Designing UI/UX Reservation Application Savero Hotel Depok With Design Thinking Method Using Figma

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Abstract

One thing that needs to be considered to develop a good application is to design the UI and UX according to the needs of the users themselves. The activity of a Savero Hotel Depok Reservation application product designed to provide convenience facilities for customers with a fast Hotel Reservation information service so that users who are out of town who want to book Hotel Rooms can now take advantage of technology to order online using the Application/Website. The process for generating new innovative ideas in the development of new application products uses a user-centered approach known as Design Thinking which is an approach or method of problem solving both cognitively, creatively and practically to answer human needs as users. Design thinking always starts with empathy. That is, exploring the perspectives, feelings and experiences of users to understand their needs, then looking for solutions through broad thoughts or ideas to find the best solution and tested to ensure the solution is truly effective in solving the problem. The final result of this research is to design the UI/UX Design of the Savero Hotel Depok Reservation Application with the Design Thinking Method using Figma to create an attractive and User Friendly Design appearance which can be seen in the Prototype testing results using maze getting a score of 88%, and the results table of the analysis questionnaire Usability Testing data gets a score of 82.3%.

Keywords : User Interface, User Experience, Design Thinking Method, Figma

Introduction

The rapid development of information technology affects various aspects of life, one of which is the field of Design. Design is a plan or design made before an object, system, component, or structure is produced. It aims to make the object to be made functional, beautiful, and useful for humans. To design a successful UI/UX, it is necessary to ensure a balance between UI and UX, meaning a pleasant interaction between the App and the user without forgetting the importance of an attractive appearance. The comfort that the use of an App/Website brings to the user plays an important role in the business world.

Savero Hotel Depok, located on Jalan Margonda, Depok, Indonesia, is currently facing the problem of not having its own Hotel Application to inform its facilities and services, making it difficult for users to find information in the form of facilities, attractive promotions and easy reservations. Based on the above, with the hope of making an attractive and easy application display design, a UI / UX design of the savero hotel depok reservation application is made with the design thinking method.

Methodology

The method used is the Design Thinking method. This method has several stages, namely:

First. Empathize

Empathize or empathy is a stage to understand humans about their thoughts, desires and needs. At this stage, interviews are conducted to find out what the needs and desires of users are.

Second. Define

After doing the empathize stage and collecting information, the define stage is to analyze and then identify the problems being faced by users.

Thirth. Ideate

Ideate is a step used to find solutions to previously identified problems. This stage can collect ideas that are used as solution strategies to solve existing problems.

Fourth. Prototype

Prototype is implementing the ideas obtained in the previous stage into an interface design in the form of a prototype that can be tested.

Fiftth. Test

At this stage, testing is carried out on the results of the prototype design to see the reaction of potential users when using the application. The benefits achieved by potential users can be used as guidelines and considerations for making improvements.

Result
Research Devices
The hardware used to collect data and create UI/UX Design is:

Laptop Asus - TH099DR3 with the following specifications:
    Processor: Intel(R) Celeron(R) N4000 CPU @ 1.10GHz 1.10 GHz
    RAM: 4.00 GB
    Hard Disk : 1TB
Software
    Windows 10 64-Bit Operating System
    Figma Desktop Version 97.7
    Miro
    Lucid Chart
Test Device
    Maze as a prototype test of the UI/UX design of the Savero Hotel Depok Reservation Application
    Provide questionnaires for usability testing questions to respondents

Interface Requirement Analysis
Several pages are needed to design the user interface of the Savero Hotel Depok Reservation Application users as follows: The application displays the Login Pagem The application displays the Register Page, The application displays the Home Page, The application displays the User Account Page, The application displays the Room Page for Room Type selection, The application displays the Room Detail Page, The application displays the Reservation Data Filling Page, The application displays the Reservation Review Page, The application displays the Payment Confirmation Page, The application displays the Payment Method Selection Page, The application displays the Reservation Page Successfully, The application displays the Reservation History Page, The application displays the Location Page, The application displays the Hotel Facilities Page, The application displays the Voucher Code Page, The application displays the Gallery Page

Design Process
Empathize Stage
At the empathize stage, namely collecting data by interviewing these 15 people. Here are some of the questionnaires presented: (1) Have you ever stayed at a hotel?. (2)If you are traveling / vacationing out of town and decide to stay at a hotel

Table1. How Might We

How	Might
How can users get an App that is easy for al ages ages?	That is to make an application that is user friendly so that it can be used with ease
How can users g complete informatic for the Application?	That is by creating a comple notification menu feature such a notification of room type, numbe of rooms, room price, room size, room facilities, public facilitie and voucher codes.

How	Might
How can users conta the hotel 24 hours c the hotel Application‘	That is to create an informatio page display for 24-hour hot contacts on the Application.
How	*Might*
How can users easil pay for hot reservations online?	That is by making a choice types of payment methods such a transfers, digital wallets, reta stores, and pay on the spot (COD

In the meantime, what type of reservation is usually made?
First . How much do you need an online hotel reservation application system?
Second. What kind of online hotel reservation system do you want/expect?
Thrith. What application menus are needed when making online hotel reservations for you?
Fourth. What type of payment method makes it easy for you to make online hotel reservations?
Fifth. What kind of application display design do you expect?

Define Stage
At the define stage, it is the process of analyzing problems and user needs while collecting the results of interviews obtained in the previous process. In analyzing problems and user needs, it will look for solutions, namely using the How Might We (HMW) method, the aim is to get solutions from a point of view that matches the problem. User needs: (1) Respondents want the UI/UX design of the Savero Hotel Depok Reservation Application to be made easy for people of all ages. (2) Respondents want the UI/UX design of the Savero Hotel Depok Reservation Application to provide complete information. (3) Respondents want the UI/UX design of the Savero Hotel Depok Reservation Application to provide hotel contacts for 24-hour service. (4) Respondents want the Savero Hotel Depok Reservation Application UI/UX design to provide types of payment methods easily. (5) Respondents want the appearance of the Savero Hotel Depok Reservation Application UI/UX design to be attractive and comfortable when used.

Ideate Stage
Ideate is the stage that describes the solution requested by the user in the define stage. Ideate can be realized by evaluating certain creative ideas that have been identified through brainstorming. Brainstorming is done by writing down the ideas obtained into sticky notes.

Figure 1 *brainstorming*

Once all the ideas have been collected, start grouping each idea. The results of the idea process can be seen in figure 1.

Prototype Stage
At the prototype stage, interface design is made according to the needs of the user. In this stage, create user flow and wireframe.

User Flow
The initial stage carried out in the prototype is to create User flow as steps taken by users to achieve goals.

User Flow Reservation on the room
In Figure 2 this User Flow explains the steps when a user wants to reserve a room in the Savero Hotel Depok Reservation Application.
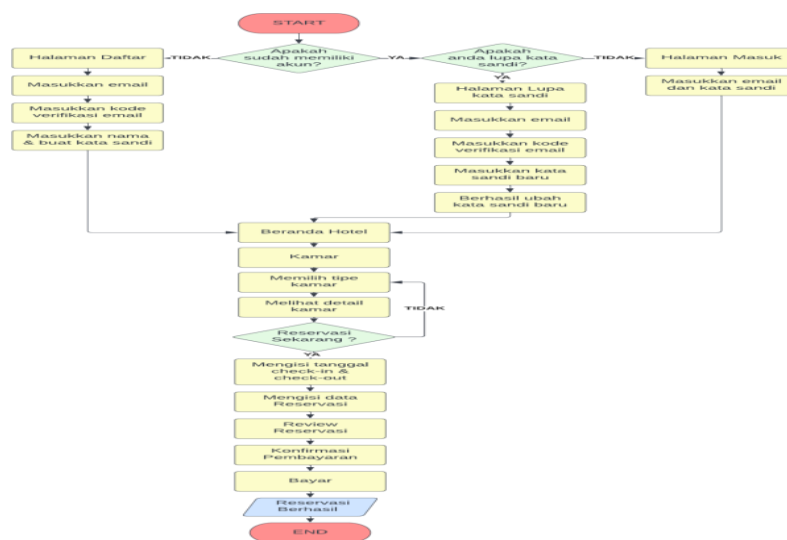

Figure 2. *User Flow* Reservasi

User Flow Viewing Reservation History
In Figure 3 this User Flow explains the steps when the user wants to view the Reservation History Page that has been previously reserved
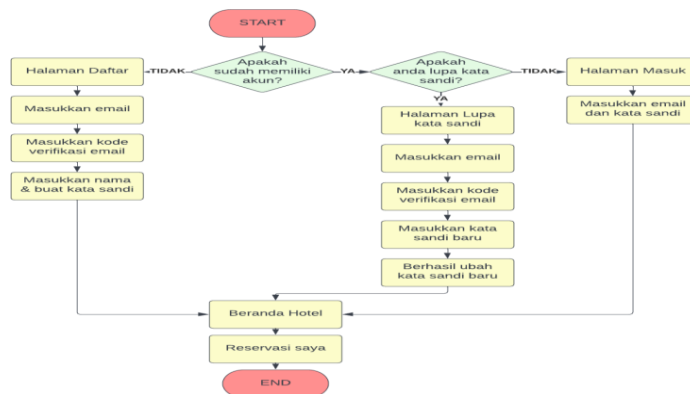

Figure. 3 *User Flow* View Reservation History

User Flow View Profile, Change Profile and Change Password
In Figure 4 this User Flow explains the steps when the user wants to view the profile page, change the profile, and change the new password.
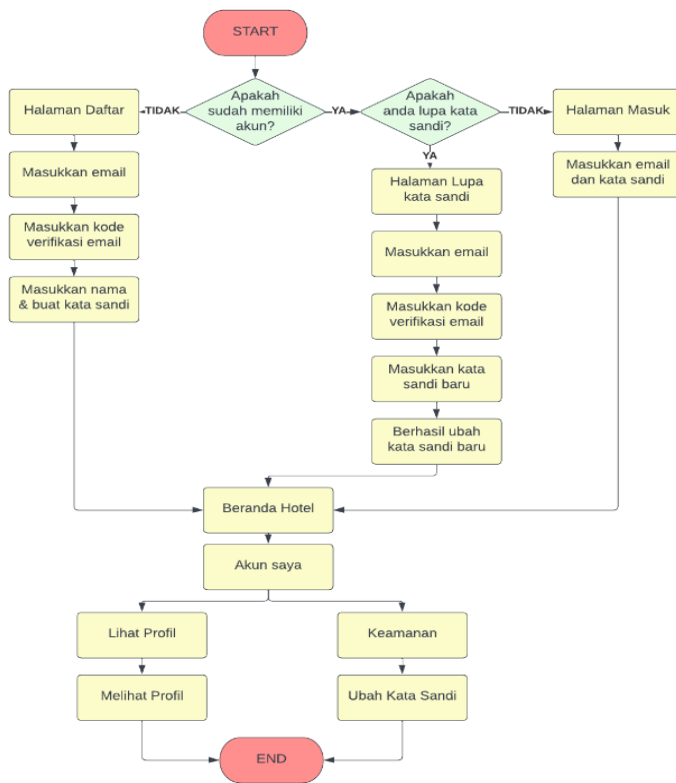
Figure 4 U*ser Flow* view profile and change password

User Flow Viewing Hotel Facilities
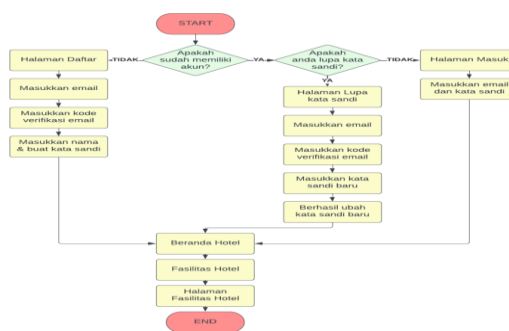In Figure 5 this User Flow explains the steps when a user wants to view the Facilities Page at Savero Hotel Depok.

Figure 5 *User Flow* View Savero Hotel Depok Facilities

User Flow Viewing Hotel Promo Code
In Figure 6 this User Flow explains the steps when the user wants to view the Hotel Promo Code page in order to get a discount when reserving a room.
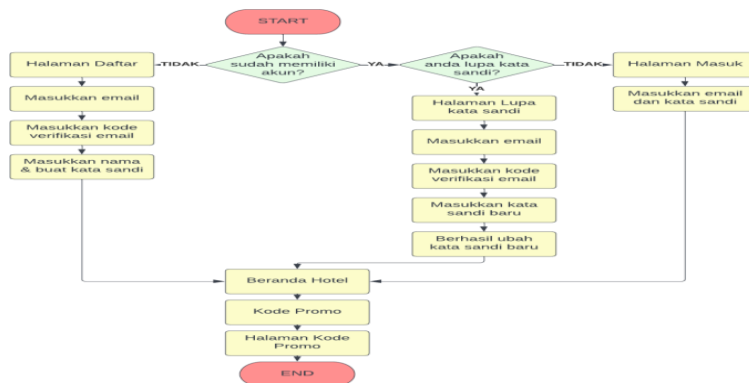
Figure 6 *User Flow* View Savero Hotel Depok Promo Code Page

User Flow Viewing Gallery at Savero Hotel Depok

In Figure 7 this User Flow explains when the user wants to see the Gallery Page at Savero Hotel Depok.
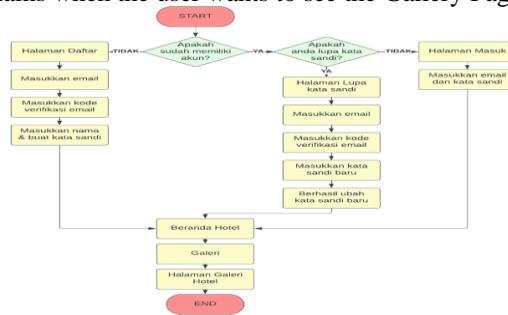

Figure 7 *User Flow* User Flow Viewing Gallery in Savero

Wireframe

After creating the user flow as the steps taken by the user, the next step is to create a low-fidelity and high-fidelity Wireframe as an overview of the Savero Hotel Depok Reservation Application.

Options Page for Login or Register

The low-fidelity and high-fidelity wireframe designs of the start page for choosing to sign in or register can be seen in Figure 8. This page is the initial display for users to choose to enter the application. If you already have an account then the user can choose Sign In, but if you don't have an account then the user can choose Register to register first.
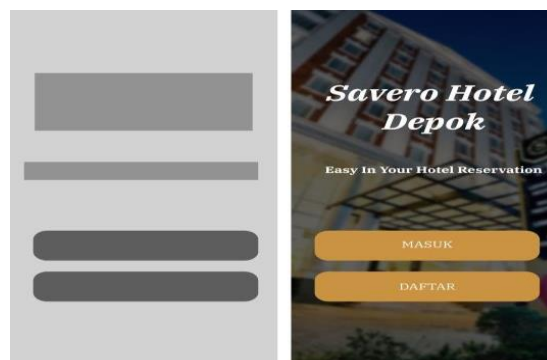

Figure 8 Initial login/register wireframe

List page

The low-fidelity and high-fidelity wireframe design of the Register page can be seen in Figure 9. This page is a display to register in order to enter the application by entering an email and then filling in the verification code on the email, after successful verification the next step is to fill in the name and create a password to register for the application account. The placement of each element has been adjusted following the general design of the registration page on other applications, with the aim that users do not need to adjust and can continue their habits on how they register on the application.

Figure 9 List Wireframe

Login Page

The low-fidelity and high-fidelity wireframe design of the Login page can be seen in Figure 10. This page is a display to enter the application if you have registered previously. This page is enough to enter the previous email and password. Just like the Sign Up page, the placement of each element has been adjusted following the general design of the Sign In page on other Apps, with the aim that users do not need to adjust and can continue their habits on how they log in on the App.

Figure 10 Entry Wireframe Source

Home Page

Low-fidelity and high-fidelity wireframe designs of the home page can be seen in Figure 11. This page is the initial display if you have logged in or registered. This page has a logo on Savero Hotel Depok and there are several buttons such as my account button, room, my reservation, location, hotel facilities, promo code, and gallery. Each button is given complete and easy information so that users can quickly understand the application.
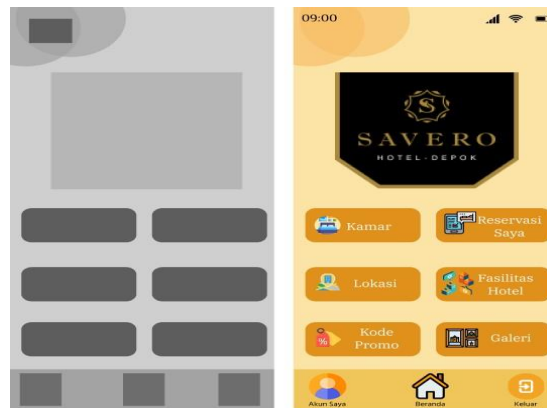
Figure 11 Home Wireframe

Reservation Data Page

The low-fidelity and high-fidelity wireframe designs of the reservation data page can be seen in Figure 12. This page is a display if you have filled in the previous page by filling in reservation data such as full name, email, and telephone number. This page is inside the home page on the room menu.
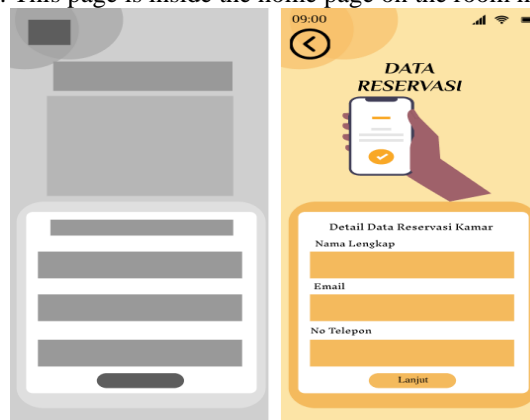

Figure 12 Reservation Data Wireframe

Reservation Review Page

The low-fidelity and high-fidelity wireframe designs of the reservation review page can be seen in Figure 13. This page is a display of a review of a pre-filled room reservation consisting of the name of the room type, check-in and check-out dates, and price details.
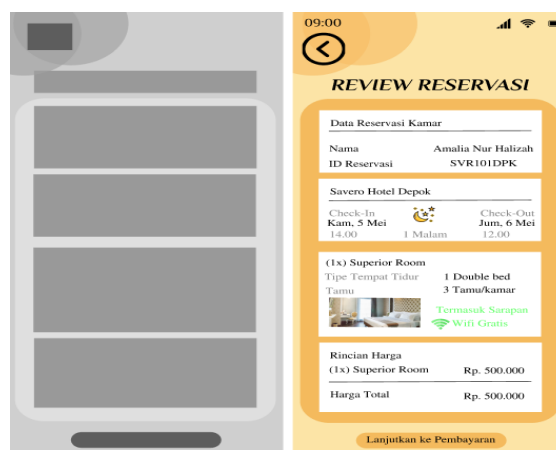

Figure 13 Reservation Review Wireframe

Payment Confirmation Page

The low-fidelity and high-fidelity wireframe design of the Payment Confirmation page can be seen in Figure 14. This page is a display of payment confirmation after filling in the reservation data. On this page there is entering the hotel coupon code and choosing the type of payment method, such as payment by transfer, retail stores, digital wallets, and direct payment at the hotel.

Figure 14 Pay Confirmation Wireframe Source

Pay Page

The low-fidelity and high-fidelity wireframe design of the Pay page can be seen in Figure 15. This page is the display of the pay page, if the user has made a payment, then the user can press the button I have paid.
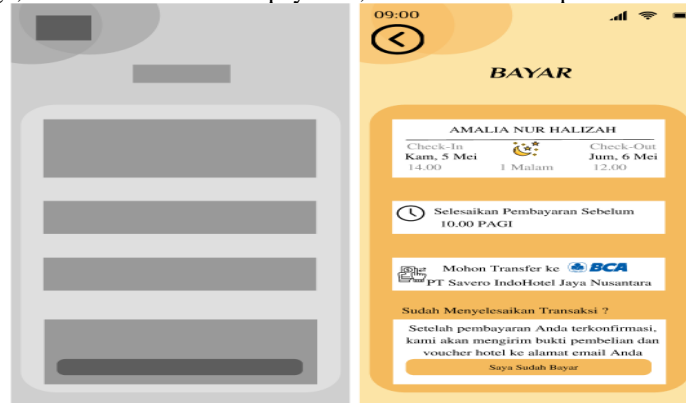

Figure 15 Source Pay Page

Successful Reservation Page

The low-fidelity and high-fidelity wireframe design of the Successful Reservation page can be seen in Figure 16. This page is a display if the reservation has been successful. Then the user can press the finish button.
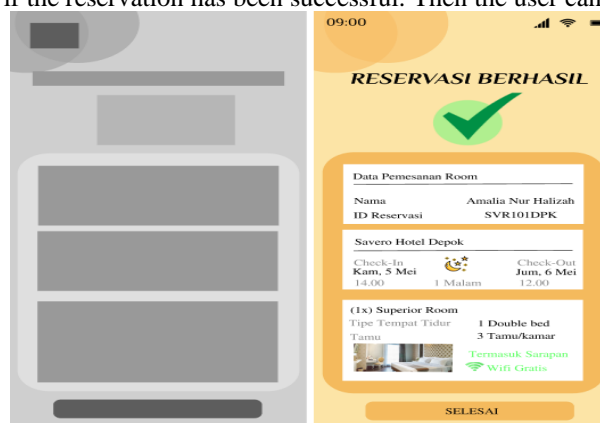

Figure 16 Successful Reservation Wireframe

Reservation History Page

The low-fidelity and high-fidelity wireframe designs of the Reservation History page can be seen in Figure 17. This page is a view of the Reservation History. This Reservation History appears when we have finished making reservations in the room.
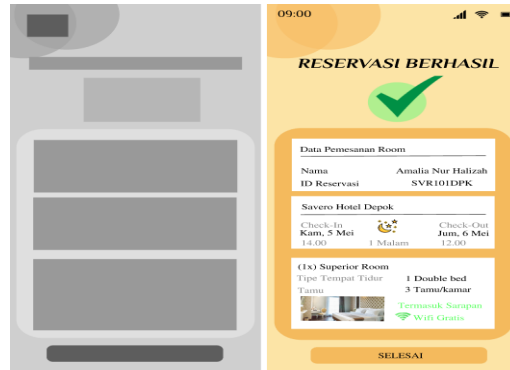

Figure 17 Reservation History Wireframe

Test Phase

This test is carried out with 2 test stages, namely using a maze as a prototype test and analyzing usability testing data using a questionnaire.

Prototype Testing Results using Maze

The results of prototype testing using maze can be seen in Figure 18. Testing the Savero Hotel Depok Reservation Application maze scored 88% with 20 respondents and 10 block missions.

Figure 18 Prototype Testing Results Using Maze

Results of Usability Testing Data Analysis Questionnaire

After getting the final results of the overall usability testing value using the maze, the next stage of analyzing the data and the results of the usability test on the Savero Hotel Depok Reservation Application is the calculation of the percentage on the usability test aspect questionnaire, in this calculation is done by changing to a number value of "1" if the answer is "Yes" and a number value of "0" when the answer is "No". Based on each command point, the percentage will be calculated, so that the number of percentages of "Yes" and how many percentages of "No" will be known.

The following are the results of data analysis obtained through a questionnaire consisting of 14 questions and distributed to 20 respondents.

Table 3 Percentage of Respondents' Answers

No.	Pertanyaan	Ya (%)	Tidak(%)
Learnability			
1	Apakah petunjuk yang ada diAplikasi Reservasi Savero Hotel Depok jelas dan mudah dibaca ?	75	25
2	Apakah pengguna mudah saat menggunakan Aplikasi Resevasi Savero Hotel Depok ?	85	15
3	Apakah tampilan warna pada Aplikasi Reservasi Savero Hotel Depok nyaman dilihat dan tidak membosankan ?	60	40
4	Apakah tampilan menu dalam Aplikasi Reservasi Savero Hotel Depok mudah dimengerti ?	70	30
Total *Learnability*		72,5	27,5
Efficiency			
5	Apakah saat pengguna klik pada menu dapat menampilkan dengan cepat ?	85	15
6	Apakah saat ingin melakukan reservasi kamar pada aplikasi, pengguna dapat melakukandengan cepat dan mudah ?	85	15
7	Apakah pengguna dapat menghemat waktu saat menggunakan Aplikasi Reservasi Savero HotelDepok ?	85	15
Total *Efficiency*		85	15
Memorability			
8	Apakah simbol simbol gambar mudahdimengerti ?	80	20
9	Apakah pengguna merasa tidak asing dengan tampilan menu pada Aplikasi Reservasi SaveroHotel Depok ?	55	45
10	Apakah Tampilan halaman yang pernah dikunjungi mudah diingat kembali ?	80	20
Total *Memorability*		71,7	28,3

Errors

11	Apakah fitur atau menu pada Aplikasi Reservasi Savero Hotel Depok berjalan dengan baik ?	100	0

No.	Pertanyaan	Ya (%)	Tidak (%)
12	Jika pengguna melakukan kesalahan, Apakah dapat mengatasi dengan cepat dan mudah ?	70	30
Total *Errors*		85	15
Satisfacation			
13	Apakah informasi yang disajikan pada tampilan halaman Aplikasi Reservasi Savero Hotel Depok memberikan informasi yang mendukung ?	95	5
14	Apakah anda ingin kembali mengunjungi Aplikasi Reservasi Savero Hotel Depok ?	100	0
Total *Satisfacation*		97,5	2,5
Total Keseluruhan		82,3%	17,7%

Table 4. Usability Test Measurement Scale

Range	Kualifikasi	Hasil
85-100%	Sangat Baik	Berhasil
65-84%	Baik	Berhasil
55-64%	Cukup	Gagal
0-54%	Kurang	Gagal

The total result of the overall calculation on usability testing from respondents' answers is 82.3% of respondents chose Yes and 17.7% of respondents chose No. So it can be concluded that the usability testing data analysis can be said to be successful and good, based on table 3.3 that the range 65-84% shows good and successful results. So it can be concluded that the usability testing data analysis can be said to be successful and good, based on table 3.3 that the range 65-84% shows good and successful results. It can be concluded that the design of the UI / UX Resevation Savero Hotel Depok makes it easier for prospective users to make reservations in the room.

Conclusion

The Design Thinking method in application design can be used to produce User Interface (UI) designs that meet user needs (UX). In designing the Savero Hotel Depok Reservation Application, the application of the Design Thinking method has provided convenience for users. This can be seen from the results of 2 stages of testing, namely the first stage using a maze as a High-Fidelity Prototype test with a final score of 88% and the second stage is data analysis of usability testing results with a final score of 82.3%. The Design Thinking

method can be used to design websites or mobile applications that reach deeper into users to produce designs that meet their needs and make it easier for users.

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