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Web-based booking application for services and care products at Lia Salon

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ABSTRACT

Digital transformation encourages businesses in various sectors, including the beauty salon industry, to adopt technology as a means of improving efficiency and service. Lia Salon, as one of the beauty service providers, still applies a manual booking system that is considered less efficient and makes it difficult for customers. This research aims to implement a web-based booking application to facilitate the process of booking services and products online. Through a qualitative approach with a prototyping method, the system was developed based on the results of observations and interviews with salon owners and employees. The development results show that the application is able to display service and product information in a structured manner, supports the ordering process directly by customers, and allows automatic management of order data by the admin. With this application, Lia Salon can increase customer convenience as well as operational efficiency. This research recommends the utilization of similar technology for small and medium-sized businesses that face challenges in managing services manually.

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1. INTRODUCTION

Technological advances can encourage the pace of development in various fields of community service activities (Ningrat & Tundjungsari, 2024). As for beauty salons in particular, they are a benchmark for service development activities at this time, Indonesia is in the digital era or digital transformation era, which is often referred to as the Society 5.0 era in a global context where people pay more attention to their appearance as a support for self-confidence and self-image of a person in the community (Salam & Imilda, 2024). The application of technology has become a must for businesses that want to remain competitive in the midst of rapid digital development (Salam & Imilda, 2024). One sector that is experiencing rapid growth is the beauty industry, especially salon businesses that offer a variety of services ranging from body treatments, beauty courses, to sales of care products from head to toe. Now, salons are not only dominated by female consumers, but are also increasingly in demand by men (Lein & Hakim, 2023) This makes customer satisfaction the main focus, as the number of enthusiasts for salon treatments continues to grow (Hanifah et al., 2023).

Salon is a public service facility for skin, hair and body health with manual treatments such as traditional massage, preparative for example beauty treatments using cosmetics such as makeup, masks, aparative for example treatments using cosmetics such as vise, hair dryer and decorative for example beauty treatments with makeup and hair such as makeup and hair styling

which are modern and traditional, without surgery (surgical) (Putri et al., 2023). beauty salons are also business that grows and develops in the community because it directly touches the human need for self-care. Not just a place to apply makeup, salons have now become part of the lifestyle, especially for women who want to pamper themselves or feel more confident with their appearance. beauty salons provide a variety of services that include treatments from head to toe. This service is not only for women, because in its development, more and more men are also utilizing salon facilities to take care of their appearance (Pariwisata et al., 2024).

Beauty salon (Lia Salon) is a form of business or a place specifically for women to beautify and beautify the body that provides care services related to skin health, cosmetic care, face, hair, nails and so on, and also sells beauty products such as facial soap, handbody and other beauty needs (Lein & Hakim, 2023). The price offered is relatively cheap with good quality, making customers multiply. Until now, there has been no separate container for Lia Salon in marketing and receiving orders for products and services online. The use of people as a promotional tool and order processing is also not optimal. Based on interviews with the Salon Owner, Mrs. Lia and also her employee, Mbak Karlin, it is known that treatment services at Lia Salon are still carried out conventionally. For ordering Customers must come directly to the salon and ask the salon about the services available. One example of a problem that often occurs is when several customers come together without making a reservation in advance, causing some to have to wait due to limited manpower and service space. This reflects the lack of efficiency in queue management, and makes the service not optimal. In addition, the salon also has difficulty in organizing schedules in real time and does not have well-documented order data. from these problems a system is needed that can help Lia Salon in the future. According to John Buch and Gary Grudnitski, system design is a process that aims to integrate various separate elements into a unified and functional whole. They emphasize the importance of integrating different components to create an effective and well-functioning system. Meanwhile, George M. Scott defines system design as the process of determining how the system will function to achieve predetermined goals. It involves the configuration of software and hardware components so that the resulting system meets the specifications and needs that have been defined during the system analysis stage (Hidayatulloh et al., 2020). while Ordering can be understood as a series of activities carried out by consumers to obtain goods or services before they are received. In practice, this process involves recording transactions, managing availability, and distributing products. The Big Indonesian Dictionary defines ordering as the process or method of ordering something, be it a place, goods, or services (Mei et al., 2025) product quality can also affect product can also affect customer satisfaction (Limbongan & Panggeso, 2021). In the book Service Quality, service is explained as an activity provided to other parties and provides benefits. This service is intangible and does not cause transfer of ownership.

Lia Salon's current predicament is not an isolated case, but a true representation of the common challenges faced by many MSMEs in the service sector in Indonesia. In the context of low digital literacy and limited access to technology, most service MSMEs including beauty salons, barbershops, and other grooming services still run conventional operations that are prone to inefficiency and decreased service quality. Therefore, the digital solution developed in this research not only answers the internal needs of Lia Salon, but can also be generalized as an applicable and adaptive digital transformation model for similar MSMEs, as well as a real contribution in driving the small business ecosystem towards a more modern, efficient and competitive direction in the digital era.Therefore, service can only be felt subjectively by each individual, so that the level of satisfaction that arises will differ from one consumer to another (Anugrah & Sudarmayasa, 2020). With this ordering system, it is expected that the service process will be more organized, efficient, and professional, and can increase overall customer satisfaction.

2. RESEARCH METHOD

This research uses the interpretive paradigm, which holds that reality is shaped through individual experiences and perceptions. This paradigm was chosen because the research focuses on an in-depth understanding of the processes and needs of users at Lia Salon, especially in terms of ordering products and services. Through a qualitative approach, researchers conducted direct observations and interviews with salon owners and employees to explore information related to the problems faced and expectations of the system to be developed. The interpretive paradigm allows

researchers to interpret the meaning behind behaviors and processes that occur naturally in the field, so that the solutions designed are truly in accordance with the needs and context of users.

This research uses the Prototyping system development method which is an approach in software system development (SLDC) where prototypes are created, tested, and then improved as needed until achieving satisfactory results from a complete system or product. The prototyping approach was chosen in the development of this system because it is considered to be the most suitable for the characteristics of the needs and conditions of Lia Salon which are dynamic and not yet formally documented. As an MSME that still uses manual systems, Lia Salon does not have complete technical specifications at the beginning, so a flexible development approach is needed and allows rapid iteration. The prototyping method provides space for users to be directly involved in the system design and testing process, as well as providing feedback at each stage of development. This method was chosen because it can produce systems quickly, is tailored to user needs, and allows for continuous improvement based on user feedback (Suryana et al., 2023). Furthermore, for the model used in the development of this information system, namely use case diagrams, activity and class diagrams, as for development tools using several software including: XAMPP, Visual Studio Code, Google Chrome, Figma, Draw.io (Prima et al., 2024).

Prototype Method

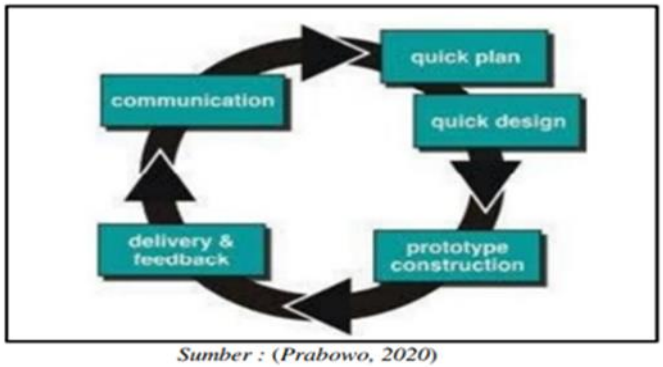
This research uses the Prototyping system development method. Prototype method is a system development method that utilizes prototypes to describe a system, allowing users or system owners to get an overview of the system to be developed (Saputri et al., 2024). Prototyping is one of the commonly used techniques in system development because it allows direct interaction between developers and users during the design process. With this interaction, developers can more easily model the software to be developed (Kurniati, 2021). This method was chosen because it can produce systems quickly, is tailored to user needs, and allows continuous improvement based on user input. Stages of Prototype Method:

Communication, At this stage, a communication process was carried out between the system designer and Lia Salon, namely the salon owner (Mrs. Lia) and employees (Mbak Karlin), to understand the needs and problems faced by in operational activities. From the results of the interview, it is known that the process of ordering services and purchasing products is still done manually, either by coming directly to the salon or via WhatsApp message, which is considered inefficient and less practical for customers. Because of that, the main need identified is a web-based system that can display complete service and product information, allows direct ordering by customers, and is able to record transactions and generate reports automatically (Nurlelah et al., 2023). *Quick Plan*, Once the user requirements were collected, the researcher developed a rapid system development plan, including defining the key features, time constraints, and technologies used. In this case, we designed a web-based system using Laravel and MySQL (Voutama & Novalia, 2022).

Quick Design, Researchers created an initial design of the system in the form of diagrams such as use case, activity, and class diagrams, which represented how the system would run. This became the basis for developing the initial prototype (Kurniawan et al., 2023)

Prototype Construction, Based on the design, the system prototype was built. Key features such as service booking, product booking, registration form, and order confirmation were implemented. This prototype is preliminary and may change depending on the results of user evaluation (Aldy Nifratama et al., 2024).

Delivery & Feedback, The finished prototype was tested directly by the users (Ms. Lia and Ms. Karlin). They provided feedback regarding functionality, appearance, and comfort of use. Feedback from users was used to improve the system (Pradana et al., 2023)



Sumber : (Prabowo, 2020)

Figure 1. Prototype method

Research Flow

The flow of research carried out with reference to the Prototyping development method as in the following figure. This illustrates the flow of research carried out from start to finish to get results in accordance with the problem.

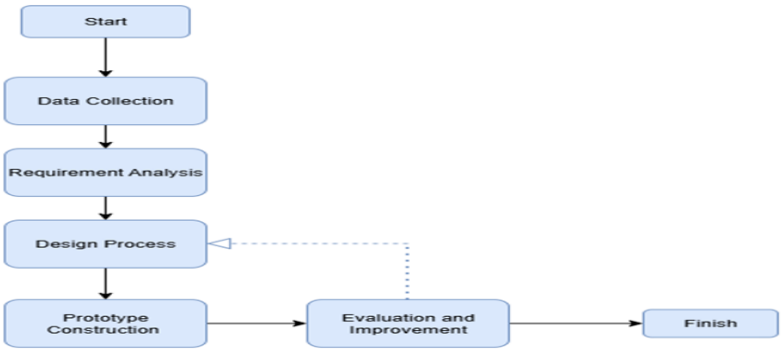


Figure 2. Research flow

Data collection

The data collection techniques used in this research consist of three methods, namely interviews, observations, and literature studies.

Interview

Interviews were conducted directly with the owner and employees of Lia Salon as the main informants. This technique is used to explore in-depth information related to system needs, current business processes, constraints in the manual ordering system, and expectations of the application to be developed. Through this interview, researchers get a direct understanding from the point of view of system users so that the design made is truly in accordance with the real conditions in the field.

Observation

Observation is done by directly observing the service and ordering process that takes place at Lia Salon. Researchers noted how customers place orders, how transactions are recorded, and how the flow of information runs in the salon. This observation aims to objectively see the workflows and problems that arise in real practice, as a consideration when designing the system (Prima et al., 2024)

literature study

The literature study was conducted by tracing various relevant literature sources such as scientific journals, research articles, textbooks, and previous documents that discuss information system design, prototyping methods, and web development technologies such as Laravel. The purpose of the literature study is to obtain a strong theoretical basis in designing the system, as

well as comparing the results of previous research with the research being conducted (Rina Noviana, 2022).

Research Model Use case design

Use case diagram is a system description made by the author to describe the interaction between the user/admin system, therefore the use case that the author makes is more focused on the functionality of the system itself (No & Hal, 2025). Because Lia Salon still implements a manual system, namely by coming directly to the place to order products and services, the Research Use case design is made.

Furthermore, the Use Case Diagram design to model or describe the expected functionality of the system that has been designed, as for the use case diagram design in this study, among others:

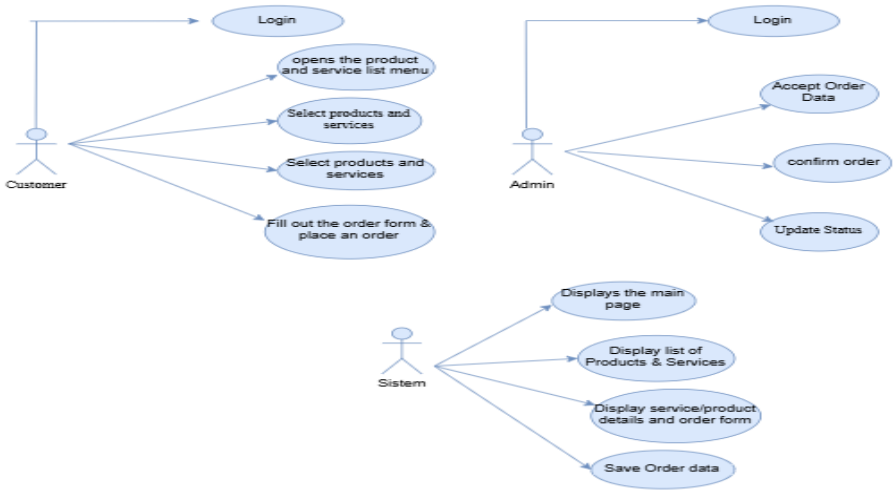


Figure 3. Research model use case design

The customer starts the process by logging into the system. After successfully logging in, the customer can open the product and service list menu, select the desired product and service, then proceed to the ordering process. Next, the customer fills out the order form and places the order. Admin also starts by logging into the system. The admin is in charge of receiving incoming order data from customers, confirming the order, and then updating the order status in the system according to its progress. The system automatically displays the main page, list of products and services, and product or service details in the order form accessed by the customer. In addition, the system also plays a role in storing data on product and service orders that have been made.

Activity Diagram

Activity diagram is a diagram model that is used as a flow to show an activity regarding modeling such as processes that occur in a system that is drawn vertically. Activity diagrams can be used to model system workflows well, can also analyze use case diagrams to be able to describe actors, and actions that need to be done to when they should occur (Ningrat & Tundjungsari, 2024).

Ordering activity diagram

Furthermore, Product Ordering Diagram, the process starts when the customer logs in or registers into the system, which then displays the main page. After successfully logging in, the customer opens the service list menu to see the various types of services available. The customer then selects the desired service, and the system will display the service details along with the order form. Next, the customer fills in the order form as the last step of the ordering process on the user side. The data that has been filled in by the customer is then saved by the system and forwarded to the admin. The admin receives the booking data, performs the verification process or booking confirmation, then updates the booking status according to the service progress (Meisak et al., 2022).

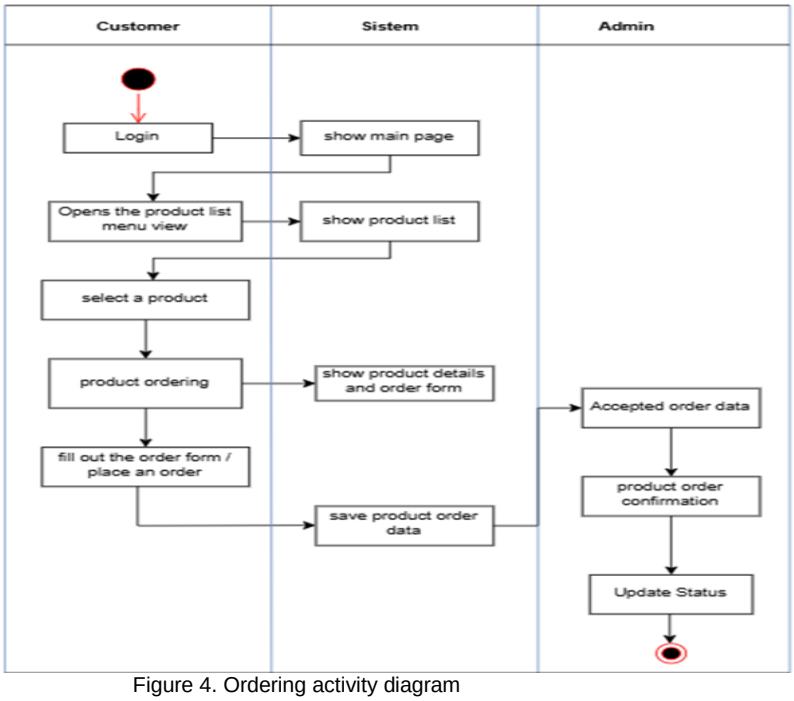


Figure 4. Ordering activity diagram

Service Ordering Activity Diagram

Furthermore, the Service Ordering Activity Diagram, the process starts when the customer logs in or registers, then the system will display the main page. After successfully logging in, the customer opens the product list menu to view available products. After that, the customer selects the desired product and starts the ordering process. The system then displays the product details along with the order form. The customer fills in the form and completes the order process. The completed order data is then saved by the system and sent to the admin. Next, the admin receives the order data, confirms the product order, and updates the order status according to the progress of the process.

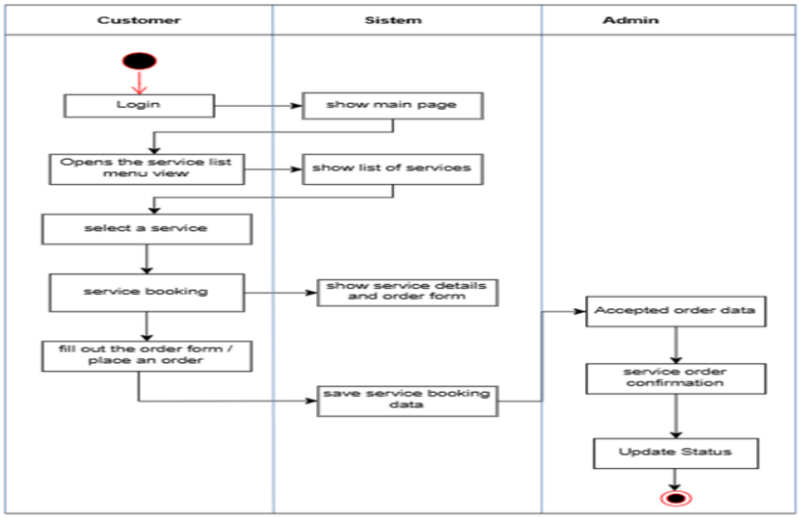


Figure 5. Service ordering activity diagram

Database relation

Diagram in system modeling that describes the logical structure of the system by showing the classes involved along with their attributes, methods (functions), and relationships between these classes (Voutama & Novalia, 2022). This class diagram makes it easier for developers to

understand how system components interact with each other, as well as how data is processed and stored in a structured manner.
The following is a database relation for the Design of Product Ordering Information Systems and Beauty Services at Lia Salon:

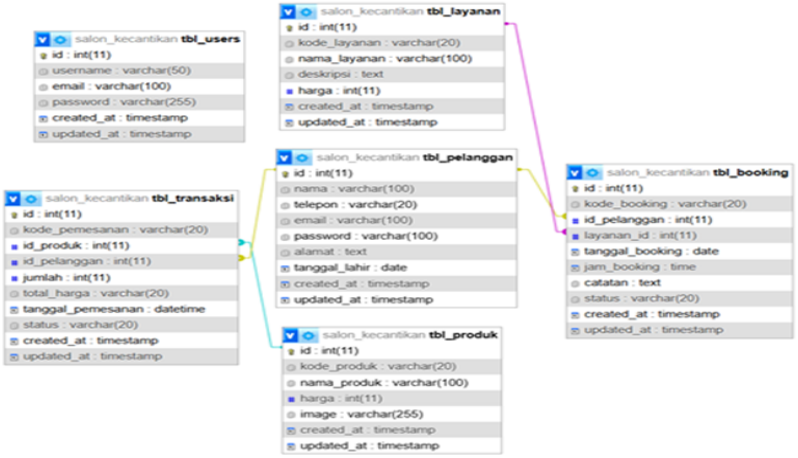


Figure 6. Database relation

3. RESULTS AND DISCUSSIONS

Based on previous problems that occurred at Lia Salon, it is recommended to create a web-based application that can help Lia Salon in the ordering process. This stage explains the interface design of the Booking application. The menu contains the following display:

Main Page

This is the main page of Lia Salon. Here Admins and customers can log in. If the customer does not have an account, then they can register an account.

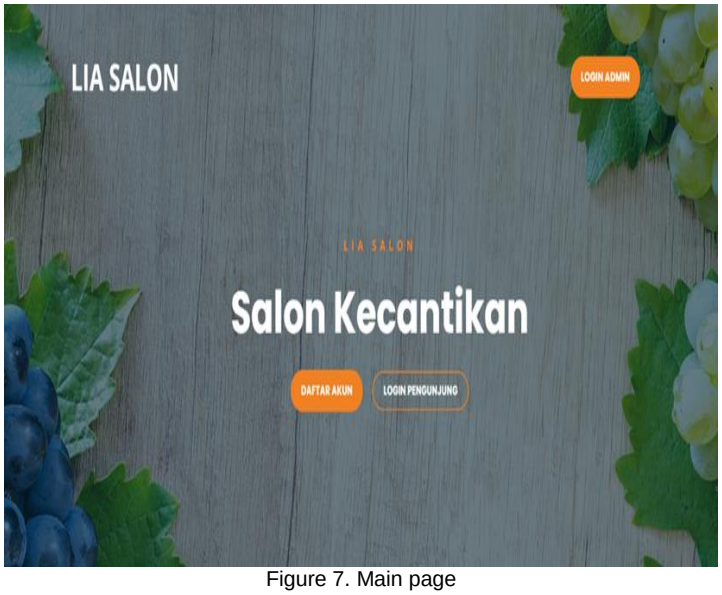


Figure 7. Main page

Login Page

When running the application, the admin or customer page that appears is the login page where the registered user will input the username and password first to enter the admin or customer page.

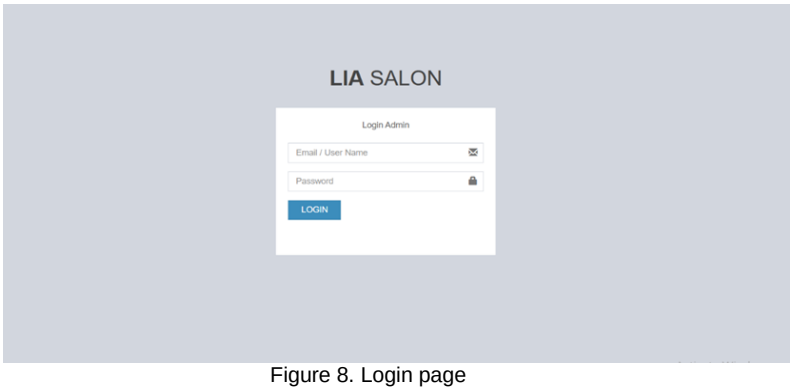


Figure 8. Login page

Dashboard Admin

On this page the admin can see the number of products and services as well as product and service order data in the system.

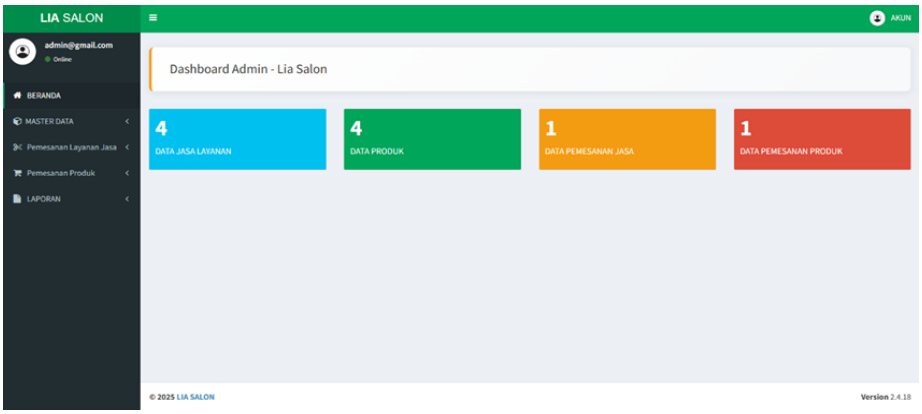


Figure 9. Dashboard admin

Service Data Form

On this page the admin can view and add a list of services and edit service data, delete data and save service data.

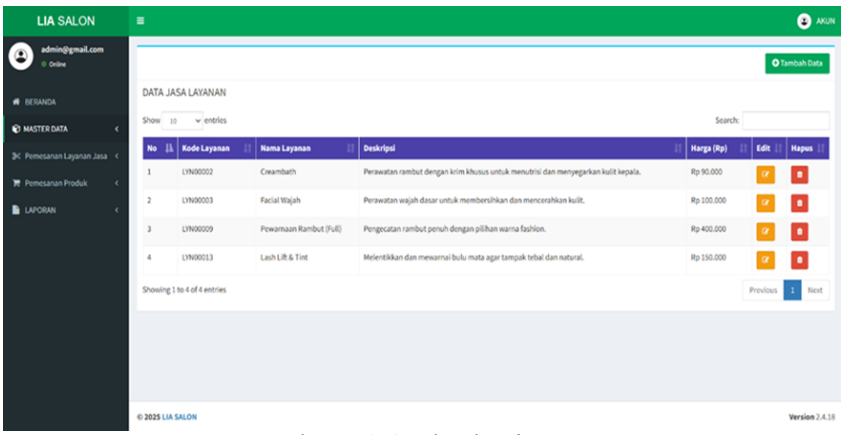


Figure 10. Service data form

Product Data Form

On this page the admin can view and add a list of products and edit product data, delete data and save product data.

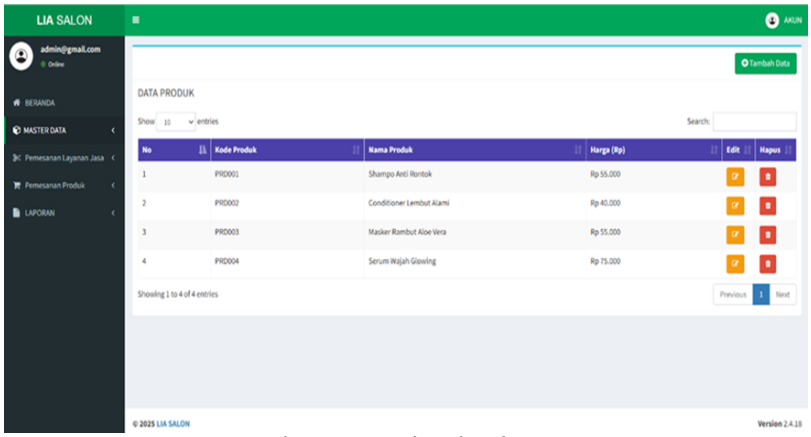


Figure 11. Product data form

Service Order Form

On this page, the admin can view a list of service bookings that have entered the system, as well as add, edit, delete, and save customer data.

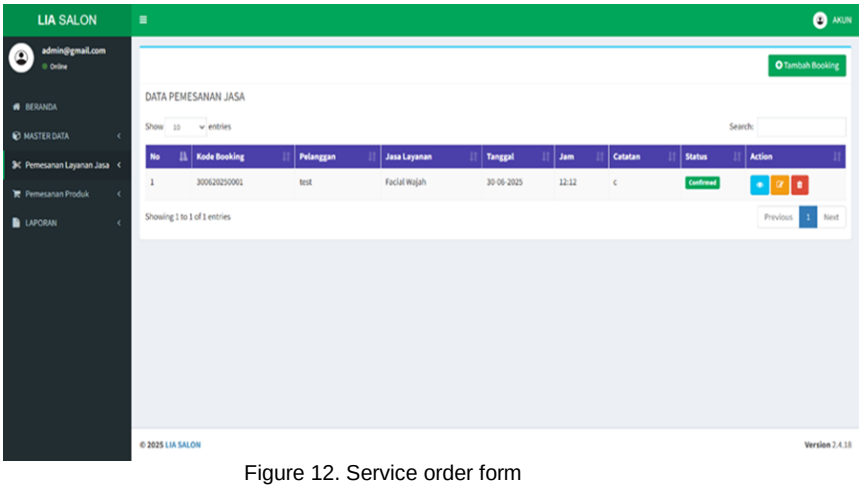


Figure 12. Service order form

Product List View

On this page, customers can view the product list and place product orders.

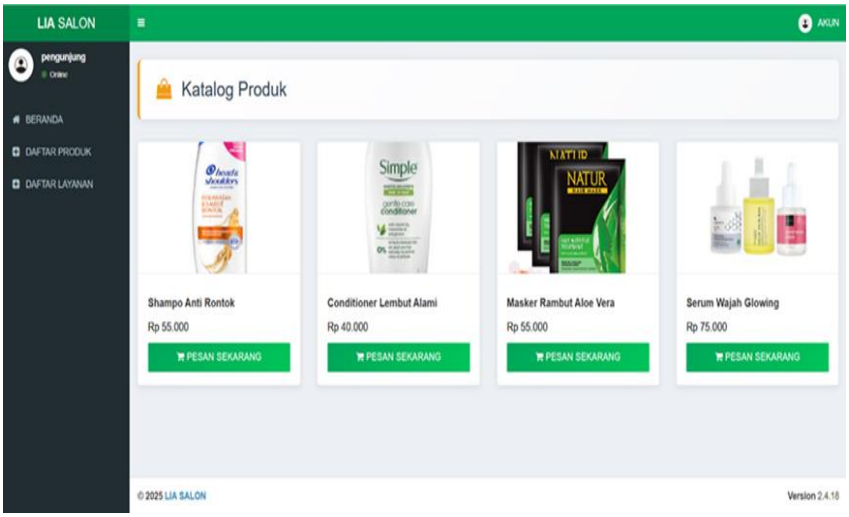


Figure 13. Product list view

Service List View

On this page, customers can view a list of services and place a service order.

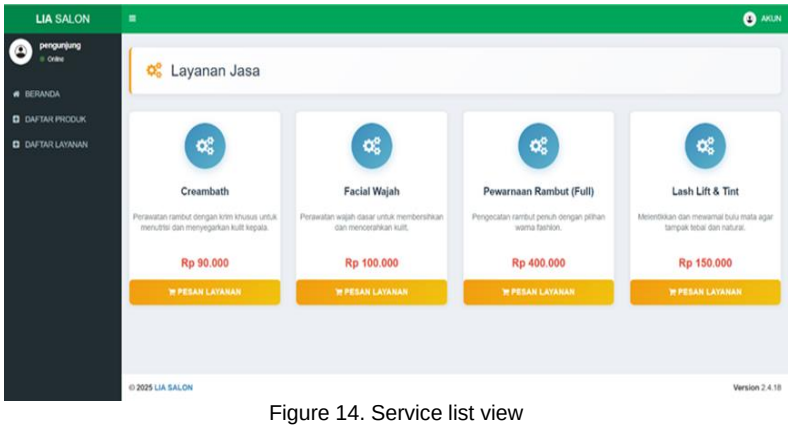


Figure 14. Service list view

4. CONCLUSION

Based on the research that the author has done, the following conclusions can be drawn this research produces a web-based product and service ordering application that can overcome operational inefficiencies at Lia Salon. The system developed using PHP with the Laravel framework and MySQL increases the convenience of ordering for customers and simplifies order management for salon staff. By using the Prototyping method, the development process can be adjusted to the evolving user feedback. Because this system is still new, it has not been officially implemented at Lia Salon. However, based on trials that have been conducted through simulations and limited trials with salon owners and employees, the system shows great potential in improving customer convenience and service efficiency. Customers involved in the simulation gave a positive response to the ease of booking services independently, without having to come directly to the location or queue. Meanwhile, the salon assessed that the schedule setting and order recording features on the app were able to simplify workflow and minimize errors that previously often occurred in manual recording. Through this initial use experience, the application is considered to be the right solution to answer Lia Salon's needs in the future, as well as a model for implementing digitalization that can be adapted by other service businesses. therefore, this system will soon be implemented at Lia Salon

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