UI/UX Gamification Features in Campaign Application Using Design Thinking Method

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Abstract

During the Covid-19 pandemic that hit all corners of the world, many people had to change their daily lives and one of them was social activities. Campaign is a mobile-based application to carry out social actions and open donations from sponsors where users can take part in campaign actions anywhere and anytime and also make donations without having to spend a penny. The problem experienced by Campaign is that users don't do challenge actions on a regular basis because this action takes several days, so users often lose motivation in the middle of the road and the challenges are not completed. Based on the problems, the gamification feature was designed to motivate users in completing challenges. The design of this gamification feature uses the Design Thinking method which passes through 5 stages, which are Empathize, Define, Ideate, Prototype, Test. The result of this research is a prototype of the gamification feature which is designed with three iterations of changes and testing of the prototype is carried out to get UI/UX design results that are in line with the main goal. The test results on three informants were passed with an average SEQ score of 6.57 from a scale of 1-7. There are several elements, such as the system level and badges, that need to be developed in the design iteration so that the UI design results of the gamification feature are more ready to use.

Keywords: *Campaign, UI/UX, Gamification, Design Thinking, SEQ*

I. INTRODUCTION

During the Covid-19 pandemic that hit all corners of the world, many people had to change their daily lives. In order to be protected from this dangerous virus, almost all activities that should be done offline are diverted to be done online.

The use of the internet as a tool to help humans do work in everyday life is something that many people rely on currently. With the use of the internet, it can facilitate the completion of work without having to travel to a place first, although there are also some other jobs that are limited because if done online it becomes less flexible. One of the activities that can be handled online is the provision of social movements on an issue that exists in the community [1].

Campaign is a social startup based in Jakarta that provides a safe and dedicated space for campaign organizers to challenge their supporters to social action and open donations from sponsors. Campaign is a mobile-based application where users, called supporters, can make donations without having to spend a penny. In Campaign, supporters can join in various challenges for various existing social issues and complete campaign actions from these challenges that are related to their daily activities.

However, along with the running of this application, there are problems faced by the users, namely many users who are not easy to take challenge actions on a regular basis because this action takes several days, so users often lose motivation in the middle of the road so that the challenge is not resolved.

Gamification is the use of game mechanics to increase user participation and motivation to keep using the system in contexts that are not related to the game [2]. Gamification has been applied in various fields such as e-commerce, health services, banking, and social networking applications. With the concept of gamification in an application, it can attract users to spend more time on the application. This is because the concept of the game itself gives the impression of being fun to do so that users voluntarily and consistently use the application [3]. User Interface (UI) is input and output that includes system users directly physically,

perceptually, and conceptually [4]. User Interface is also a bridge between users in operating the system according to their needs and desires, taking into account several considerations for good and correct use of the system [5].

Design Thinking is a problem solving method using a practical and creative approach that focuses on users [6]. The term design thinking comes from academics such as Bryan Lawson and Nigel Cross who observed how designers solve problems differently than scientists do [7]. The main goal is to solve problems through a creative thinking process. The use of this method will affect the design of the user interface and user experience of a product [8].

By designing the UI/UX for the gamification feature in Campaign application, it is expected to be a solution to the problems faced by the Campaign and assist in building the desired gamification features. UI/UX design can be done with various methods, in this case using design thinking. This design can be developed to assist agencies in building gamification features so that it can be a fun space for users and can motivate users to use Campaign and work on challenges to completion.

II. MATERIALS AND METHODS

The concept of the research methodology is using Design Thinking. Design Thinking method has 5 (five) stages that must be carried out, namely Empathize, Define, Ideate, Prototype, and Test, that can be seen in Figure 1.

Figure 1. Stages of Design Thinking Method

A. *Empathize*

The first step in this research is Empathize which is used to understand the problem. Empathize is achieved through a process of observation and participation through extensive conversations and interviews. At the Empathize stage, what was done was to join the AMA (Ask Me Anything) session together with the Challenge Partner, namely Campaign.

Then, to find out more about user experience, a survey was conducted with a questionnaire related to interest in social activities and Campaign application users also conducted Secondary Research to collect and analyze data from the information found, such as analytical data from articles, conducting competitor analysis, looking for journal references, and others.

B. *Define*

The second stage carried out is the Define stage, meaning that at this stage the focus is on defining the problem, by collecting all the information that has been obtained in the previous stage. At this stage, the thing to do is to define Pain Point or existing problems and goals or targets of the problem. Then, make How Might We as an opportunity or opportunity that can be done at a later stage. For this stage, it is done by discussing and brainstorming together with the team.

C. *Ideate*

At the Ideate stage, this stage produces solution ideas that are selected as needed to overcome various problems that have been defined previously. At this stage, start brainstorming solution ideas based on the collected How Might We, making Solution Idea and also making a rough idea using Crazy 8's method to making it using Figjam.

D. *Prototype*

At the Prototype stage is the stage where the designer designs the interface or appearance of the Crazy 8's results which will produce several simplified and reduced versions of the product, or special features found in the product, so that they can investigate the problem solutions generated in the previous stage. Arrange the UI into a process flow that is in accordance with the solution idea and create a prototype that can be used for the testing phase.

Before making a prototype, there are things that need to be done and is to create a User Flow. After creating the User Flow, proceed to create a low-fidelity display design or commonly called a Wireframe. Then, after designing the wireframe, it will continue to create high-fidelity that displays the usability of the product to be launched.

E. *Test*

At the Test stage, User Research will be carried out using the In-depth Interview and Usability Testing methods together with informants who meet the criteria that have been made. The making of these respondent criteria follows the infographic demographics provided by Campaign. The aim is to test the level of satisfaction of the gamification feature by using a Single Ease Question (SEQ) assessment with a Likert scale from 1–7. Single Ease Question (SEQ) is one of the testing methods used to measure the ease felt by the user after completing the given task and consists of one question with a Likert scale of 1 to 7 of the choices, namely very difficult, difficult, not easy, sufficient, not difficult, easy, and very easy [9]. Based on feedback from informants, the feedback will be used as the basis for the design iteration process.

III. RESULTS AND DISCUSSIONS

A. *Empathize*

At the Empathize stage, what was done was to join the AMA (Ask Me Anything) session together with the Challenge Partner, namely the Campaign. Then, collected data using the Secondary Research method. A survey was conducted with a questionnaire related to interest in social activities and users of the Campaign application. From the AMA Session that have been followed, Campaign has conducted research and obtained data about users on the Campaign application. The data can be used in this research, including infographics and user personas. Based on Figure 2, displayed users of the Campaign application are female by 70% more than male users who are only 30%. The average user is from 18-24 years old.

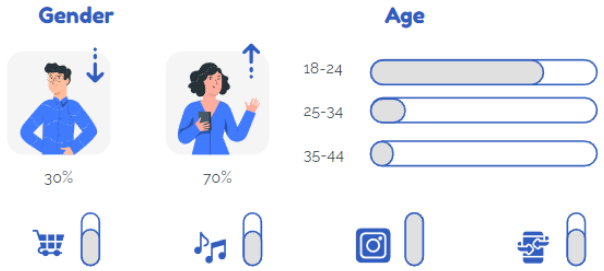

Figure 2. Campaign App User Infographics

For data collection from external parties, Secondary Research (data sources from external parties) is carried out, namely the method of collecting data from information with several research conducted, namely competitor analysis, feedback from users of the Campaign application in the App Store/Play Store, article references, and references to previously attended AMA Session. The following are the results of research findings using the secondary research method, which can be seen in Table 1.

Table 1. Secondary Research

No.	Research Results	Source
Competitor Analysis		
1	In the Kitabisa.com application there are features to increase donors to donate	App Store (Kitabisa.com)
User Feedback		
2	It's difficult to log in because it takes a long time to load or can't log in at all	Campaign App
AMA Session		
3	The consistency of the challenges that users do is reduced, especially the daily ones	AMA Session
Product Depth		
4	There is no reward for users when completing challenges	User of Campaign App

Furthermore, a survey was conducted with a questionnaire related to interest in carrying out social activities. The survey results can be concluded that most people care about social issues that occur in the surrounding environment and have the motivation to carry out social action activities.

B. *Define*

The second stage is Define, where after collecting information in the previous stage, and then defining and analyzing the problems that are being faced by users when using the Campaign application. Starting with brainstorming about what problems are faced by users when using the application by writing it down as Pain Point. In Figure 3, there are 4 Pain Points that have been collected and there are three major problems taken, which are:

1. Inconsistency in participating in challenge actions, so users do not complete challenge actions on time.
2. Lack of motivation in participating in challenge actions, so users do not do challenge actions regularly.
3. Confused about whether the donations given by sponsors were realized or not.

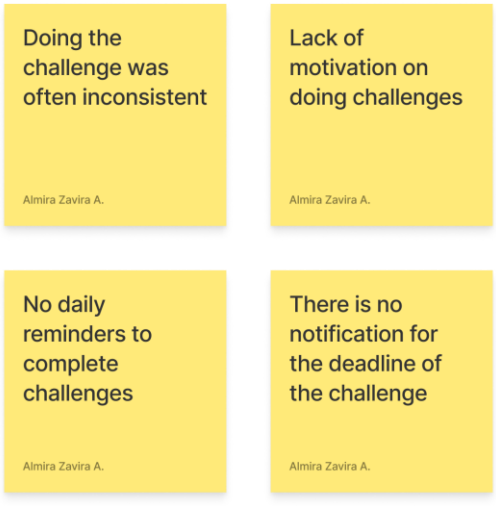

Figure 3. Pain Point

In Figure 4 describes How Might We as an opportunity that can be done at a later stage. These questions are grouped into the categories of Motivation, Credibility, Appreciation, and Application. The four categories are obtained from the results of pain points that have been defined. Then, one of the four categories

is chosen which will be the main focus, namely motivating users to take challenge actions with gamification.

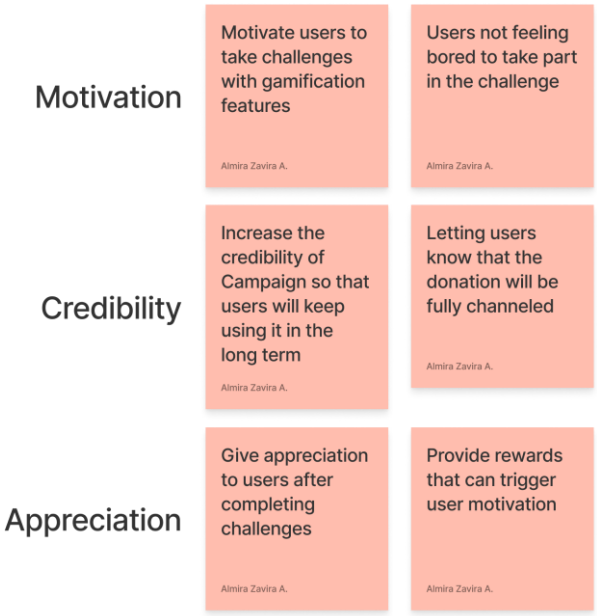

Figure 4. How Might We

C. Ideate

In this stage, Ideate, where brainstorming is carried out to obtain innovative idea solutions based on How Might We. The solution ideas shown in Figure 5 are Solution Ideas with the main focus in mind, namely how users complete challenge actions by doing challenges continuously and building gamification features that will motivate users to work on challenges.

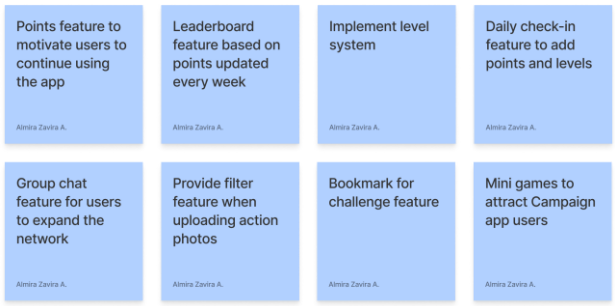

Figure 5. Solution Idea

The last part of the ideate stage is making Crazy 8's. In Figure 6 is shown how the rough version is made. Crazy 8's is made with a sheet of A4 paper and folded to form 8 squares. Each box represents one frame or screen that will be used to make a rough version of the wireframe and each frame only has a duration of 1 minute with a total duration of making Crazy 8's. overall is 8 minutes.

Figure 6. Crazy 8's

D. Prototype

There are 3 stages in the Prototype, namely making User Flow, Wireframe, and UI design. At this stage, the creation of user flow to UI design becomes a process flow that is in accordance with the solution idea and creates a prototype that can be used for the testing stage. After determining the solution ideas, a solution idea table is made from the old features and features that will be modified in the design at the prototype stage. Table 2 describes the solution idea of the features.

Table 2. Feature Solution Ideas

No.	Solution Idea	Feature Plan
Existing Feature		
1	Challenge Feature	Each challenge has several actions with different amounts. The elements added to this feature are the points and levels feature. Each action is awarded points which can be collected by the user. These points can be exchanged for rewards or prizes provided by Campaign. Every 500 XP achievement (applies every multiple) the user will increase in level.
Modification Feature		
2	Leaderboard Feature	Users will be ranked based on the points they have. The three users with the most points for each week will appear on the leaderboard page on the homepage.

At this stage what needs to be done is to create a User Flow. User Flows are the steps or flows that user take when using the Campaign app.

In Figure 7 is the User Flow for the Leaderboard feature. This leaderboard feature is an additional feature that was not previously available in the Campaign application. The leaderboard feature as a ranking for users so that users can collect points and compete with other users to get the highest rank. This leaderboard system will be reset weekly and monthly so that all users can compete for the highest ranking. Users can see the leaderboard by clicking the leaderboard menu on the homepage.

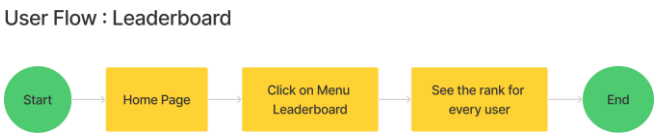

Figure 7. User Flow Leaderboard

The creation of low fidelity in the form of wireframes in this process aims to serve as a framework for describing initial features such as the arrangement of content and information that can facilitate the next stage. Making the wireframe follows the user flow that was created in the previous stage.

Wireframe from the Leaderboard page can be seen in Figure 8. To view the homepage there is a leaderboard section that displays the top three supporters. The leaderboard page can be accessed from the home page. This feature displays the ranking of Campaign app users based on the points.

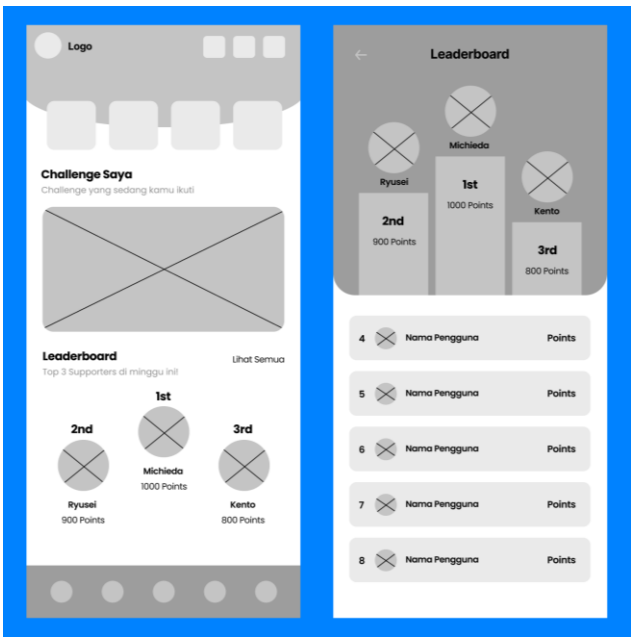

Figure 8. Wireframe Leaderboard

At this stage, the low fidelity design in the form of a wireframe that has been made in the previous stage will be continued by making high-fidelity using a UI style guide. After making all the UI designs, prototypes are made so that they can show how things work by interacting with the features that have been created.

In Figure 9, shown User Interface of the Leaderboard. One of the gamification features is the leaderboard feature as a user leaderboard based on the points collected. The leaderboard can be seen from the home page for the top 3 rankings this week. Users can see the overall rating by clicking the see all button. This leaderboard system will be reset every week and every month so that all users have an equal chance of the number of points. This feature will foster a competitive spirit for each user to collect points.

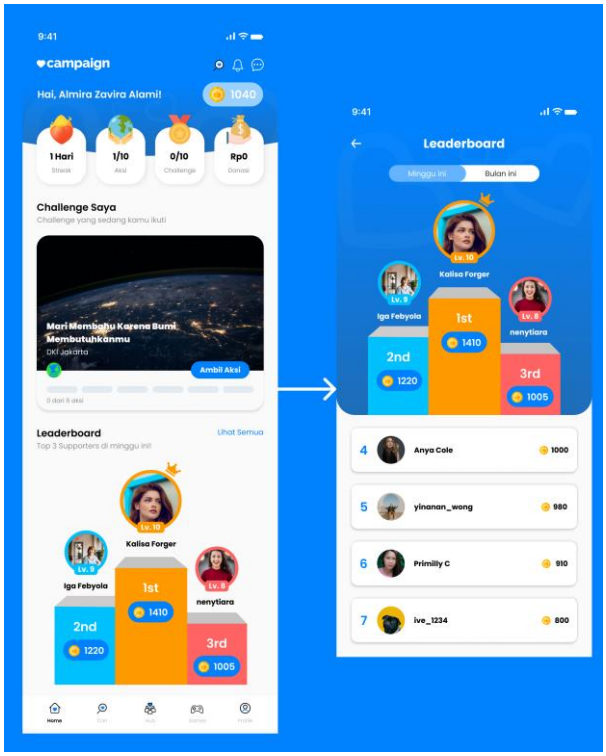

Figure 9. User Interface Leaderboard

E. Test

The last stage in the UI design process of the gamification feature is Test, where testing is carried out to obtain appropriate responses and feedback from the prototype results that have been made in the previous stage. This test is carried out using the In-depth Interview and Usability Testing method with 3 (three) respondents who meet the criteria using a Single Ease Question (SEQ) assessment with an assessment range from 1-7. This test was conducted to determine the ease and usability of the gamification feature in the Campaign application.

Based on table 3, the results of Usability Testing on informant 1 show that the level of user satisfaction is 6.5 from a scale of 1-7 which means Passed. According to the informant, the display is quite attractive, and the new features can motivate users to continue to access the Campaign application and complete challenge actions.

Table 3. Informant Usability Testing 1

Informant Assessment Result					
Task 1	**Task 2**	**Task 3**	**Task 4**	**Task 5**	**Task 6**
6.5	7	7	6	7	7
Average Scale					**6.5**

Based on table 4, the results of Usability Testing on informant 2 show that the level of user satisfaction is 6.5 from a scale of 1-7 which means Passed. According to informants, the features are interesting and good.

Table 4. Informant Usability Testing 2

Informant Assessment Result					
Task 1	**Task 2**	**Task 3**	**Task 4**	**Task 5**	**Task 6**
6.5	7	6	6.5	7	6.5
Average Scale					**6.5**

Based on table 5, the results of Usability Testing on informant 3 show that the level of user satisfaction is 6.5 from a scale of 1-7 which means Passed. According to the informant, the display is good, and the features can also motivate users to continue accessing the Campaign application and informants want to use the application.

Table 5. Informant Usability Testing 3

Informant Assessment Result					
Task 1	**Task 2**	**Task 3**	**Task 4**	**Task 5**	**Task 6**
7	6.5	7	7	6	6
Average Scale					**6.7**

There were many feedbacks obtained from the previous stages from informants which will then become a reference for the iteration of the Campaign application design. Here are the results of the first design iteration for the Campaign app UI design.

The iteration of the Leaderboard User Interface design is shown in Figure 10. On the left, there is a leaderboard page display before the iteration. After considering input from informants, a design iteration is carried out by adding user rankings so that users know the ranking of users on the leaderboard page to motivate users to increase or maintain user rankings.

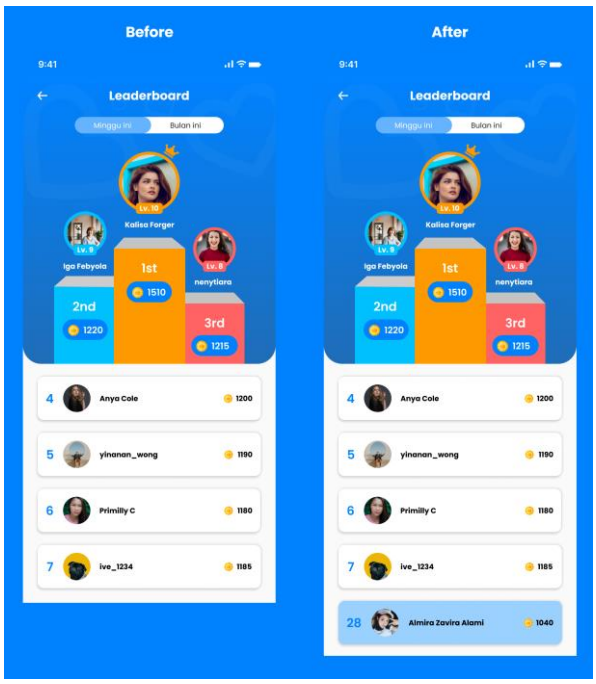

Figure 10. Design Iteration UI Leaderboard

IV. CONCLUSIONS

The conclusion obtained from this research is that the UI/UX design of the gamification feature using the Design Thinking method is carried out based on 8 solution ideas succeeded in generating solution ideas and additional features, like points and level features, daily check-in, leaderboard, reward, mini games. The satisfaction level of the three informants from the prototype of the gamification feature for the Campaign application is passed with an overall SEQ score of 6.5 from the first user, the second user is 6.5, and the third user is 6.7 with an average of the three SEQ scores. which is 6.57 on a scale of 1-7 (with a score of 5.5 as the minimum threshold for passing), this indicates that the solution is accepted by the user. The UI/UX design for the Campaign application has been designed in 3 (three) iterations, with the impact of minor changes on the application being taken into consideration by input or feedback from informants.

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