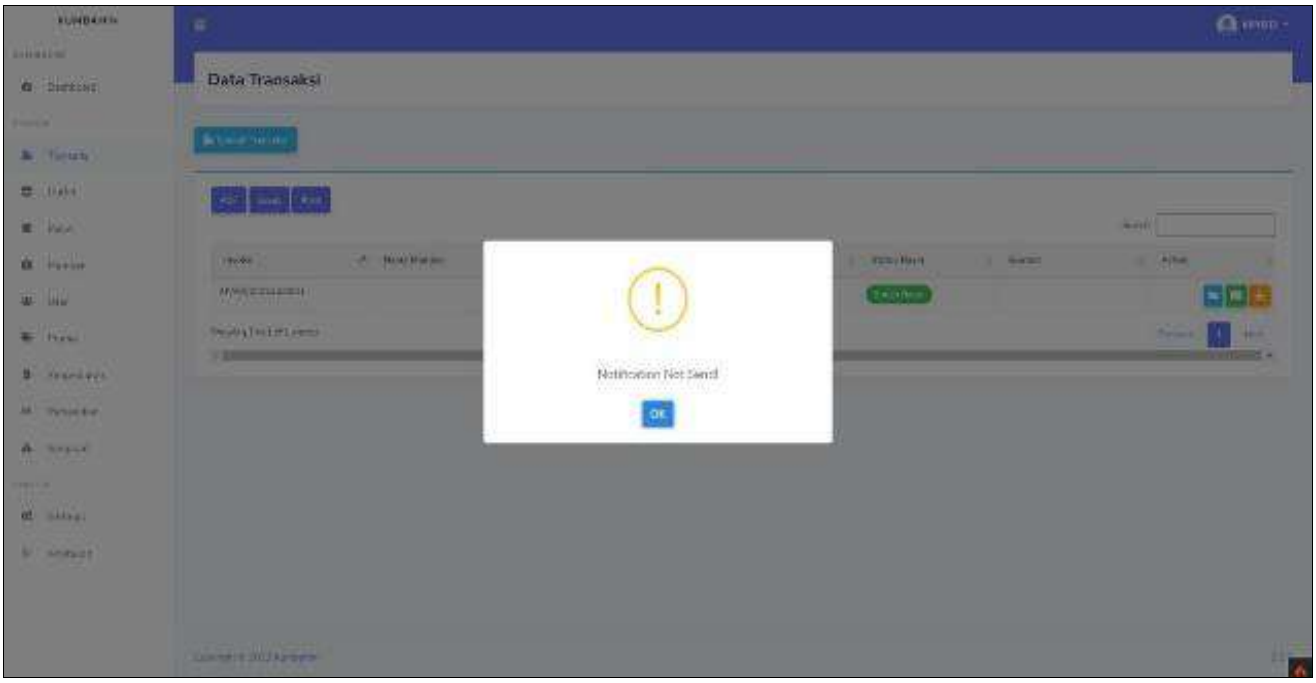

Fig 7: Display Failed to Send Notification

3.2.2. Customer Tracking Page Display Results

The results of the application display on the web from the customer's side can be seen in Figure 4. Before tracking the laundry status, the customer must first install the application. This application can be used to view the status of laundry directly without logging in or registering or it can also be used by logging in which previously had to be registered in the application.

Fig 8: Main Page Display

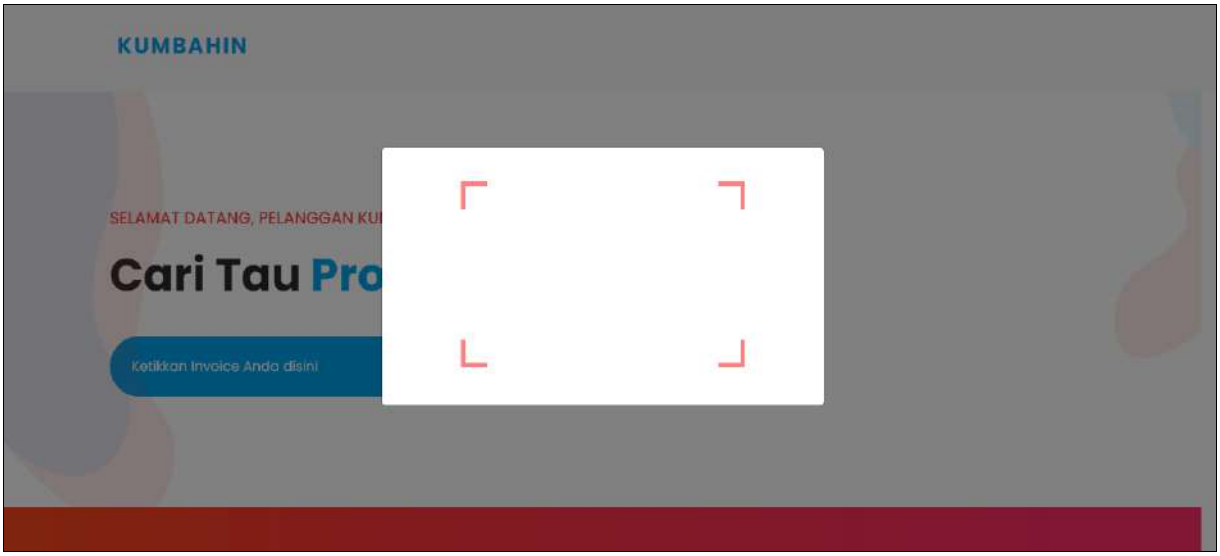

Fig 9: Scan QR code

Figure 8 shows the initial view of the application. In the initial display of the application, there is a laundry status tracking feature with the transaction number input method or by scanning the QR code on the transaction receipt obtained by the customer. When the customer selects the invoice number input, it can be done by typing the number into the invoice number column (blue). If the customer wants a QR scan, the customer can click the red button and the device camera turns on (figure 9), then the QR code can be scanned.

Fig 10: Result of Tracking Status

Fig 11: Error Result

When the invoice number entered is correct / the QR code scanned is correct, the application will display the status of the customer's laundry (Figure 10). If the invoice number is entered incorrectly or the QR code is incorrect, an error message will appear "Invoice not available" (Figure 11). The display of the results of tracking the laundry status in Figures 10 and 11 is sufficient to provide detailed information about the customer's laundry process. With this feature, customers can track anytime and anywhere. In addition, customers can also pick up their laundry on time and do not need to repeatedly go to the laundry outlet to inquire about the status of the laundry.

In this application system, the status of the laundry will also be sent via the WA number (WhatsApp) registered in the application. This process can make it easier for customers to know the status of the laundry. Laundry status can be sent automatically through the system when the laundry admin updates the ongoing laundry process.

Conclusion

Based on the questionnaire data and the above discussions, the following conclusions can be drawn:

1. The features in the laundry status tracking information system have met some of the needs of laundry business actors.
2. The application of this laundry status tracking information system can help make it easier for laundry owners to record customer data, while for customers it can make it easier to track laundry status.
3. This laundry status tracking information system application can run on several devices with a fairly responsive display.

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