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UI/UX Redesign of the Alfagift Application Using the Design Thinking Method and System Usability Scale (SUS)

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Abstract

The growth of e-commerce requires applications to have a high level of usability in order to provide an optimal user experience. Using the Design Thinking method, this study aims to redesign the Alfagift application interface to enable features such as selecting a store, tracking orders, and saving order history. This development process will be evaluated using the Usability Scale (SUS). The study employs a mixed-methods approach that combines quantitative data collection via the SUS questionnaire with qualitative data collection through analysis of user reviews and interviews. According to preliminary testing with 60 participants, usability was still below standard, with an average SUS score of 48.875. Based on these findings, a redesign was carried out through the stages of empathize, define, ideate, prototype, and testing. The results of the prototype evaluation showed an increase in the average SUS score to 75.17, falling into the "Good" category—an increase of 26.29 points compared to the initial design. In addition, 73.3% of respondents preferred the revised design because they considered it to have clearer navigation, more informative tracking features, and a more structured order history. The research results show that the application of Design Thinking was highly successful in improving the usability and user experience of the Alfagift app.

Keywords: *Alfagift , Design Thinking, System Usability Scale, UI/UX, Usability..*

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INTRODUCTION

The development of digital technology has accelerated the progress of the sector*e-commerce* in Indonesia. Buying and selling activities that utilize the internet network as a transaction medium are known as *e-commerce* [1]. This growth can be seen from the increasing number of business actors, digital service users, and the projected value of Indonesia's e-commerce market which is estimated to reach USD 75 billion in 2024 with a growth of around 19% [2]. Along with that, internet penetration has also increased from 64.8% (2018) to 77% (2022) and is expected to reach 79.5% by 2024 [3].
This development has also shifted consumer behavior from offline to online shopping. Factors influencing the election *platform e-commerce* includes user assessment of the usability of the system and the ease of use of it, as well as social factors [4]. Today's consumers tend to choose apps that are able to provide a fast, practical, and convenient shopping experience, especially in terms of store selection, order status transparency, and transaction history.

In the midst of the development of the digital era, the use of technology and information contributes significantly to the provision of services that are accurate, precise, organized, responsible, and have a high level of reliability. [5]. Therefore, it is not enough for application development to be oriented only towards meeting functional needs, but also to pay attention to *user experience (UX). User experience* describes the experience that users gain while interacting with a system, which is influenced by the level of ease of use, accessibility, and efficiency in completing tasks using the application. [6].

The quality of an application in the development of digital systems is greatly influenced by the application of aspects *(Human–Computer Interaction/HCI),* Interface design *(User Interface/UI),* and user experience *(User Experience/UX)* and *usability*. HCI or human-computer interaction focuses on how the system is designed to be used easily, effectively, and comfortably by users by paying attention to ergonomic aspects and the experience of human-computer interaction [7]. In addition, app development also puts *User Interface (UI)* and *User Experience (UX)* as the main aspect. Visual interface design is a key focus *User Interface (UI)* so that users can interact with the application easily and intuitively. On the other hand, *User Experience (UX)* Focusing on the experience gained by users while using the system. The combination of the

two is an important factor in creating an effective and satisfying user experience. Good design can provide convenience, convenience, and satisfaction in using apps, while poor design has the potential to cause confusion and reduce the quality of user experience. [8].

Usability describes the extent to which users can use the system effectively, efficiently, and satisfactorily in achieving a particular goal. Evaluation implementation *usability* aims to assess whether the system has met the standards of good interaction so that it can provide an optimal user experience [9]. These aspects are becoming increasingly important in application development *e-commerce*, because the quality of the user experience directly affects the level of satisfaction and success of using the application.

Alfagift as the official application Alfamart provides shopping services *online* that integrates with physical stores as well as customer loyalty programs [10]. However, compared to competitors like Astro, Alfagift still has some weaknesses, especially in the features *tracking* order, store selection, and order status transparency. This is reflected in the app's rating (Alfagift 4.3; Astro 4,9) as well as user reviews complaining about delays and unclear order status.

The main problem identified is the absence of features *tracking real-time*, suboptimal store selection, and order history that has not been separated between active and completed orders. These problems have an impact on the quality of the user experience and cause difficulties in monitoring the transaction process. Level *usability* The application in this study was evaluated using *System Usability Scale (SUS)*[11]. However, to understand the causes of the problem more deeply, an approach is used *Design Thinking* that focuses on the empathy stage to solution testing [12]. The combination of these two methods is expected to result in a redesign of the UI/UX of the Alfagift application, especially in the order tracking features, store selection, and order history.

The research was conducted online by involving Alfagift users in Indonesia through the distribution of questionnaires *online*. Previous research on the Alfagift application has identified several usability problems, but the discussion still focuses on evaluating the application in general and has not examined the user experience on the features *tracking* orders, store selection, and order history in more depth [10]. Therefore, this study focuses on redesigning the three features using the *Design Thinking* supported by evaluation results *System Usability Scale* (SUS), so that it is expected to be able to produce more specific design recommendations according to user needs.

RESEARCH METHODS

The series of studies began with a quantitative evaluation of the level of *usability* Alfagift app using *System Usability Scale* (SUS). Furthermore, the findings of this stage are deepened through a qualitative approach to understand user needs and formulate solutions *redesign* by stages *Design Thinking*. The combination of these two approaches forms the *mixed method* used in this study. The use of SUS allows researchers to obtain data based on direct user experience resulting in an objective picture of the level of usability of the application [13].

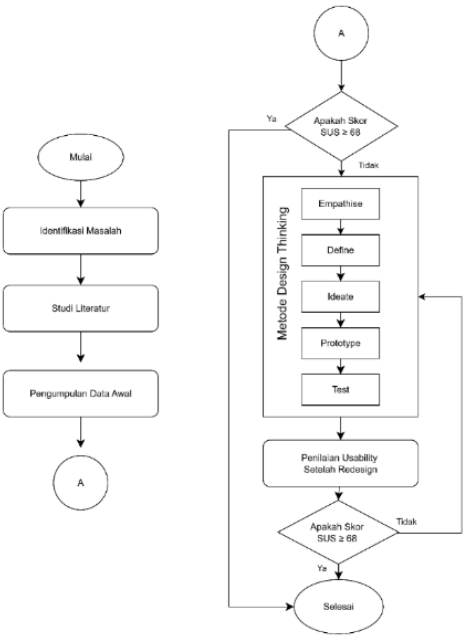


Figure 1. Research flow

2. 1 Problem Identification

The research process began through problem identification activities based on the results of application feature analysis and user reviews on the App Store.

2. 2 Literature Studies

The preparation of the theoretical foundation begins with a search of journals, books, and previous research that are related to the research topic. The results of the study are used as a reference in understanding the concept *usability*, application *System Usability Scale* (SUS), as well as the *Design Thinking* as a solution development approach.

2. 3 Initial Data Collection

Initial data collection was carried out through the distribution of questionnaires *System Usability Scale (SUS)* Google Form based to obtain information about the level *usability* Alfagift application.In addition, researchers also carried out the *empathize* by collecting and analyzing user reviews and comments on the App Store. Data *Review* and application ratings are used as supporting data to strengthen the results obtained from the questionnaire distribution. The selection of respondents was carried out using inclusion criteria to ensure the suitability of characteristics with the needs of the research, namely:

1. Be between 18 and 34 years old.
2. Have been using the Alfagift application for at least 1 month.

At this stage, data was obtained in the form of SUS scores, respondents' responses regarding the application user experience, and various complaints and user inputs that became the basis for identifying usability problems in the Alfagift application.

2. 4 SUS Score Evaluation

This stage is done to calculate and evaluate the score *System Usability Scale* (SUS) to find out the usability level of the Alfagift application. If the SUS score ≥ 68, the application is considered to have good usability so that the research can be completed. However, if the SUS score < 68, the study proceeds to the *redesign* Using the *Design Thinking*. A value of 68 is used as the standard usability limit, where the Score YOUR SUS that exceeds 68 indicates that the system has a *usability* which is good, while a score below 68 indicates that the system still needs improvement. [14].

2. 5 Design Thinking Method

If the evaluation results show that the SUS score is below 68, the research will be continued using the Design Thinking method. In this study, *Design Thinking* chosen as an approach to develop solutions based on user needs. This approach puts the user as the main focus during the design process so that the resulting solution is more suited to the problem at hand. Process *Design Thinking* carried out through five stages, namely *empathize, define, ideate, prototype, dan test*[15].

2.5.1. *Empathize*

Stages *empathize* aims to understand the experience, needs, and problems faced by users. Information is collected through an online questionnaire as well as an analysis of Alfagift app reviews and ratings on the App Store. The results of this stage are used as a basis for identifying problems to be solved in the next stage [16].

2.5.2. *Define*

define carried out by analyzing the data obtained at the *empathize* to identify and formulate the main problems experienced by Alfagift application users. At this stage, the information that has been collected is filtered and grouped according to its level of importance so that the priority of the problem that needs to be fixed is obtained. The result of this stage is in the form of a problem formulation that becomes the basis for the development of solutions at the next stage [17].

2.5.3. *Ideate*

At the stage *ideate*, the process is focused on developing solution ideas to overcome the problems that have been formulated at the stage *define*. At this stage, the researcher develops various improvement ideas that will be used as the basis for prototyping [18].

2.5.4. *Prototype*

prototype This is done by designing the application interface using Figma based on a predefined solution. The result of this stage is a prototype that is ready to be tested by the user [19].

2.5.5. *Testing*

Stages *testing* This was done by testing the prototype to the respondents using an online questionnaire. At this stage, users provide assessments and input on the prototype that has been made. The test results are used to evaluate and ensure the resulting design meets the needs of the user [20].

2. 6 Usability Evaluation After Redesign

At this stage, the prototype results *redesign* was retested using a SUS questionnaire to measure the increase in usability. If the SUS score ≥ 68, then *redesign* declared successful. However, if the SUS score < 68, the process *Design Thinking* can be repeated to refine the design.

RESULTS AND DISCUSSION

3. 1 Data Collection

Initial testing was carried out to measure the level of usability of the Alfagift application before the redesign process was carried out. The measurement used the System Usability Scale (SUS) method by involving 60 respondents who met the research criteria.

Table 1 Respondent data before the redesign

Resp	Total Score	SUS score (Total score × 2.5)
1	31	77,5
2	39	97,5
3	28	70
4	23	57,5
5	25	62,5
6	32	80
7	25	62,5
8	35	87,5
9	30	75
10	30	75
11	16	40
12	34	85
13	34	85
14	18	45
15	37	92,5
16	22	55
17	7	17,5
18	8	20
19	3	7,5
20	11	27,5
21	26	65
22	30	75
23	6	15
24	9	22,5
25	5	12,5
26	6	15
27	6	15
28	10	25
29	5	12,5
30	4	10
31	23	57,5
32	6	15
33	35	87,5
34	35	87,5
35	27	67,5
36	32	80
37	4	10
38	22	55
39	3	7,5
40	8	20
41	34	85
42	7	17,5
43	7	17,5
44	2	5
45	7	17,5
46	4	10
47	19	47,5
48	21	52,5
49	29	72,5

Resp	Total Score	SUS score (Total score × 2.5)
50	24	60
51	37	92,5
52	31	77,5
53	6	15
54	6	15
55	4	10
56	34	85
57	28	70
58	21	52,5
59	29	72,5
60	33	82,5
	Total	2932,5

$$\bar{x} = \frac{\sum x}{n} \qquad (1)$$

$$\bar{x} = \frac{2932,5}{60} = 48,875$$

The average SUS score obtained was 48.875, which is below the usability standard of 68. These results show that the Alfagift application still needs improvements in terms of usability.

3.2 Design Thinking *Method*

3.2.1 *Empathize*

Stages *empathize* used to explore the user experience of the Alfagift application so that the needs and problems faced can be identified in more depth. The process is carried out through *online listening* by analyzing user reviews, *in-depth interview*, as well as the distribution of the SUS questionnaire to 60 respondents aged 18–34 years who have used the application at least in the last three months. The results of this stage show several main obstacles, such as mismatches in delivery estimates, limited store selection, lack of information on the tracking feature, and a less intuitive interface.

3.2.2 *Define*

Based on the results of the analysis, several main problems were found in the Alfagift application, namely inconsistencies in delivery estimates, lack of user control in store selection, *tracking* that is less informative, as well as the order history that is not well structured. In addition, the application interface is also considered less intuitive. Overall, the problem is related to *usability*, lack of system transparency, and low user control that impacts user experience and satisfaction.

3.2.3 *Ideate*

At the stage *ideate*, the researcher formulated a solution based on the results of the previous stage to improve the user experience, especially on the *tracking*, store selection, and order history. The resulting solutions include the development of *tracking* more informative and *real-time*, the addition of a manual store selection feature, as well as a redesign of the order history display with a separation between pending and completed orders. These ideas are then prioritized and used as the basis for designing prototypes in the next stage.

3.2.4 *Prototype*

After the alternative solution is determined, the preparation is carried out *prototype* as an early representation of the Alfagift app interface design. *Prototype* It describes navigation patterns, interaction flows, and presentation of features based on user needs, so that they can be used to obtain feedback before implementation is carried out. The design process is carried out through two stages, namely *low-fidelity prototype* and *high-fidelity prototype.*

1. *Low-Fidelity Prototype*

Low-fidelity prototypes are wireframes that focus on user flow, navigation structure, and element placement without visual detail.

a. Homepage

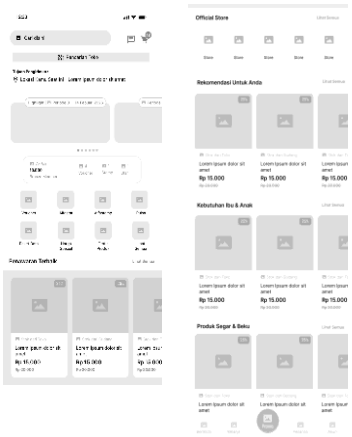


Image 1. Homepage

b. Nearby Store Selection

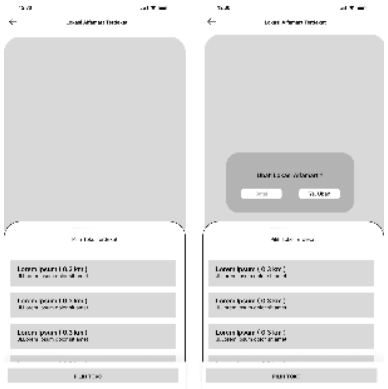


Image 2 Selection of nearby stores

c. Order Tracking



Image 3 Order tracking

d. Booking History



Image 4 Booking history

1. *High-fidelity prototype*

The *high-fidelity prototype stage* is focused on refining the interface design through the application of more complete visual elements, including colors, icons, and typography, so that the design has a realistic look and is closer to the final product.

a. Homepage

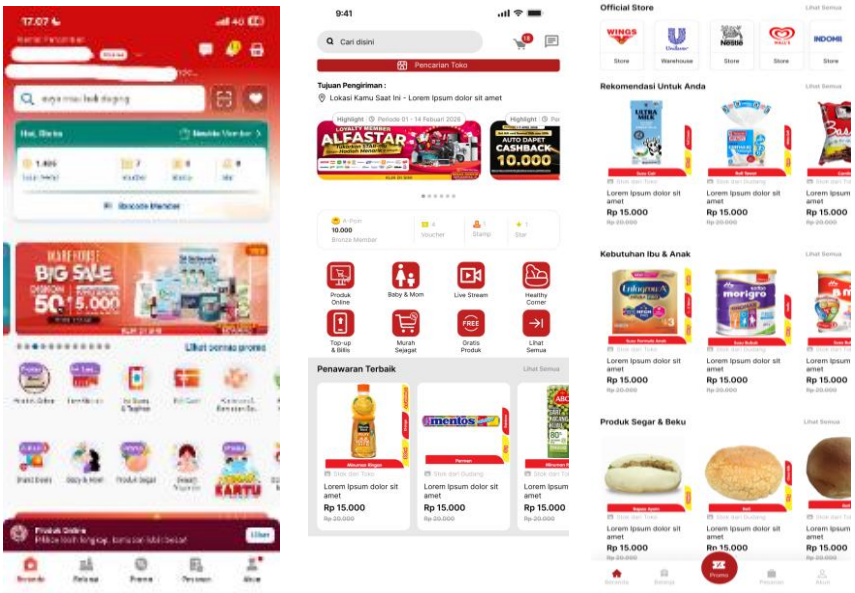


Figure 2. Homepage before and after redesign

b. Nearby Store Selection

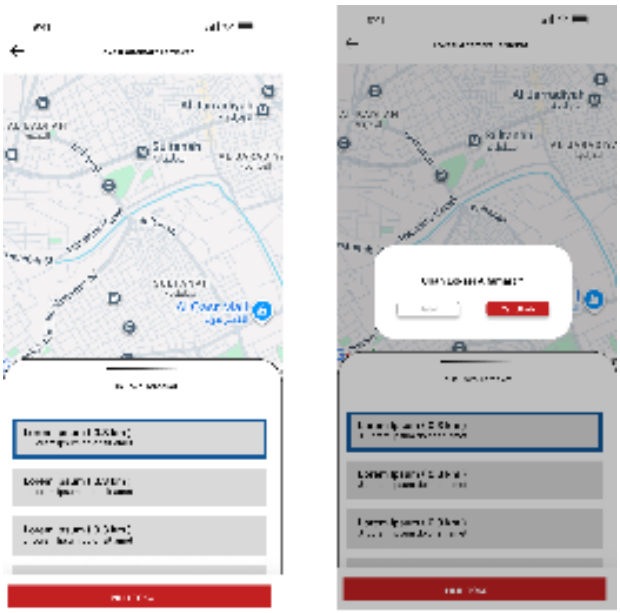


Figure 3. After-store selection Redesign

c. *Order Tracking*

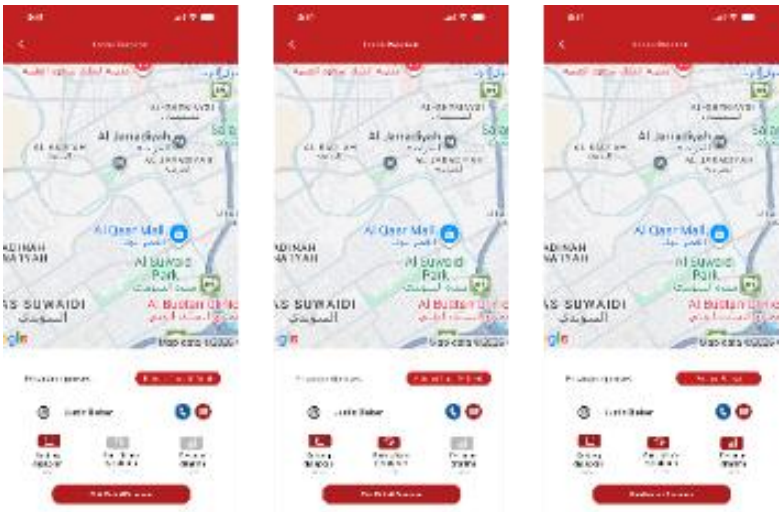


Figure 4. Tracking Order after Redesign

d. Booking History

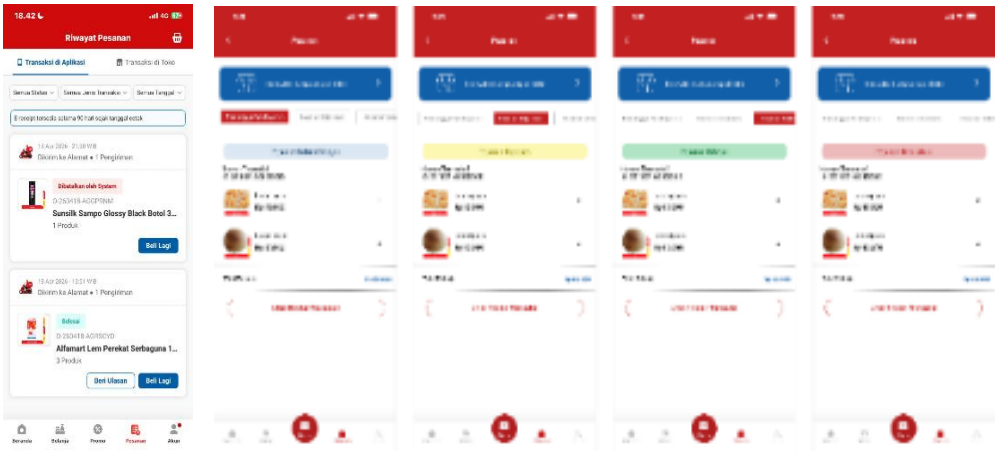


Figure 5. Before and after order history *Redesign*

3.2.5 *Testing*

The evaluation of the results of *the Alfagift application redesign was carried out at the* testing stage *using* the System Usability Scale (SUS) instrument. The data collection process was carried out through the distribution of questionnaires to 60 respondents who met the same research criteria as the previous test, but only 30 respondents refilled the questionnaire until the data collection deadline. Therefore, the analysis was conducted based on 30 respondents who participated in the retest.

Table 2 Respondent data after *Redesign*

Resp	Total Score	SUS score (Total score × 2.5)
1	36	90
2	30	75
3	32	80
4	32	80
5	30	75
6	21	52,5
7	20	50
8	34	85
9	31	77,5
10	33	82,5
11	33	82,5
12	36	90
13	36	90
14	33	82,5
15	33	82,5
16	24	60
17	20	50
18	21	52,5
19	20	50
20	33	82,5
21	36	90
22	30	75
23	20	50
24	29	72,5
25	40	100
26	39	97,5
27	30	75
Resp	**Total Score**	**SUS score (Total score × 2.5)**
28	21	52,5
29	39	97,5
30	30	75
	TOTAL	2255,00

$$\bar{x} = \frac{\sum x}{n}$$

$$\bar{x} = \frac{2255{,}00}{30} = 75{,}16666667$$

The test results showed an increase in the SUS score from 48.875 to 75.1667 in the *Good* category. This shows that *the redesign* has succeeded in improving the usability of the Alfagift application, especially in terms of ease of use, feature effectiveness, and user convenience.

3.3SUS Comparative Evaluation Results

The increase in SUS score shows that the improvement in interface design has a positive impact on the usability of the Alfagift application. The SUS score increased by 26.29 points compared to the initial condition, indicating an improvement in the aspects of ease of use, efficiency, and clarity of navigation.

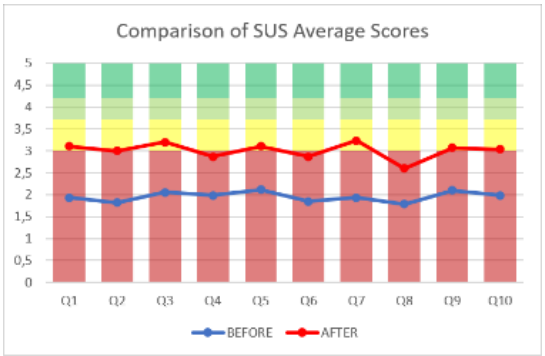


Figure 6. Comparison of SUS Evaluation Results

Based on the average SUS score comparison chart, there was an increase in odd questions and a decrease in even questions. This shows that the system after the redesign is considered easier to use, more consistent, and more convenient by users.

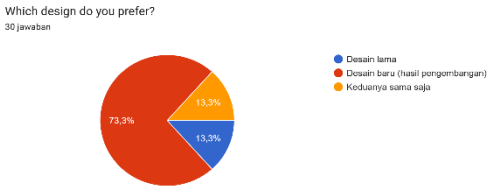


Figure 7. User Preference for the Alfagift Application Design

In addition, the results of the user preference evaluation showed that 73.3% of respondents chose the new design, while 13.3% chose the old design and both, respectively. The new design is considered more modern, has clearer navigation, more informative tracking features, and a more structured order history.

However, some users still choose the old design due to habituation and familiarity with familiar navigation flows. Based on the results of the evaluation, it can be concluded that the *redesign* process provides an improvement in the *usability* and quality of user experience on the Alfagift application.

CONCLUSION

The results of the System Usability Scale (SUS) measurement on the Alfagift application before the redesign obtained an average score of 48,875 which indicates a poor category. The results of the analysis showed that users experienced problems with order status information, store selection, as well as unclear tracking features and order history.

The application of Design Thinking results in a redesign of the main features according to the needs of the user. The results of the SUS evaluation after the redesign increased to 75.17 in the good category, which shows an increase in usability and user experience.

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Opsi : Fast Track
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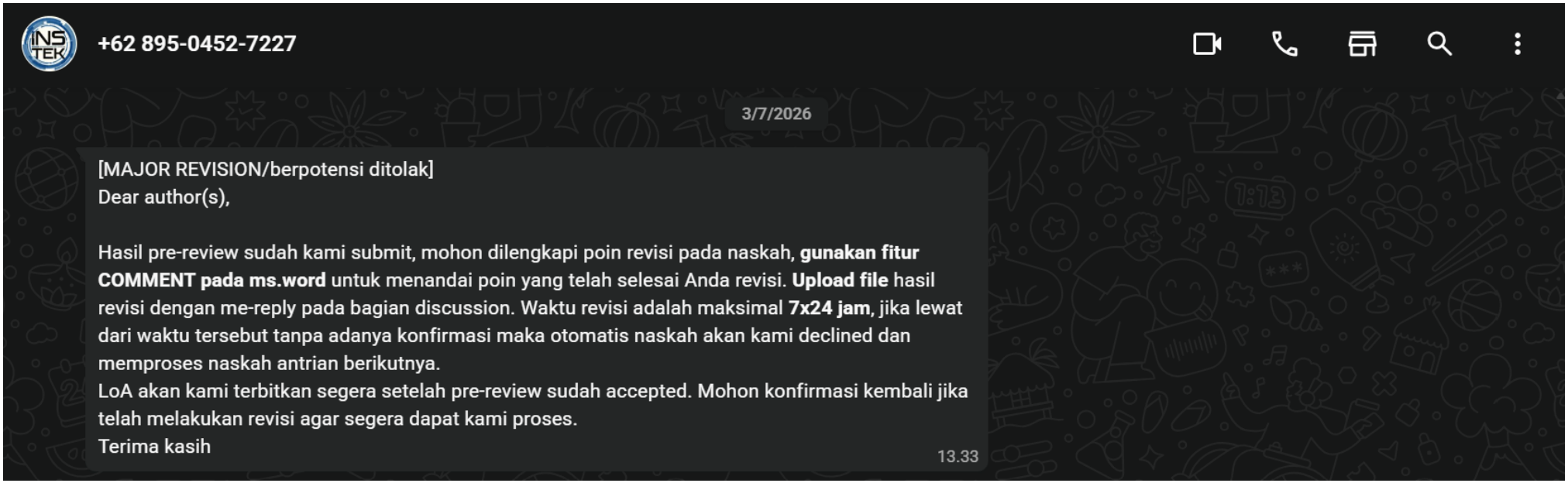
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UI/UX Redesign of the Alfagift Application Based on Design Thinking and Initial Usability Evaluation Using the System Usability Scale (SUS)

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Abstract

The rapid growth of e-commerce has increased the demand for applications with high usability to provide an optimal user experience. This study aims to redesign the UI/UX of the Alfagift application using the Design Thinking approach by improving three key features: Store Search, Order Tracking, and Order History. The proposed redesign was evaluated using the System Usability Scale (SUS). A mixed-methods approach was employed, combining quantitative data collected through the SUS questionnaire with qualitative data obtained from user reviews and interviews. The initial usability evaluation involving 60 participants resulted in an average SUS score of 48.875, indicating that the application's usability was below the acceptable threshold. Based on these findings, the UI/UX redesign was developed through the Empathize, Define, Ideate, Prototype, and Testing stages of Design Thinking. The evaluation results showed that the average SUS score increased to 75.17, which falls into the "Good" category, representing an improvement of 26.29 points over the initial design. Furthermore, 73.3% of respondents preferred the redesigned interface because it provided clearer navigation, more informative order tracking, and a more structured order history. The findings indicate that the proposed UI/UX redesign not only improved usability and user experience but also enhanced transaction transparency and user control, providing more focused design recommendations for retail e-commerce applications.

Keywords: Alfagift, Design Thinking, System Usability Scale, UI/UX, Usability.

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1. INTRODUCTION

The development of digital technology has accelerated the progress of the sectore-commerce in Indonesia. Buying and selling activities that utilize the internet network as a transaction medium are known as e-commerce [1]. This growth can be seen from the increasing number of business actors, digital service users, and the projected value of Indonesia's e-commerce market which is estimated to reach USD 75 billion in 2024 with a growth of around 19% [2]. Along with that, internet penetration has also increased from 64.8% (2018) to 77% (2022) and is expected to reach 79.5% by 2024 [3].
This development has also shifted consumer behavior from offline to online shopping. Factors influencing users when selecting an e-commerce platform include system usability, ease of use, and social factors [4]. Today's consumers tend to choose apps that are able to provide a fast, practical, and convenient shopping experience, especially in terms of store selection, order status transparency, and transaction history.

In the midst of the development of the digital era, the use of technology and information contributes significantly to the provision of services that are accurate, precise, organized, responsible, and have a high level of reliability [5]. Therefore, it is not enough for application development to be oriented only towards meeting functional needs, but also to pay attention to user experience (UX). User experience describes the experience that users gain while interacting with a system, which is influenced by the level of ease of use, accessibility, and efficiency in completing tasks using the application [6].

The quality of an application in the development of digital systems is greatly influenced by the application of aspects (Human–Computer Interaction/HCI), Interface design (User Interface/UI), and user experience (User Experience/UX) and usability. HCI or human-computer interaction focuses on

how the system is designed to be used easily, effectively, and comfortably by users by paying attention to ergonomic aspects and the experience of human-computer interaction [7]. In addition, app development also puts User Interface (UI) and User Experience (UX) as the main aspect. Visual interface design is a key focus User Interface (UI) so that users can interact with the application easily and intuitively. On the other hand, User Experience (UX) Focusing on the experience gained by users while using the system. The combination of the two is an important factor in creating an effective and satisfying user experience. Good design can provide convenience, convenience, and satisfaction in using apps, while poor design has the potential to cause confusion and reduce the quality of user experience. [8].

Usability describes the extent to which users can use the system effectively, efficiently, and satisfactorily in achieving a particular goal. Evaluation implementation usability aims to assess whether the system has met the standards of good interaction so that it can provide an optimal user experience [9]. These aspects are becoming increasingly important in application development e-commerce, because the quality of the user experience directly affects the level of satisfaction and success of using the application.

Alfagift as the official application Alfamart provides shopping services online that integrates with physical stores as well as customer loyalty programs [10]. However, compared to competitors like Astro, Alfagift still has some weaknesses, especially in the features tracking order, store selection, and order status transparency. This is reflected in the app's rating (Alfagift 4.3; Astro 4,9) as well as user reviews complaining about delays and unclear order status.

The main problem identified is the absence of features tracking real-time, suboptimal store selection, and order history that has not been separated between active and completed orders. These problems have an impact on the quality of the user experience and cause difficulties in monitoring the transaction process. Level usability The application in this study was evaluated using System Usability Scale (SUS) [11]. However, to understand the causes of the problem more deeply, an approach is used Design Thinking that focuses on the empathy stage to solution testing [12]. The combination of these two methods is expected to result in a redesign of the UI/UX of the Alfagift application, especially in the order tracking features, store selection, and order history.

The research was conducted online by involving Alfagift users in Indonesia through the distribution of online questionnaires. Previous research on the Alfagift application has identified several usability problems, but the discussion still focuses on evaluating the application in general and has not examined the user experience of the order tracking, store selection, and order history features in depth [10]. Therefore, this study focuses on redesigning these three features using the Design Thinking method supported by the System Usability Scale (SUS) evaluation to provide more specific design recommendations based on user needs. Unlike previous studies, this research specifically investigates usability issues related to transaction transparency and user control through these three features. The findings are expected to provide more focused design recommendations and contribute practical insights for improving the user experience of retail e-commerce applications.

2. RESEARCH METHODS

The series of studies began with a quantitative evaluation of the level of usability Alfagift app using System Usability Scale (SUS). Furthermore, the findings of this stage are deepened through a qualitative approach to understand user needs and formulate solutions redesign by stages Design Thinking. The combination of these two approaches forms the mixed method used in this study. The use of SUS allows researchers to obtain data based on direct user experience resulting in an objective picture of the level of usability of the application [13].

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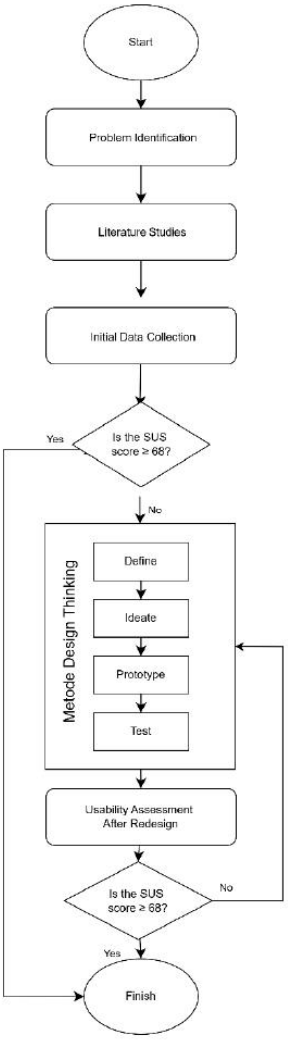


Figure 1 Research flow

2.1 Problem Identification

The research process began through problem identification activities based on the results of application feature analysis and user reviews on the App Store.

2.2 Literature Studies

The preparation of the theoretical foundation begins with a search of journals, books, and previous research that are related to the research topic. The results of the study are used as a reference in understanding the concept usability, application System Usability Scale (SUS), as well as the Design Thinking as a solution development approach.

2.3 Initial Data Collection

Initial data collection was carried out through the distribution of questionnaires System Usability Scale (SUS) Google Form based to obtain information about the level usability Alfagift application.In addition, researchers also carried out the empathize by collecting and analyzing user reviews and comments on the App Store. Data Review and application ratings are used as supporting data to strengthen the results obtained from the questionnaire distribution. The selection of respondents was carried out using inclusion criteria to ensure the suitability of characteristics with the needs of the research, namely:

1. Be between 18 and 34 years old.
2. Have been using the Alfagift application for at least 1 month.

At this stage, data was obtained in the form of SUS scores, respondents' responses regarding the application user experience, and various complaints and user inputs that became the basis for identifying usability problems in the Alfagift application.

2. 4 SUS Score Evaluation

This stage is done to calculate and evaluate the score System Usability Scale (SUS) to find out the usability level of the Alfagift application. If the SUS score ≥ 68, the application is considered to have good usability so that the research can be completed. However, if the SUS score < 68, the study proceeds to the redesign Using the Design Thinking. A value of 68 is used as the standard usability limit, where the Score YOUR SUS that exceeds 68 indicates that the system has a usability which is good, while a score below 68 indicates that the system still needs improvement [14].

2. 5 Design Thinking Method

If the evaluation results show that the SUS score is below 68, the research will be continued using the Design Thinking method. In this study, Design Thinking chosen as an approach to develop solutions based on user needs. This approach puts the user as the main focus during the design process so that the resulting solution is more suited to the problem at hand. Process Design Thinking carried out through five stages, namely empathize, define, ideate, prototype, dan test [15].

2.5.1. Empathize

The empathize stage aims to understand the experience, needs, and problems faced by users. Information is collected through an online questionnaire as well as an analysis of Alfagift app reviews and ratings on the App Store. The results of this stage are used as a basis for identifying problems to be solved in the next stage [16].

2.5.2. Define

The define stage was carried out by analyzing the data obtained at the empathize to identify and formulate the main problems experienced by Alfagift application users. At this stage, the information that has been collected is filtered and grouped according to its level of importance so that the priority of the problem that needs to be fixed is obtained. The result of this stage is in the form of a problem formulation that becomes the basis for the development of solutions at the next stage [17].

2.5.3. Ideate

At the ideate stage, the process is focused on developing solution ideas to overcome the problems that have been formulated at the stage define. At this stage, the researcher develops various improvement ideas that will be used as the basis for prototyping [18].

2.5.4. Prototype

The prototype was developed by designing the application interface using Figma based on a predefined solution. The result of this stage is a prototype that is ready to be tested by the user [19].

2.5.5. Testing

Testing stage was conducted by testing the prototype to the respondents using an online questionnaire. At this stage, users provide assessments and input on the prototype that has been made. The test results are used to evaluate and ensure the resulting design meets the needs of the user [20].

2. 6 Usability Evaluation After Redesign

At this stage, the prototype results redesign was retested using a SUS questionnaire to measure the increase in usability. If the SUS score ≥ 68, then redesign declared successful. However, if the SUS score < 68, the process Design Thinking can be repeated to refine the design.

3. RESULTS AND DISCUSSION

3. 1 Data Collection

Initial testing was carried out to measure the level of usability of the Alfagift application before the redesign process was carried out. The measurement used the System Usability Scale (SUS) method by involving 60 respondents who met the research criteria.

Table 1 Respondent data before the redesign

Resp	Total Score	SUS score (Total score × 2.5)
1	31	77,5
2	39	97,5
3	28	70
4	23	57,5
5	25	62,5
6	32	80

Resp	Total Score	SUS score (Total score × 2.5)
7	25	62,5
8	35	87,5
9	30	75
10	30	75
11	16	40
12	34	85
13	34	85
14	18	45
15	37	92,5
16	22	55
17	7	17,5
18	8	20
19	3	7,5
20	11	27,5
21	26	65
22	30	75
23	6	15
24	9	22,5
25	5	12,5
26	6	15
27	6	15
28	10	25
29	5	12,5
30	4	10
31	23	57,5
32	6	15
33	35	87,5
34	35	87,5
35	27	67,5
36	32	80
37	4	10
38	22	55
39	3	7,5
40	8	20
41	34	85
42	7	17,5
43	7	17,5
44	2	5
45	7	17,5
46	4	10
47	19	47,5
48	21	52,5
49	29	72,5
50	24	60
51	37	92,5
52	31	77,5
53	6	15
54	6	15
55	4	10
56	34	85
57	28	70
58	21	52,5
59	29	72,5
60	33	82,5
	Total	2932,5

$$\bar{x} = \frac{\Sigma x}{n} \quad (1)$$

$$\bar{x} = \frac{2932,5}{60} = 48,875$$

The average SUS score obtained was 48.875, which is below the usability standard of 68. These results show that the Alfagift application still needs improvements in terms of usability.

3.2 Design Thinking Method

3.2.1 Empathize

The empathize stage was used to explore the user experience of the Alfagift application so that the needs and problems faced can be identified in more depth. The process is carried out through online listening by analyzing user reviews, in-depth interview, as well as the distribution of the SUS questionnaire to 60 respondents aged 18–34 years who have used the application at least in the last three months. The results of this stage show several main obstacles, such as mismatches in delivery estimates, limited store selection, lack of information on the tracking feature, and a less intuitive interface.

3.2.2 Define

Based on the results of the analysis, several main problems were identified in the Alfagift application, including inconsistencies in delivery estimates, limited user control over store selection, less informative order tracking, and an unstructured order history. In addition, the application interface was considered less intuitive. Overall, these issues were related to usability, lack of system transparency, and limited user control, which negatively affected the user experience and user satisfaction.

Based on the identified problems, several design solutions were selected to address the primary needs of users. The proposed solutions were determined according to the priority of the usability issues identified during the Empathize and Define stages. The mapping between user problems, design solutions, and the rationale for selecting each solution is presented in Table 2.

Table 2 Mapping User Problems and Solutions

User Problems	Design Solutions	Rationale
Users could not search for or select their preferred store.	Added a Store Search feature.	To provide greater flexibility and improve user control when selecting a store before placing an order.
Users had difficulty monitoring the delivery progress because the tracking information was unclear.	Redesigned the Order Tracking feature with real-time tracking.	To improve delivery transparency and enable users to monitor their orders in real time.
The order history was displayed in a single list, making it difficult to identify the status of each transaction.	Redesigned the Order History page by categorizing orders based on their status.	To make transaction information easier to locate and improve information organization.

3.2.3 Ideate

At the stage ideate, the researcher formulated a solution based on the results of the previous stage to improve the user experience, especially on the tracking, store selection, and order history. The resulting solutions include the development of tracking more informative and real-time, the addition of a manual store selection feature, as well as a redesign of the order history display with a separation between pending and completed orders. These ideas are then prioritized and used as the basis for designing prototypes in the next stage.

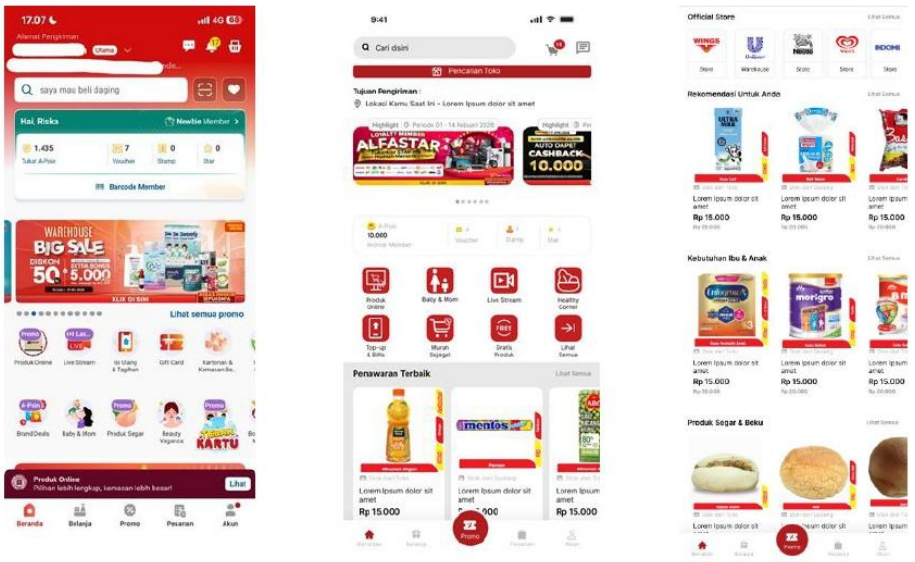
3.2.4 Prototype

After determining the design solution, a prototype was developed to represent the redesigned Alfagift user interface based on user needs. The prototype illustrates the navigation structure, interaction flow, and feature presentation derived from the Empathize and Define stages. In this study,

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only the high-fidelity prototype is presented because it represents the final design evaluated during the usability testing.

a. Home Page



(a) (b)

Figure 2 Homepage before redesign (a), Homepage after redesign (b)

The homepage was redesigned to improve visual consistency and navigation efficiency. In the original design, the menu icons used different colors, resulting in an inconsistent visual appearance that made it more difficult for users to identify the main features. In the redesigned interface, all menu icons were standardized using a consistent visual style and color scheme to create a cleaner interface and strengthen the visual hierarchy.

In addition, a Store Search feature was added to the homepage, allowing users to search for and select their preferred store directly without navigating to another page. This improvement was based on the findings from the *Empathize* and *Define* stages, which indicated that users experienced difficulties in locating and selecting stores. These design changes were intended to improve navigation efficiency, provide greater user control, and enhance the overall user experience.

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b. Nearby Store Selection

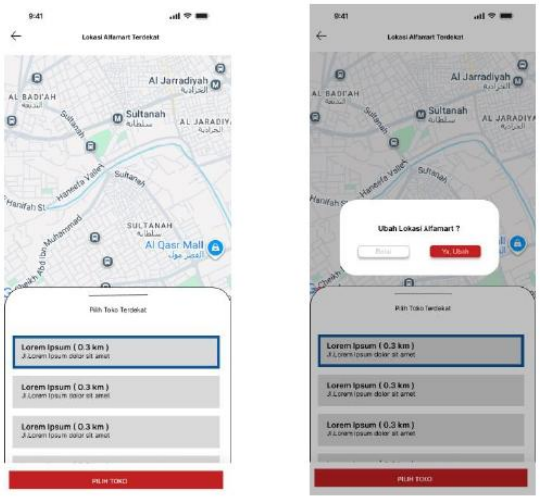
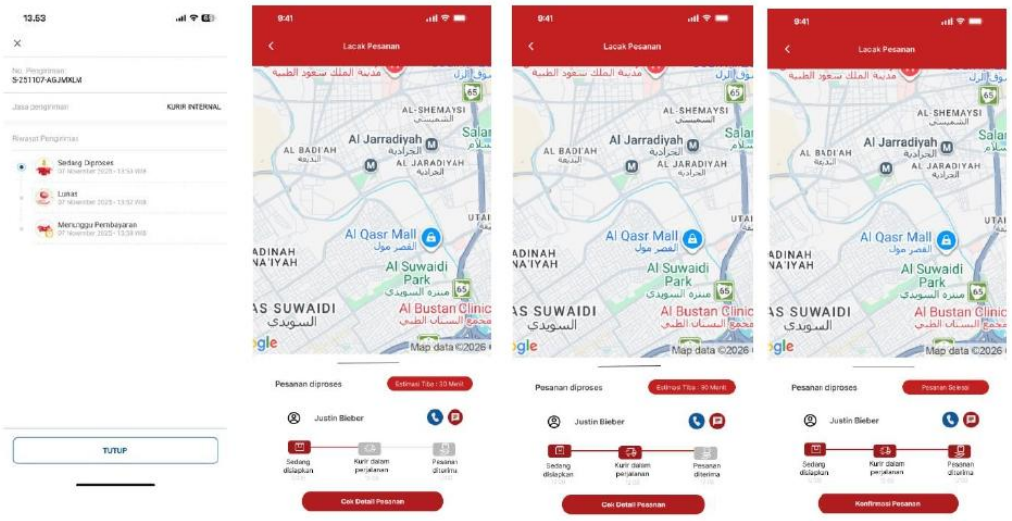


Figure 3 Redesigned store search feature

In the original design, users could not search for or select a store according to their preferences because the application automatically assigned the nearest store based on the user's location. In the redesigned interface, a *Store Search* feature was added, allowing users to search for and select their preferred store directly. This improvement was intended to provide greater flexibility and enhance user control when selecting a store before completing a transaction.

c. Order Tracking



(a) (b)

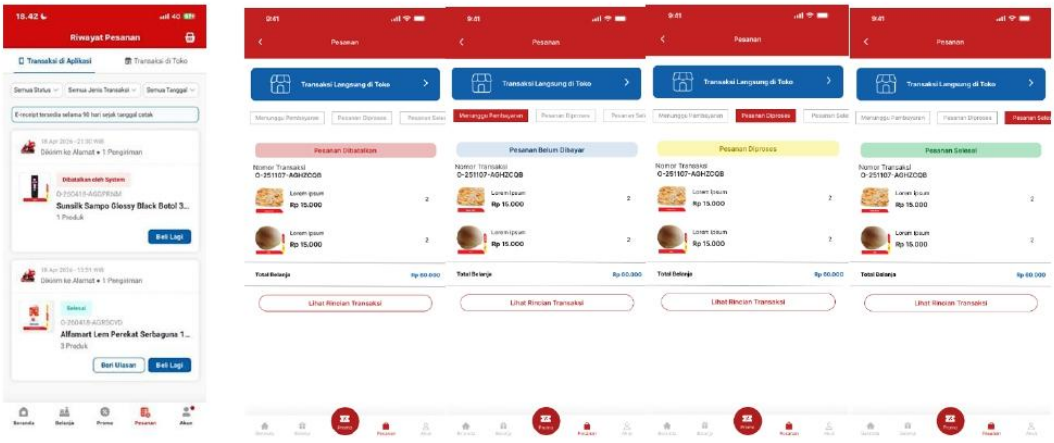
Figure 4 Tracking order before redesign (a), Tracking order after redesign (b)

In the original design, order status information was displayed only as a simple status list, making it difficult for users to monitor the delivery progress in real time. In the redesigned interface, the Order Tracking feature was enhanced by adding a real-time map, estimated delivery time, and a clearer

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delivery progress indicator consisting of Order Prepared, Courier on the Way, and Order Delivered. These improvements were intended to increase delivery transparency, enable users to monitor their orders in real time, and reduce uncertainty throughout the delivery process.

d. Order History



(a) (b)

Figure 5 Order history before redesign (a), Order history after redesign (b)

In the original design, the order history was displayed as a single list without categorizing orders based on their status, making it difficult for users to identify and monitor the progress of each transaction. In the redesigned interface, the Order History page was organized into separate categories, including Pending Payment, Order Processed, Completed, and Canceled. This improvement was intended to help users locate transaction information more easily, monitor order status efficiently, and improve the overall organization of order history.

3.2.5 Testing

The evaluation of the results of the Alfagift application redesign was carried out at the testing stage using the System Usability Scale (SUS) instrument. The data collection process was carried out through the distribution of questionnaires to 60 respondents who met the same research criteria as the previous test, but only 30 respondents completed the second questionnaire within the data collection period.Therefore, the analysis was conducted based on 30 respondents who participated in the retest.

Table 3 Respondent data after Redesign

Resp	Total Score	SUS score (Total score × 2.5)
1	36	90
2	30	75
3	32	80
4	32	80
5	30	75
6	21	52,5
7	20	50
8	34	85
9	31	77,5
10	33	82,5
11	33	82,5
12	36	90
13	36	90
14	33	82,5
15	33	82,5
16	24	60
17	20	50

18	21	52,5
19	20	50
20	33	82,5
21	36	90
22	30	75
23	20	50
24	29	72,5
25	40	100
26	39	97,5
27	30	75
28	21	52,5
29	39	97,5
30	30	75
	TOTAL	2255,00

$$\bar{x} = \frac{\sum x}{n}$$

$$\bar{x} = \frac{2255,00}{30} = 75,16666667$$

The test results showed an increase in the SUS score from 48.875 to 75.1667 in the Good category. This shows that the redesign has succeeded in improving the usability of the Alfagift application, especially in terms of ease of use, feature effectiveness, and user convenience.

Table 4 Mean Scores and Interpretation of Each SUS Item Before and After the Redesign

Item	SUS Statement	Before Redesign (Mean)	After Redesign (Mean)	Interpretation
Q1	I think that I would like to use this system frequently.	2.93	4.10	Increased, indicating users are more willing to use the application regularly after the redesign.
Q2	I found the system unnecessarily complex.	3.18	2.00	Decreased (better), indicating the redesigned interface reduced users' perception of complexity.
Q3	I thought the features in the application were well integrated.	3.05	4.20	Increased, showing better integration of features from the users' perspective.
Q4	I found the application confusing to use.	3.02	2.13	Decreased (better), indicating clearer navigation and interaction flow.
Q5	I felt confident using the application.	3.12	4.10	Increased, reflecting improved user confidence while interacting with the redesigned interface.
Q6	I thought the application was too complicated to use.	3.15	2.13	Decreased (better), showing that the redesign simplified user interaction.
Q7	I would recommend Alfagift to others because of its ease of use.	2.93	4.23	Increased significantly, indicating greater user satisfaction with the redesigned application.
Q8	I needed to learn many things before I could use the application.	3.22	2.40	Decreased (better), indicating the redesigned interface was easier to learn.
Q9	I found it easy to locate the features I needed.	3.10	4.07	Increased, showing that the redesigned navigation made features easier to find.
Q10	I often felt frustrated while using the application.	3.02	1.97	Decreased (better), indicating the redesign reduced user frustration.

Based on Table 3, the largest increase occurred in Q7 (willingness to recommend apps), which increased from 2.93 to 4.23. This shows that users think the new design provides a better user experience so that it is more worthy of recommending to other users.

In addition, all even numbered statement items, namely statements 2, 4, 6, 8, and 10, experienced a decrease in average value. Because these items are negative statements in the System Usability Scale (SUS), a decrease in scores actually indicates an increase in usability. These findings indicate that after the redesign, users rated the application to be simpler, less confusing, easier to learn, and able to reduce frustration during the user process.

The improvements in Q9 also show that users find the features they need more easily. This result is in line with design improvements in the store selection, order tracking, and order history features developed based on the results of the Empathize and Define stages in the Design Thinking method.

3.3 SUS Comparative Evaluation Results

The increase in SUS score shows that the improvement in interface design has a positive impact on the usability of the Alfagift application. The SUS score increased by 26.29 points compared to the initial condition, indicating an improvement in the aspects of ease of use, efficiency, and clarity of navigation.

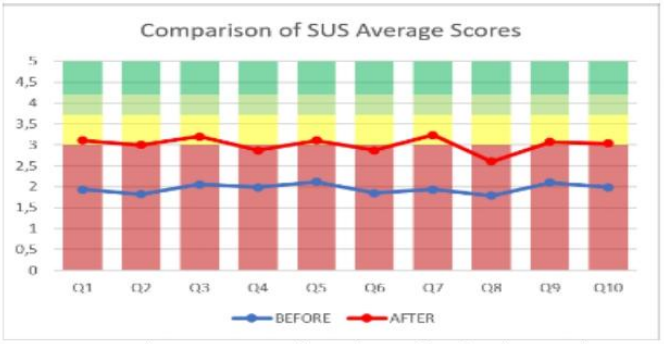


Figure 6 Comparison chart of evaluation results

Based on the average SUS score comparison chart, there was an increase in odd questions and a decrease in even questions. This shows that the system after the redesign is considered easier to use, more consistent, and more convenient by users.

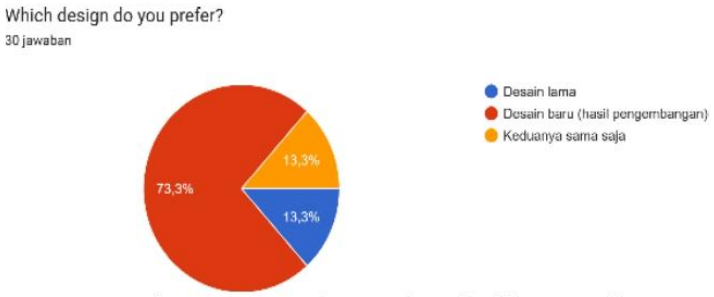


Figure 7 User Preferences for Alfagift App Design

In addition, the results of the user preference evaluation showed that 73.3% of respondents chose the new design, while 13.3% chose the old design and both, respectively. The new design is considered more modern, has clearer navigation, more informative tracking features, and a more structured order history.

However, some users still chose the old design due to habituation and familiarity with the existing navigation flow. Based on these findings, it can be concluded that the redesign improved the usability and overall user experience of the Alfagift application.

Beyond the improvement in usability scores, this study also identified that the primary usability issues in the Alfagift application were related not only to interface appearance but also to transaction transparency and user control. This pattern was reflected in users' needs for store selection, real-time

order tracking, and a more structured order history. Unlike previous studies that evaluated the Alfagift application from a general usability perspective, this study provides more specific design recommendations by focusing on these three features. These findings contribute practical UI/UX design recommendations for improving user experience in retail e-commerce applications, particularly by addressing transaction transparency and user control.

However, this study has several limitations. First, the evaluation was conducted using a redesigned prototype rather than a fully implemented Alfagift application. Therefore, the findings reflect users' perceptions of the proposed interface rather than actual application usage. In addition, the post-redesign evaluation involved only 30 respondents, which may limit the generalizability of the findings. Therefore, future research is encouraged to implement the redesigned interface in a fully functional application and evaluate it with a larger and more diverse group of participants. Furthermore, future studies may incorporate additional usability evaluation methods to provide a more comprehensive understanding of the user experience.

4. CONCLUSION

The results of the System Usability Scale (SUS) measurement on the Alfagift application before the redesign obtained an average score of 48.875, indicating poor usability. The analysis revealed that users experienced several usability issues, including limited store selection, unclear order tracking, poorly structured order history, and insufficient transaction transparency.

The application of the Design Thinking approach successfully produced a UI/UX redesign that addressed these usability issues through improvements to the Store Search, Real-Time Order Tracking, and Order History features. The post-redesign SUS evaluation increased to 75.17, which falls into the Good category, indicating a significant improvement in usability and user experience.

The findings also indicate that improving transaction transparency and user control through the redesigned features contributed to the enhancement of usability and user experience in the Alfagift application. Furthermore, this study provides practical UI/UX design recommendations for retail e-commerce applications by demonstrating how user-centered design can address specific usability issues identified through Design Thinking and SUS evaluation.

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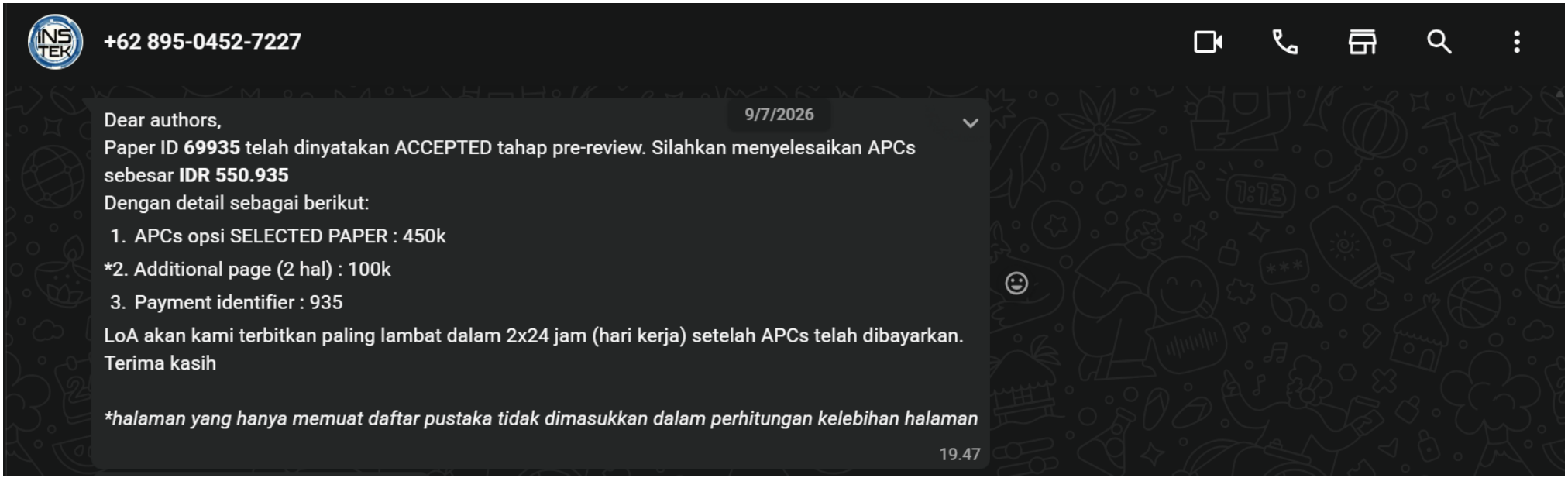
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We are pleased to inform you that based on the results of the peer review for the following article:

Title of Article	: UI/UX Redesign of the Alfagift Application Based on Design Thinking and Initial Usability Evaluation Using the System Usability Scale (SUS)
Author(s)	: Riska Amelia Puspita Sari[1], Mizan Aldini Malik[2], Firman Noor Hasan*[3]
Institution	: [1,3]Universitas Muhammadiyah Prof. DR. HAMKA, Indonesia; [2]Sosyal Bil. Öğr. Pr., Anadolu Üniversitesi, Turki.
Date of Submission	: July 2, 2026

The article has been accepted for publication in Jurnal INSTEK, and it will appear in **Vol. 11 No. 2 2026**, which is scheduled to be published in **October 2026**.

The article will now be processed by the editorial board and reviewers for further feedback and necessary revisions.

This letter of acceptance is issued as a formal notification for the stated article. Should you need any further information, please feel free to contact us.

Thank you for your submission and cooperation.

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