

Enhancing Customer Experience and Satisfaction through Mobile-Based Salon and Spa Reservations on Android Platforms

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ABSTRACT

Salons and spas in Indonesia need to utilize information technology to improve business performance and provide customers with a more personalized experience. The integration of digital reservation systems, online marketing, and technology-based customer management will help improve operational efficiency and gain valuable customer feedback. Digital reservation systems enable salons and spas to improve business performance by providing easy access to customers, increasing the efficiency of scheduling management, and providing a more personalized experience, which is an important strategy in the competitive digital era. One of the alternative digital reservation systems that can be used by salons and spas in Indonesia is Android-based. This research resulted in an Android-based digital reservation system that focuses on customer experience. The object of the research is Spaque Salon & Day Spa, an MSME in Indonesia. Through mobile technology, customers can easily book and manage their treatments. Test results showed positive feedback regarding the user interface, reservation steps, and interactive features. The system also helps with schedule management, additional services, offers, as well as revenue and financial tracking. This research combines customer and technology perspectives, contributing to the salon and spa industry as well as mobile technology developers.

Keywords

Mobile-Based Reservations; Salon and Spa; Customer Experience; Android Platform

1. Introduction

In Indonesia, salons and spas must prioritize improving their business performance through the integration of information technology because the digital era has changed the way consumers search for, order and assess beauty services (Wenny & Fitrianingrum, 2022). By adopting digital reservation systems, targeted online marketing and technology-based customer management tools, salons and spas can improve their operational efficiency, reduce no-show rates and provide customers with a more personalized experience. Additionally, information technology allows customers to provide valuable feedback, which can help businesses improve the quality of their services (Saputra et al., 2020). Thus, the use of information technology is not only a necessity, but also a must in salon and spa efforts to remain competitive and meet consumer expectations in this digital era (Moon & Yang, 2021).

A digital reservation system is one technology that can be implemented by salons and spas to improve their business performance (Rahmatya et al., 2020). By adopting a digital reservation system, salons and spas can provide easy access for customers to book their treatments online (Chavhan,

2023). This not only improves customer convenience, but also helps businesses in more efficient scheduling management, reduces no-show rates, and improves resource utilization (Thai En et al., 2021). With a digital reservation system, salons and spas can also optimize their capacity and provide a more personalized experience to customers, which is an important part of the strategy to improve business performance in this competitive digital era (Magaba & Mupambwa, 2017; Sarwindah et al., 2020; Smit, 2023).

One of the alternative digital reservation systems that can be used by salons and spas in Indonesia is Android-based. Using an Android application for reservations not only creates ease of access for customers, but also provides additional advantages (Akshay et al., 2019). This is consistent with the narrative above, where salons and spas need to improve their business performance through information technology. With Android apps, salons and spas can reach customers via mobile devices, which is the platform most people use. Customers can easily download the app, make treatment reservations, and even receive notifications or reminders via app notifications (Beh & Ibrahim, 2021). This helps reduce no-show rates, improve operational efficiency, and provide customers with a faster and more convenient experience (Haleem, 2021). In addition, Android apps can integrate with customer management systems and payment systems, allowing salons and spas to track and analyze customer data, offer more targeted promotions, and improve services based on customer preferences (Dharma Krisna Putra et al., 2020). Therefore, Android-based is a very relevant and effective alternative in improving salon and spa business performance in the current information technology context.

This research aims to develop a digital reservation system based on Android with a focus on customer experience. The research object described in this paper is Spaque Salon & Day Spa, a micro, small and medium enterprise (MSME) in Indonesia that needs business optimization. Through the use of mobile technology, customers will find it easier to order and manage treatment reservations at salons and spas. This digital reservation system will make an important contribution by increasing accessibility and providing customers with convenience in finding, selecting and booking the services they want, while providing valuable insight into customer preferences that can be used to improve business efficiency.

2. Research Method

The development of an Android-based Digital Reservation System for Salons and Spas was carried out taking into account the customer's perspective. This research uses a prototype-based system development approach and uses interviews as the main data collection method. The data obtained from the interviews will be analyzed qualitatively to identify trends, patterns and findings that can help further improve the system. This prototype development approach was chosen because of its flexibility in responding to changing user needs, while also allowing for in-depth knowledge from the customer perspective to be obtained which is used as the main guide in system development. Through a combination of these methods, we can produce a digital reservation system that focuses on customer needs, and is responsive to change.

The development process is as follows:

1. Preliminary Analysis

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At this stage, information is collected on customer needs, salon and spa business processes, as well as technical requirements. This includes collecting data about the services offered, different types of customers, and customer preferences regarding the use of mobile applications.

2. Initial Prototyping

At this stage, an initial prototype of an Android-based mobile application was created that featured a simple user interface and basic features. This prototype was used to collect initial feedback from salons and spas.

3. Evaluate the Prototype

The initial prototype was given to salons and spas and several customer samples. The prototype was evaluated by conducting interviews and observations. The evaluation is carried

out to find out how users interact with the prototype, identify problems or obstacles that may arise, and gather suggestions for improvements.

4. Iteration

The results of the prototype evaluation are used to iterate on the system design and function. The prototyping stage will be repeated and evaluated as many times as necessary, until a solution that meets customer expectations is achieved.

3. Results and Discussion

3.1. Preliminary Analysis

A comprehensive initial analysis was carried out to develop an Android-based Digital Reservation System Model for Salons and Spas that considers the customer perspective. This analysis aims to identify the main needs of customers, understand existing business processes in salons and spas, and evaluate the technical feasibility of system development. The results of this analysis will be the basis for the design and implementation of an effective and responsive system. This preliminary analysis uses the PIECES approach. The results are as follows:

Table 1. PIECES Analysis

No	Indicators	Customer Requirements	Salon and Spa Requirements
1	Performance	<ol style="list-style-type: none"> 1. Customers expect fast and responsive mobile apps when they want to explore salon and spa services. 2. Customers want a system that can accommodate reservations in a reasonable time and provide a comfortable experience. 	Salon and spa owners want a system that can manage reservations quickly and efficiently, avoiding overlaps or errors in scheduling.
2	Information	<ol style="list-style-type: none"> 1. Customers need complete information about salons and spas, including descriptions of services, prices, locations and customer reviews. 2. Customers want the ability to view salon profiles in detail, such as hours of operation, contact information and special offers. 	Salon and spa owners need information about service schedules, available technicians or therapists, and real-time salon revenue.
3	Economy	Customers want to know clearly about the price of the service and additional fees if any.	Owners want to track daily, weekly or monthly revenue from services sold, and also need to manage service pricing and promotional offers.
4	Control	Customers want control over the reservations they make, including the option to choose the type of treatment, technician or therapist, and the reservation time they prefer.	Owners want control over customer reservation confirmations, rejections, or changes to their reservation status. Owners also want the ability to manage the list of services offered and change their prices or details.
5	Efficency	Customers are looking for an easy-to-use and efficient system that allows them to make reservations quickly and manage their customer profile independently.	The owner wanted a system that was efficient in reservation management and could help in optimizing the technician or therapist's schedule.
6	Service	Customers want good service, including efficient communication via in-app chat, and responsive support if customers have questions or problems.	Salon and spa owners want the ability to communicate with customers via app, provide confirmations, or answer questions quickly.

3.2. Initial Prototyping

Before creating a system prototype, the system architecture and system functionality will be designed first using use case diagrams. The system architecture diagram is as following:

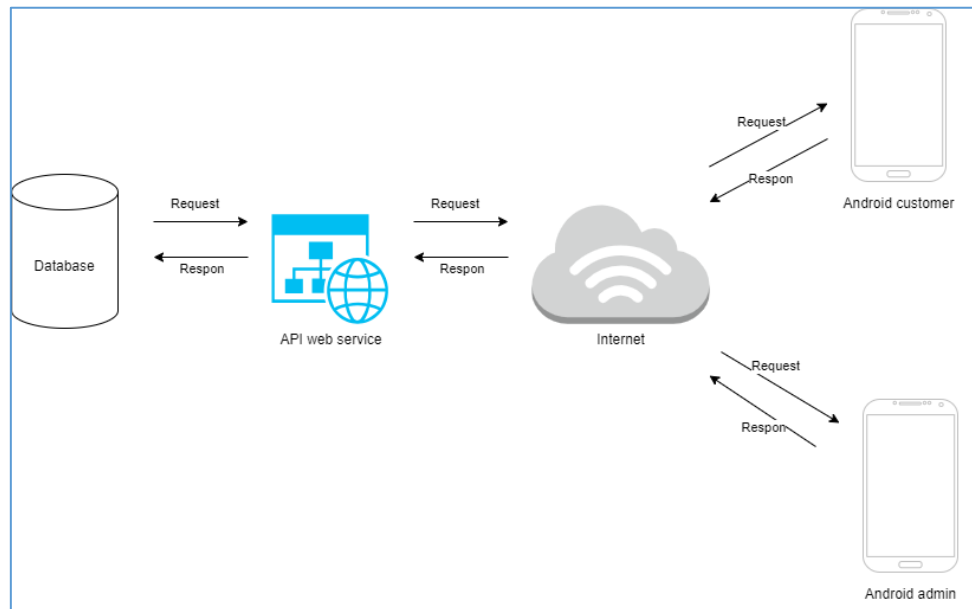


Figure 1. Architecture of Treatment Reservation Systems in Salons and Spas

Keterangan:

1. Android Customers

This is a mobile app that salon customers can download. By using this application, customers can see schedules, make reservations, select salon services, and even provide reviews or ratings of the services they receive. This application communicates with other components via an internet connection.

2. Android Salon Admin

This application is specifically intended for admins or salon staff. With this application, admins can manage schedules, accept and confirm reservations, view customer data, and manage stock of salon products and services. Android Admin Salon also connects to the salon database to access and update necessary information.

3. API Web Service

The Web Service API acts as a communication bridge between Android Customer, Android Salon Admin, and Database. This API provides endpoints that allow both applications to send requests and receive responses. This API also functions to validate requests, manage access, and process data before storing or retrieving it from the database.

4. Request dan Respon

When an Android Customer or Android Salon Admin wants to access or manipulate data, they send a request to the Web Service API. This request contains the instructions or data required. The Web Service API then processes the request and returns a response containing the results of the operation carried out. For example, an Android Customer can send a request to make a reservation, and the API will return a response containing confirmation of the reservation.

5. Database

This is where data such as schedules, service lists, and customer information is stored. When Android Customer or Android Salon Admin accesses or manipulates data, the operation will be performed in the database. The database also functions to maintain the consistency and integrity of data.

6. Internet

Both applications, Android Customer and Android Salon Admin, need to connect to the Web Service and Database APIs to communicate and access data in real-time. A stable internet

connection ensures that the displayed and updated information is always accurate and up-to-date.

The design of the system functionality is as follows:

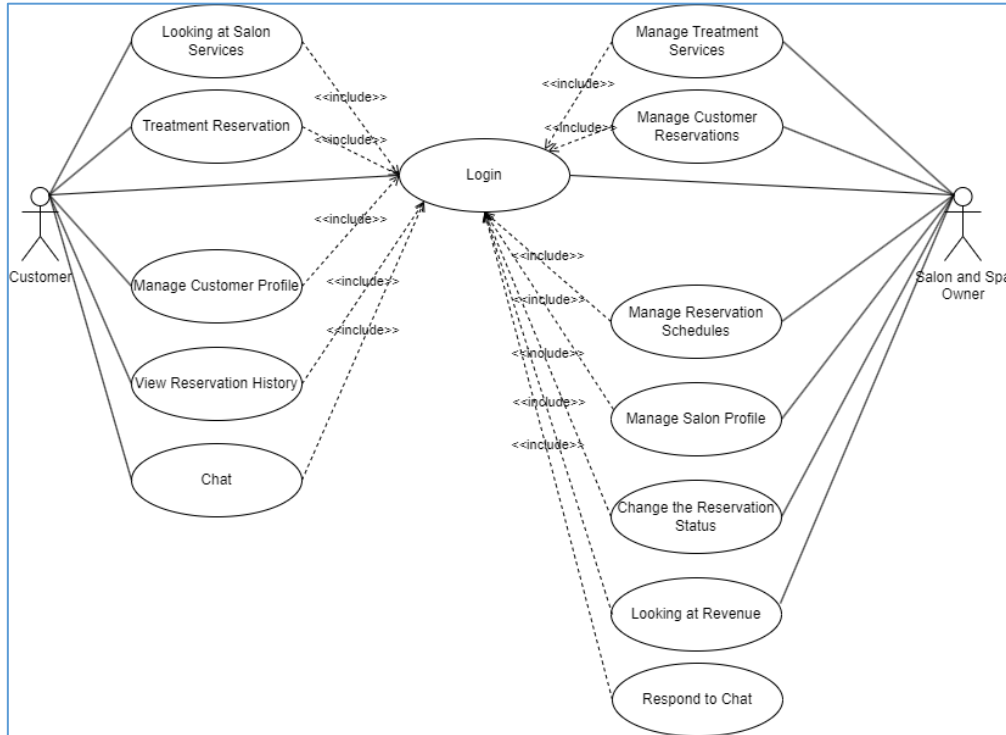


Figure 2. Use Case Diagram

3.3. Prototype Evaluation

This stage has resulted in a series of user interfaces that correspond to the scenarios contained in the use case diagram in Figure 2. Using Flutter as a prototype development tool has allowed us to quickly create an interactive and easy-to-use interface. Each interface is designed with the needs of customers and salon and spa owners in mind, allowing users to easily explore services, make reservations, communicate and manage their individual profiles. This prototype developed with Flutter allows the prototype to be realistic and responsive, thereby helping in gathering valuable feedback and ensuring that further development of the system will meet established quality standards.

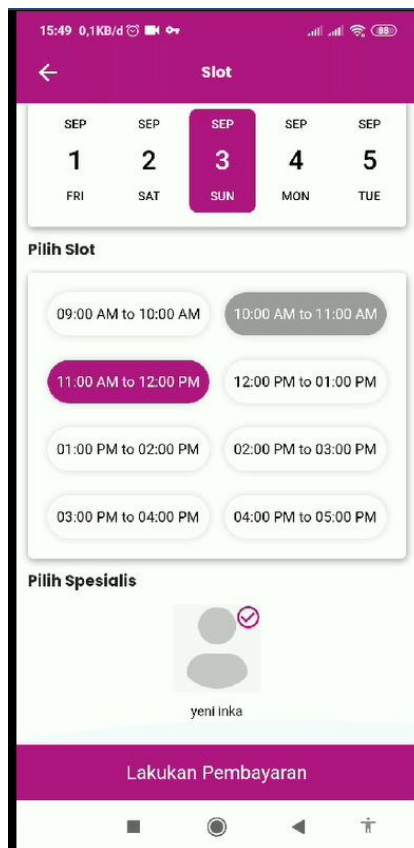


Figure 3. Set a Time for Reservation (Customer)

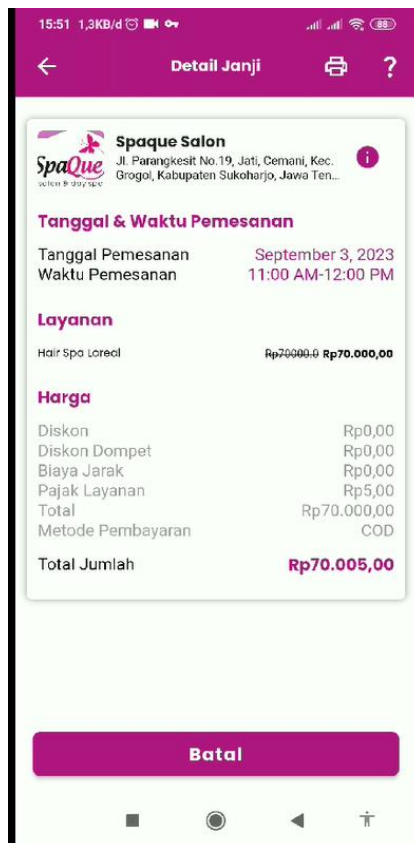


Figure 4. Order Details and Payment (Customer)

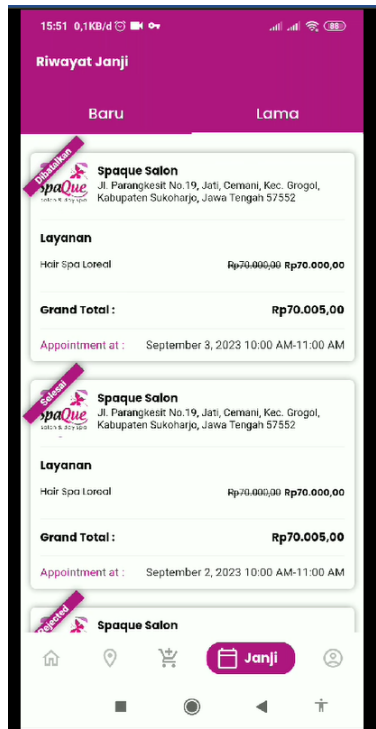


Figure 5. Treatment History (Customer)

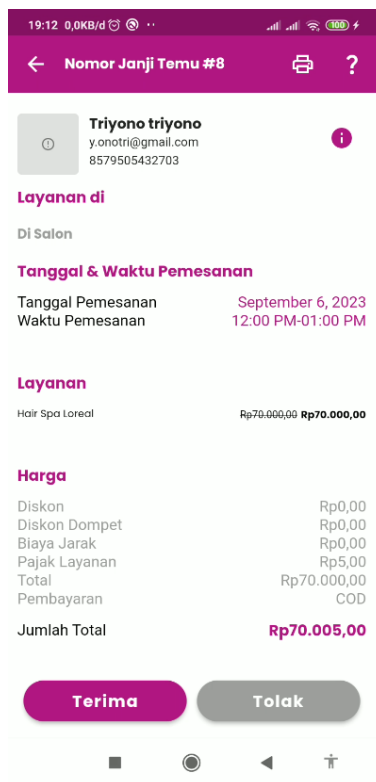


Figure 6. Confirm the Treatment Request (Owner)



Figure 7. Change Reservation Status (owner)

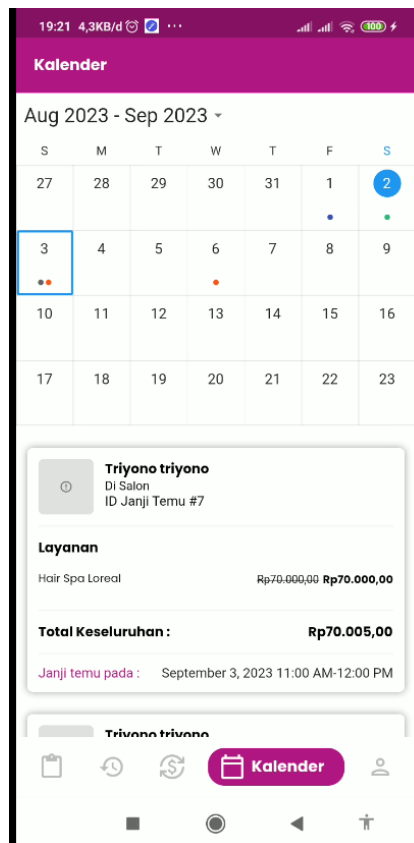


Figure 8. Treatment Booking Schedule

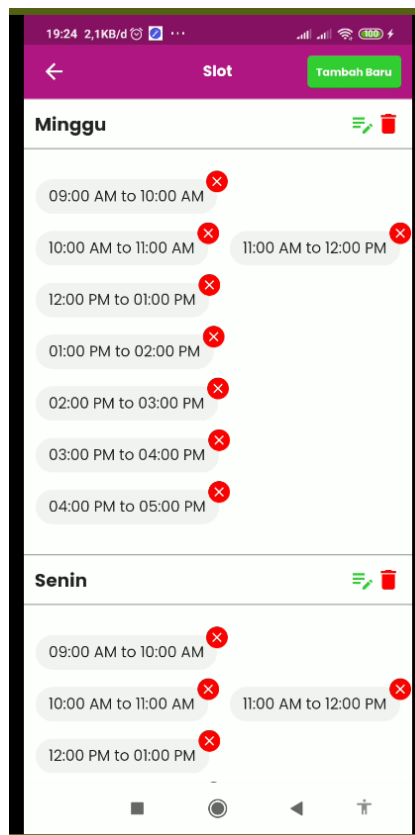


Figure 9. Arrange the Daily Treatment Slot Schedule

After the prototype was successfully developed, we tested it with salons and their customers to get feedback. We collected feedback by conducting interviews at the salon with questions that addressed aspects of ease of use, functionality and quality of service. Based on the feedback provided by the salon and its customers, the conclusion that can be drawn is that the prototype of this reservation system has received a mostly positive response from users. They found the user interface easy to use, reservation steps intuitive, and additional features such as chat and personalization of service. Additionally, the system helps in schedule management, additional services, promotional offers as well as tracking salon revenue. While there are some suggestions for improvement, in general, this prototype is considered a tool that has the potential to provide great benefit to salons and spas in meeting customer needs and better managing their operations.

4. Conclusion

In the context of developing a prototype of an Android-based digital reservation system with special emphasis on customer experience, the results obtained show success in creating a tool that has the potential to provide great benefits for salons and spas. The prototype has generated positive feedback from salons and spas, with users finding the user interface easy to use, reservation steps intuitive, and interactive features, such as chat and personalization, appreciated. Additionally, the system helps in schedule management, additional services, offers, as well as revenue tracking and financial management. While some suggestions for improvement were provided, the results of this testing show that this prototype has the potential to improve the customer experience and operational efficiency of salons and spas in the long term. By combining a strong customer perspective and a technology-based approach, this research can make a positive contribution to the salon and spa industry, strengthening customer relationships and increasing overall customer satisfaction. We hope this research will provide valuable insights for industry practitioners, researchers, and developers interested in the use of mobile technology to improve customer service across a variety of business sectors.

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