Effect of User Interface and User Experience on Application Sales

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Abstract. User Interface (UI) and User Experience (UX) are the most important factors in an application. It is because the User Interface and User Experience is the link between the user and the system. The purpose of this research is to discuss about how much influence the User Interface and User Experience have on the sale of an application. This research used the observation method. The results of this study show that the quality of the User Interface and User Experience can solve the problem. User Interface and User Experience in the application will help users to know what needs to be done to solve a problem. A good User Interface and User Experience will help users to get information according to what the users needed. Therefore, every application that has a good User Interface and User Experience will make users comfortable.

1. Introduction

User Interface is a link that connects human and computer interaction, where users will interact with computers or machines to complete tasks. It stated that the User Interface (UI) is part of a system that acts as an intermediary between users and systems that facilitate users to interact with the system efficiently. End-users when using the system physically, perceptually, and conceptually [1] contact the user interface. The purpose of the User Interface is to make users effectively control the computer or machine that interacts with them. Whereas User Experience is how users use the application. The ISO 9241-210 standard (ISO 9241-210, 2010) defines UX as "a person's perception and response resulting from the anticipated use and/or use of a product, system or service". It considers that UX is "includes all users’ emotions, beliefs, preferences, perceptions, physical and psychological responses, behaviours and achievements that occur before, during, and after use" [2].

Complex systems are difficult to use. However, a good system is a system that can handle this complexity [3]. To deal with this complexity, good interaction between the user and the system is needed. When playing games, it is said that the interaction of a player affects the psychological of the players [4]. The development of the user interface is an important task for the design and development of the system. The development of a user interface is difficult to be process because it is difficult to understand the characteristics of users and the tasks they do with the system [5]. Besides, the use of icons on the user interface influences the delivery of information [6]. Hence, the good nature of UX is that it is contextual and subjective [7].

The purpose of this study is to determine how much influence the User Interface and User Experience have on the sale of the application by observing the editor's note two applications and compare it objectively. This research used a descriptive method.
2. Method
This research was conducted using the observation method. Observation technique is used to see and observe changes in social phenomena that develop. Anthropological methods (including observations) have been adopted by educational researchers and other social scientists, mainly through the development of ethnography as an approach to social research. Ethnography involved researchers participation in events, observing activities, taking notes, and collecting unstructured data to produce reports about the situation being studied (maybe at school or university rather than a less well-known culture) [8].

The observation method in this study will compare between the two applications with the highest rating and the lowest application. The points that will be targeted from the existing application are as follows in Figure 1.

3. Results and Discussion
The convenience of a user can affect the sale of an application. One of these conveniences can be obtained from the appearance of an application. When we discuss the application appearance, it will relate to the use of icons. In choosing the icon, we need to know the sales target. We must be able to determine and recognize the target marketing application and must know everything related to the business activities that will be carried out [9]. In the use of icons, age and familiarity with technology, and devices can be important factors. Older people who do not use computers and mobile devices throughout their lives prefer designs that clearly illustrate an action (skeuomorphism). However, people who are familiar with technology will tend to choose the flat icon design [10]. From the statement above, it can be concluded that the detailed icon tends to be favored by the older generation, whereas the younger generation prefers a simpler icon.

In the figure below, we can see the difference in the use of icons in the two applications. In Application A in Figure 2, the design used in general looks simply, while Application B in Figure 3, uses a strict and complicated design. In addition, in Application B, some buttons use words as an explanation. However, the explanation is not used on each button so the inconsistency occurs when use the icons. Besides, a clear difference is seen from the two applications is the interface layout. In Application A, the layout used makes the application more comfortable to look at, while Application B looks more rigid.
In addition to the use of icons, the appearance of an application will affect the convenience of the user, which directly affects the sale of the application later. Figure 4 and Figure 5 below are the views on the note editor page in application A. In Application A, which can be seen in Figure 4, the design used is simple. Thus, it makes the user focus on writing notes. While the buttons for other functions in the top right corner do not disturb the user. This also applies when the user opens a note that has been created. In Application A, the user will be presented with the contents of the selected note, so the user will focus on reading the notes. When the user wants to change their notes, the user only needs to press the edit button or double-tap the screen.
There are more functions in application. The many functions will certainly add value to an application but it can also be lacking in the note’s editor section. Hence, this must be followed by a good display so users will feel comfortable when using the application. In application B, especially in the note editor section shown in Figure 6. Many buttons can be used. However, the number of buttons will make the user who uses the application for the first time confused. In addition, users will be less focused and disturbed because too many functions are presented when writing a note. Two back buttons also have different function. The first back button is to return to the note list page while saving changes in the note. While the second back button is to return to the list note page without saving changes. The problem is that there is no difference between the first and second back buttons and both of them show the same back icon. So, the user will think that the two buttons perform the same function. In Figure 7 on the right is the Application B display when viewing a note. It can be seen that the reading mode display looks the same as the note editor. This will make the user a little confused because there is no change in appearance. However, one of the advantages of Application B is the speaking function. This function is used to read notes, but it only supports English language.
Apart from the application appearance, the ease of operating an application will also affect the user's comfort in using the application. The ease when using the application is one of the parts from the User Experience (UX). User Experience that will be compared in this study includes how many buttons should be clicked when making a note and how easy the user when they want to edit a note as well as how the application deleting a note. Both in application A and B, to make a note require only 2 steps. It makes it easy for users to make a note, especially when in a hurry. The difference here is in the contents of the note title. In Application A, the title field will automatically filled with sentences in the first line of the note. Therefore, the column will not be empty. However, the user can also fill in the title column with the title according to them. Whereas in Application B, the title field is not automatically will be filled in.

The next point is the ease of users to edit a note. In Application A, the user must select the notes they want to edit. After entering "reading mode", the user must press the edit button in the upper right of the layer. However, if the user's finger can't reach the button, then the user can double-tap the screen. In Application B, the steps for editing a note are not much different from the steps in Application A. The user must select the note they want to change. Then enter the "reading mode".

**Figure 6. Application B – Note Editor**

**Figure 7. Application B – Reading Mode**
After that, the user must press the edit button in the top right corner. However, in Application B there is no other choice when you want to edit a note.

Next is how to delete a note. In Application A, when the user wants to delete a note, the user only has to "tap and hold" the note that you want to delete, then press the delete button. A pop-up will appear later asking if the user wants to delete the selected note. It is to avoid user errors that accidentally delete notes. When the user clicks the delete the button, deleted notes will be moved to the "trash" section. So, when the user accidentally deletes a note, they can find the note in the trash section. The process of deleting data from Application A can be seen in Figure 8.

![Figure 8. Activity Diagram of Application A - Delete Function](image)

In Application B, users need to click on the three-dot icon on each note. Then choose the 'Delete Note' menu. After that, deleted notes will be disappear immediately. Fortunately, both applications have a "backup note" function that is useful for backing up their data. With the comparison of the two applications that have been described above, the comfort that users feel will be different. Therefore, we try to compare it with the number of downloads and ratings received by the two applications, which can be seen in the image below. Application A (Figure 9) and Application B (Figure 10) have different ratings and downloads. Application A, which has a better appearance than Application B turns out to have many downloads far above Application B. Therefore, it can be said that the appearance (interface) of an application will affect the sale of the application. Besides appearance, what the user sees is the usefulness of an application and the features contains. In Application B, there is a "speaking" feature that is used to read the contents of the note. However, this feature only supports English. Hence, this is one of the advantages of Application B.

![Figure 9. Application A's Rating](image)
4. Conclusion

From the comparison and the results described above, it can be concluded that the effect of the appearance of an application is quite large. It is because what the user first sees is the appearance of the application. If the cover is interesting, then people will buy it. Similarly, when the application display looks comfortable, then the user will be interested to try it. Only after that, the user will see the functions provided there. In terms of the function or usefulness of the application, it also affects the sales of applications. Even though Application B has a smaller number of downloads than Application A, users who do not pay attention to an application's view will rate the Application B well because of its greater usability compared to the Application A. Thus, it can be concluded that the User Interface (UI) and User Experience (UX) will affect the sale of an application.

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