Redesigning the TIX ID Application Using the Design Thinking Method

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Abstract
Technological advancements are continuously transforming the landscape of digital purchasing, particularly through smartphones, which enable various ordering activities, including online cinema ticket bookings. TIX ID serves as a platform that simplifies the process of purchasing cinema tickets from any location without the need to stand in line. Despite its advantages, users have raised concerns regarding the limited payment options, difficulties in cancelling ticket orders, lengthy account creation times, and challenges in submitting complaints. Therefore, it is essential for the TIX ID application to implement updates and modifications to enhance user convenience. Improving the User Interface (UI) and User Experience (UX) can effectively address these issues through the Design Thinking methodology. The Design Thinking approach prioritizes a user-centered perspective, positioning user satisfaction as a key solution to existing problems while fostering innovative ideas. The effectiveness of these enhancements will be evaluated using the Single Ease Question (SEQ), where a score of 6.4 out of 7 indicates that the redesigned User Experience meets user needs and provides the necessary features within the TIX ID application.

Keywords: Design Thinking, User Experience (UX), User Interface (UI), Single Ease Question (SEQ), TIX ID

1. Introduction

Reviewing mobile apps is definitely related to two important elements: User Interface (UI) and User Experience (UX). The UI component includes the visual design that users use when interacting with the application, aiming for them to understand the information and facilities offered by a system (Alamsyah et al., 2022), while when users feel experience and satisfaction after using a product/service is called User Experience (UX) (Saptari et al., 2018).

Redesign is a process of updating the appearance and system, as well as developing from a pre-existing system (Yasir et al., 2023). Thus, the resulting service product can function better in the future. User Interface is a display position, colour suitability of a web or application. User Interface (UI) is the responsiveness to the button when the user clicks so as to produce an interaction of the displacement of what is displayed on the web page.

User Experience is about a user's experience when using or running an application, the ease and simplicity of the process in the system is the main goal in this aspect so that it can achieve system goals that are as simple as possible and easy to understand (Alamsyah et al., 2022).

TIX ID made by PT Nusantara Elang Sejahtera which was made to facilitate online movie theatre ticket booking. But after doing research and analysis by distributing questionnaires and also looking at PlayStore reviews (Noor & Hadisaputro, 2022). Some of the most complained reviews by users include payment methods and flows, difficulties in interacting directly with Customer service via chat when

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there are problems with the account, difficulty in submitting cancelled tickets that have been ordered, and the appearance of the TIX ID application is considered less attractive.

2. Methods

In the process of redesigning the TIX ID application, there are several steps that must be followed. One important aspect that needs to be considered is the steps that are part of the Design Thinking process. The Design Thinking approach is very relevant to use here, because the results of the prototype design can be easily understood and accepted by users.
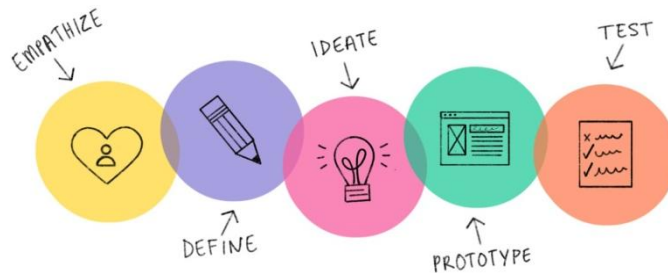

Figure 1. Design Thinking Stage

This research involves five main stages in design thinking, while the stages in solving the problem are arranged as shown in Figure 1, where the process is described in sequence, namely (Nurrohmah & Andrian, 2023):

a) Empathize

This stage aims to understand the problems, needs, and preferences of users through data collection. The data is obtained from the results of the questionnaire distributed. The results of these data are then grouped based on the subject matter using affinity diagrams.

b) Define

The information obtained from the empathy stage is then analyzed to identify each problem. By defining the problem specifically, it is expected to focus on the Solution needed and according to user needs. Elements at this stage include: How Might We, User Persona, User Journey Maps (Maulidia & Andrian, 2023).

c) Ideate

The process of finding creative ideas based on the problems that have been defined at the define stage. The purpose of this stage is to find various possible solutions to user problems (Rosiana et al., 2023). The ideation process involves free exploration, and selection of the most suitable ideas to be implemented in the design. In the context of UI/UX design, two important components at this stage are User Flow and Design System (Aufa, 2024).

d) Prototype

The prototype stage in design thinking is the process of creating an early version of the designed solution [10]. Interface prototypes are created using a design tool such as Figma. This prototype serves as a tangible representation of an idea that is developed, evaluated, and improved before full implementation. The goal is to bring it to a form that can be validated through direct interaction with users (Kusyadi et al., 2021).

e) Testing

The final stage in the design thinking method is testing, where the prototype that has been developed is tried directly by users to assess the effectiveness, functionality, and experience provided.

(Satria et al., 2024). Feedback from this stage is very important to improve and provide solutions to achieve optimal results.

3. Results and Discussion

3.1. Empathize

At this stage I conducted interviews in the form of a questionnaire by giving several questions to 19 users of the TIX ID application using google form. This aims to find out the complaints and needs of users and the problems experienced by users of the TIX ID application in ordering movie tickets online. The results of this questionnaire survey were carried out to facilitate the making of affinity diagrams and used as an evaluation in the development of this redesign.

Affinity diagram is a visual tool used to group/organize complex information into structured according to categories so that it is easier to understand (Candra et al., 2023). This diagram can be used to manage ideas, facts, and opinions. This technique is very familiar and widely used in the early phases of a project or research, especially when handling qualitative data and facing many ideas that need to be organized. Therefore, this method is very suitable for use in this redesign.

Figure 2. Affinity Diagram

3.2. Define

The Define stage is the formulation of the problem. In this section, I made a list of problems complained about by users to be used as points of view in the redesign of this application. Next, I created a list of needs and solutions for users based on the problems experienced. Each existing problem is recorded in the Pain Points section, while the solution will be recorded in the How Might We section (Mendonça de Sá Araújo et al., 2019).

a) How Might We contains of short questions that help get ideas and solutions by brainstorming (Fahrudin & Ilyasa, 2021).

Table 1. How Might We

No	How Might We
1	Update the UI/UX appearance to be seen as more attractive and current and make it easier for users and improve user flow
2	Increase payment method options and apply discounts to each payment method.
3	Simplify the account registration and login process to make it easier and more concise.
4	Adding contact customer service (admin) and ticketing features
5	Change the appearance of the layout to be smoother
6	Improve consistency and typography

b) User Persona is a user class model that describes a lot of information about product usage, attitudes towards products and services (Aoyama, 2007). User personas are compiled based on user data collected through interviews, observations, and surveys (questionnaires). User personas help find target application users. With this User Persona can find out the problems and needs of users. The user persona consists of the identity section, problems (frustration/pain), needs and expectations of the user.
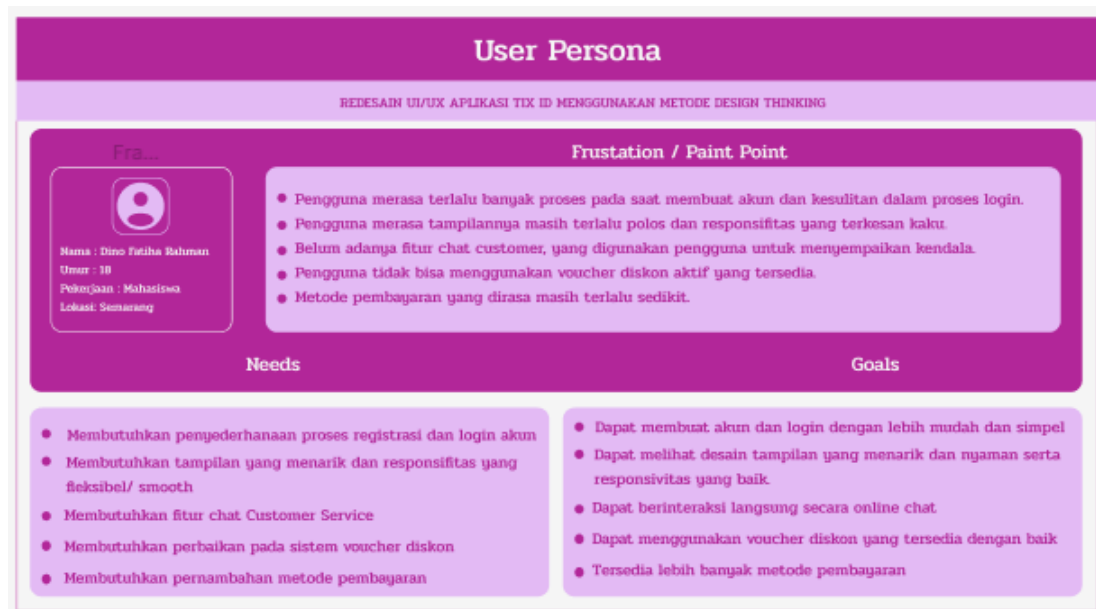

Figure 3. User Persona

c) The User Journey Map depicts a user journey that includes all the steps the user will take. The User Journey method is very useful for understanding the needs of users of the TIX ID application, because the User Journey Map can help identify the main problem points faced by users and the solutions that will be developed to overcome the problems that arise in the TIX ID application (Zahra & Voutama, 2024).

3.3. Ideate

The process of finding creative ideas based on problems that have been defined at the define stage. The goal of this stage is to find various possible solutions to user problems (Rosiana et al., 2023). The ideation process involves free exploration, and selection of the most suitable ideas to be implemented in the design. In the context of UI/UX design, two important components at this stage are User Flow and Design System.

3.3.1. User Flow

User Flow is the user flow in using an application to complete a process. In this study, there is a user flow of how TIX ID application users enter the main page to view order data in the TIX ID application (Suranto, 2020).
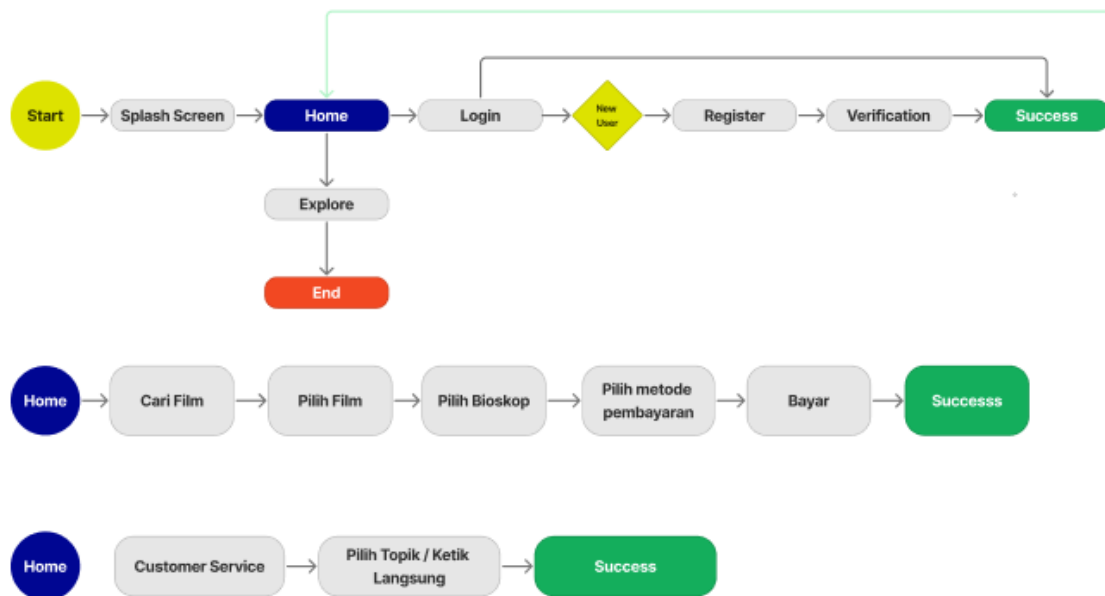
Figure 4. User Flow

3.3.2. System Design

A System Design is a collection of components that are used repeatedly in a project to maintain quality standards and design consistency. In the context of this research, the components used include logos, colors, and typography (Sekali et al., 2023)
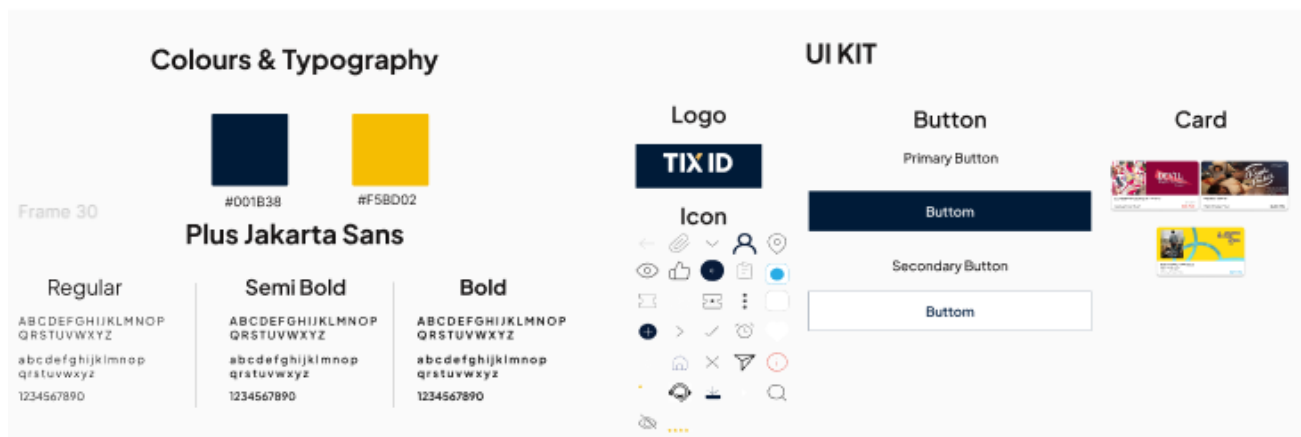

Figure 5. System Design

3.3.3. Wireframe

Figure 6. Wireframe Design

3.4. Prototype

The fourth stage in the Design Thinking method is prototype development. This prototype is designed to be interactive and function like an application in general. The prototyping process is done using the Figma application. The design that was turned into a prototype includes a display that shows a mockup with more detailed elements, such as colors, icons, and typography. The following is the appearance of the TIX ID application in prototype form after going through the redesign process.
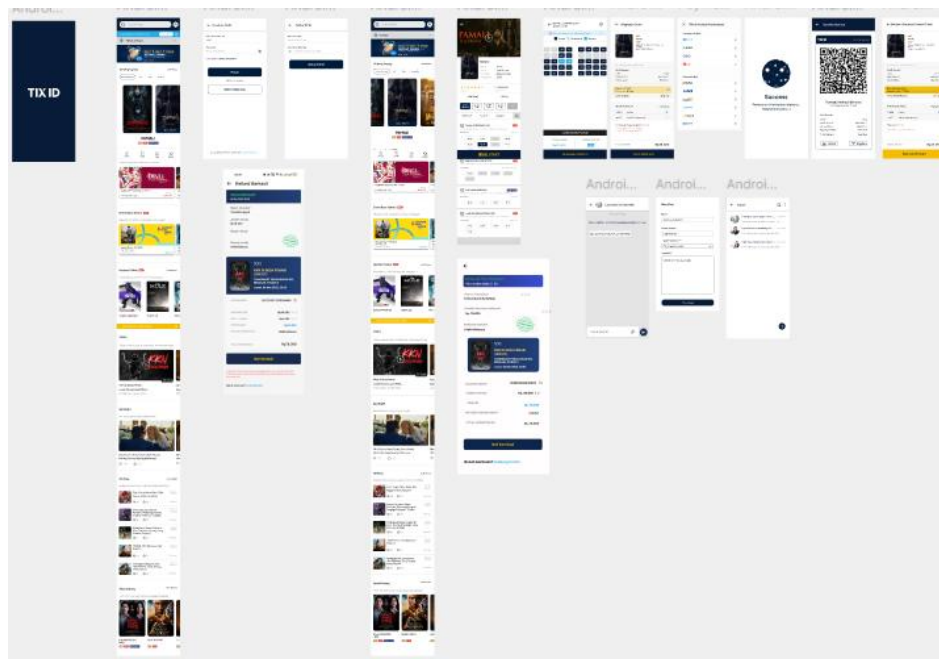
Figure 7. Prototype

The following is an in-depth explanation of the prototype design including features that have been redesigned or optimized or adding some features.
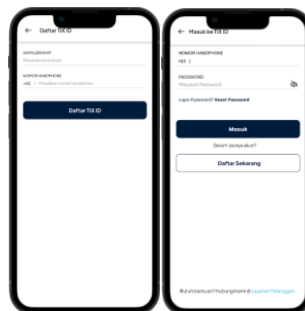
1) Account Registration and Login Page

Figure 8. Account Registration and Login Page

The new user registration page is designed to be as simple as possible to provide convenience for users and increase flexibility in the TIX ID application. The TIX ID login page is also designed to be as simple as possible but with high account security, which is integrated with the phone number and equipped with a password and OTP code, so that account security is maintained from account hijacking.
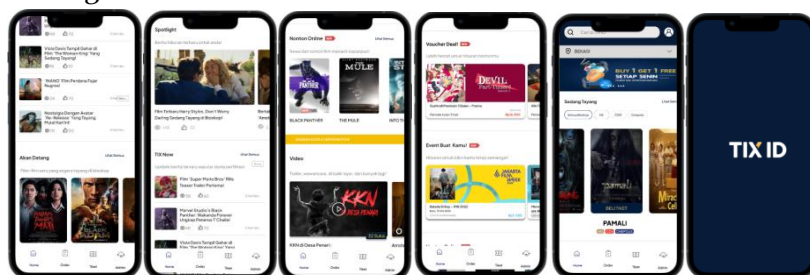
2) Main and Home Page

Figure 9. Main and Home Page

On this main/start page, make sure the important elements are neatly organized in a line or grid. Using the Plus Jakarta Sans font type gives the impression of assertiveness in each letter and of course uses dark blue and the original TIX ID logo on the home page and white on the background so as to give the characteristics of this TIX ID application.
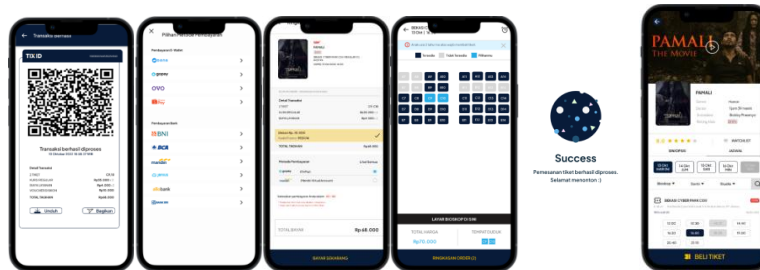
3)   Purchase, Discount and Payment Features

Figure 10. Purchase, Discount and Payment Features Page

Addition of payment methods in the TIX ID application. Complaints from users that in the previous display, the payment method was considered incomplete, therefore it is necessary to add and increase payment methods by adding several types of banks such as BRI, BNI, BCA, MANDIRI, JENIUS, and ALLO BANK. Not only that, improvements to the discount system were also made, where in this optimization the discount system has been applied to all payment methods to provide a sense of harmony to each user. The ticket system is also equipped with a QR Code, thereby reducing the risk of ticket theft and of course also providing convenience for users to print tickets by simply scanning the barcode.

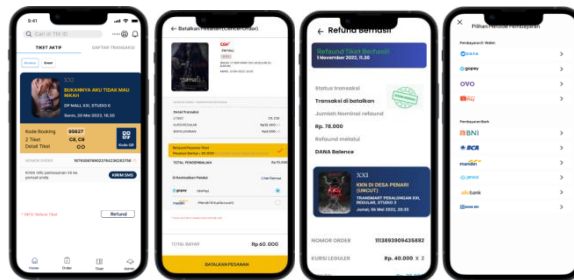4)   Ticket order cancellation feature

Figure 11. Ticket order cancellation feature Page

Many users complain about the difficulty of cancelling tickets; to overcome these problems, an idea arises to create an e-ticket cancellation system that can certainly help users (users) cancel easily and simply.
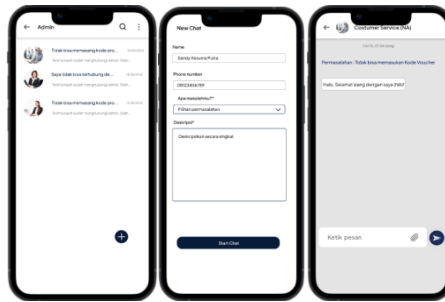
5)   Customer service contact features

Figure 12. Customer service contact features

This idea arose from complaints from several users, where TIX ID application users find it difficult to submit service complaints if there are system problems, so an idea emerged to create this ticket cancellation feature to make it easier for users to interact directly with customer service to file a complaint.

3.5. Test

This test stage in this research aims to measure the overall level of satisfaction and to determine the success of the solutions made to overcome existing problems. This stage is carried out using Usability Testing which involves 7 respondents for each task to get valid results.

a)   Single Ease Question

Single Ease Question aims to measure the level of ease felt by users while running the process in the application. This method includes 8 tasks that must be performed by the user. After completing the task, the user gives an assessment to measure the level of difficulty of the task that has been carried out, ranging from very difficult to very easy on a scale of 1 to a scale of 7. The following is a table of SEQ calculation results can be seen in table 3.

Table 2. SEQ Scenario

No	Functions/Features	Question
1	Register - Login	How easy do you think it is to register and login to the TIX ID app?
2	Home Page- Buy Ticket	How easy is it to enter the purchase menu and purchase TIX ID tickets now?
3	Discount Application	What is the alignment value of applying discounts to each payment method?
4	Choose a Payment method	In your opinion, how complete are the payment methods after the TIX ID application redesign process?
5	Refund - Cancellation of Ticket Purchase	Do you find it easy with the ticket refund feature?
6	Print tickets via QR Code	In your opinion, how easy is it to print tickets by scanning QR Code?
7	QR Code feature security	In your opinion, how much value do you give to the ticket security system with the QR Code feature?
8	Admin – Chat Customer Service	How important is the customer service chat feature for you if you encounter system problems?

Table 3. Questionnaire Result

Function	Task	Respondent Score						
		R1	R2	R3	R4	R5	R6	R7
Register - Login	Task 1: If you want to purchase tickets online, you must first register for an account and log in.	7	7	7	6	5	6	7
Home Page- Buy Ticket	Task 2: After entering the homepage menu, you can select the movie you want to watch, schedule and seat number.	7	7	6	7	7	7	7
Discount Application	Task 3: Once you have selected the movie, you can apply the available discounts.	7	7	7	7	6	5	7
Choose a Payment method	Task 4: Which choice of method is more convenient for you, please choose the payment method you want. Then click pay now, you will be directed to the successful transaction menu with a QR Code to print the ticket by scanning it.	7	7	6	6	5	6	7
Refund - Cancellation of Ticket Purchase	Task 5: If you change your mind, you can cancel the ticket by clicking the refund menu and choosing the refund method?	7	7	5	7	7	6	6
Print tickets via QR Code	Task 6: You can print the ticket easily using the QR Code feature by scanning it on the available scanners.	7	7	6	7	6	5	6
QR Code feature security	Task 7: This QR Code feature also provides security for you from E Ticket theft.	7	7	7	6	6	6	7
Admin – Chat Customer Service	Task 8: You can make a service complaint if there is a system problem to Customer Service.	7	7	6	6	6	5	5
Average	6,4	7	7	6,2	6,5	6	5,7	6,5

4. Conclusion

Based on the study and evaluation that has been carried out using the Design Thinking method, the redesign of the TIX ID application received positive responses from several users based on Usability Testing conducted using the Single Ease Question and System Usability Scale tests. This conclusion is compiled based on research findings involving 7 respondents. This can be seen from the results of the Single Ease Question which is quite high at 6.4 which proves that the User Experience designed is successful and users get the convenience of the features they need so far in the TIX ID application.

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