**YOUNG ADULTS' PERSPECTIVE ON THE USABILITY OF FACE EMOJI E-DICTIONARY**

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**ABSTRACT**

This article reports the attempts to investigate the usability of a mobile application called Face Emoji E-Dictionary (FED) among 50 young adults. The FED mobile application was designed and developed as a guide to provide the actual meaning of the face (smiley) emojis in WhatsApp. It's intended to avoid the misunderstanding between the sender and the recipient of the digital communication due to a wrong use of an emoji. Among the aspects that were examined was the usefulness, ease of use and user interface satisfaction of mobile application. A usability questionnaire adapted from the USE questionnaire was employed as the data collecting instrument. This questionnaire was given to the respondents after they have experienced using the FED mobile application. Data that were collected were analyzed using descriptive statistics and the results revealed that the respondents agreed that the FED mobile application is useful, easy to be learned, easy to be used and match its intended purpose.

**Keywords**: Face Emoji E-Dictionary, mobile application, Whatsapp, teenager, usability.

Introduction

Emoji is an English adaptation of a Japanese word that means "picture" and "letter, character" (Danesi, 2017). Emojis are picture characters or pictographs that convey meaning through its graphical resemblance to a physical object. They are popular in digital communication platforms such as text messages, emails, and social networking media (Danesi, 2017; Stark & Crawford, 2015). Emojis enable people to be more expressive in conveying their feelings and moods via a text-based communication (Tauch & Kanjo, 2016). It is a powerful way to express emotions or a hard to write notion effectively (Kelly and Watts, 2015).

Young adults nowadays, who are digital natives, basically evolved together with digital messenger. A study done by Muhammad (2017) mentioned that these young adults use emojis frequently, and the most reasons of using emojis were to express their feelings and emotions through the emoji chosen, to make the conversations more interesting, to strengthen what they meant in texts, and make the conversation less tense. Gullberg (2016) research which focuses on the interpretation and usage of emojis among Swedish university students, stated that that emojis compensate for the lack of non-verbal cues in written communication, and that they are efficient emotional enhancers.

Although emojis extended the ways in which social messengers' users can express their affective state (Lu, Ai, Liu, Li, Wang, Huang, & Qiaozhu, 2016), sometimes it muddles the meaning of the message (Miller, Thebault-Spieker, Chang, Johnson, Terveen, & Hecht, 2016). This emojis may not be correctly interpreted is because of each of them have their own unique, nuanced graphical details (Hakami, 2017). Different understanding of emoji can misinterpretation of messages as it is more open to interpretation and people not well understood to interpret the meaning of emoji (Miller et al.,2016). This lead to a communication breakdown and in some cases may damage relationships (Tigwell & Flatla, 2016). The receiver of a message containing emoji has the possibility of misinterpreting the original meaning of the message and this eventually resulting in a barrier to communication (Leung & Chan, 2017). They can be misinterpreted due to two reasons: (i) users' interpretation of the emoji's meaning varies; and (ii) the design of emoji differs between platforms (Tigwell & Flatla, 2016).

The current common used emojis are the one governed by the Unicode Consortium who decides what emoji should be part of the standard and they are the one who creates design guidelines of how emoji should look (Gustafsson, 2017). However, there is no written guideline on the actual or intended meaning of the emojis. Although it is briefly described in their emoji chart (http://unicode.org/emoji/charts/full-emoji-list.html), it is very inconvenient for the users to access the website whenever they need information on the meaning of each emoji.

Therefore, this research attempt to solve the access issue by designing and developing a mobile application called Face Emoji E-Dictionary, also known as FED app. This mobile application's purpose is to describe the nature (positive, negative or neutral) and intended meaning of the emojis. It is suggested that the users should know the actual meaning of emoji before using them to avoid any unnecessary misunderstanding (Tigwell & Flatla, 2016).

DESIGN AND DEVELOPMENT OF FACE EMOJI E-DICTIONARY MOBILE APPLICATION

Face Emoji E-Dictionary (FED) mobile application was designed and developed as a guide to describe the nature (positive, negative or neutral) and intended meaning of the face emojis. There are 92 face emojis described in the FED mobile application. The application focuses on the emojis' nature, name, and intended meaning. It is employed with the redundancy of multimedia elements such as text, graphic, and animation. FED is available in English language and it is designed with search and game features to give users some fun.

The FED mobile application was developed using Adobe Flash with ActionScript 3.0. The content for this mobile application was developed based on the Unicode Consortium guidelines and other relevant researches. The user interface of the FED is designed using the appropriate color, font and graphics that are suitable for all users. The ADDIE Model (Analyze, Design, Develop, Implement, and Evaluate) was employed during the developmental phase of this mobile application and the interaction design (layout and navigational behaviour) of the mobile application was designed using Nielsen Usability Heuristics.

Figure 1 (a) illustrates the main page of the FED mobile application and Figure 1 (b) illustrates the menu page of the mobile application. This menu page helps the user to choose the emoji based on its nature; positive or negative. Figure 2 (a) depicts the positive emojis where else Figure 2 (b) shows the negative emojis. The users have to click on the emoji to get to know the meaning. The FED mobile application also has a search feature whereby the users can find the meaning of a particular emoji that they prefer as in Figure 3. Not only that, this application also embeds fun elements in the quiz section. There are two modes of the quiz; 'It's The One' (Figure 4 (a)) and 'Match It All' (Figure 4 (b)). 'It's The One' mode requires the users to choose the correct answer. There will be feedback, whether the users have answered correctly. As for the 'Match It All' mode, the users have to drag and drop the emoji in its correct box. If the users have matched all the emojis correctly, they can move to the next level. There are three levels in this mode. The users can go back to previous interface using the 'Back' button and to the menu page by clicking the 'Home' button.

|  |  |
| --- | --- |
|  |  |
| (a) Main Page | (b) Menu Page |

**Figure 1. Main interface FED mobile applications**

|  |  |
| --- | --- |
|  |  |
| (a) Positive emojis | (b) Negative Emojis |

**Figure 2. Nature of the emojis**

|  |
| --- |
|  |

**Figure 3. Search Feature**

|  |  |
| --- | --- |
|  |  |
| (a) 'It's The One' mode | (b) 'Match It All' mode |

**Figure 4. Quiz section**

Although there are a few mobile applications in the market that describes the meaning of these emojis, most of the application are not intended for educational purposes. They are developed for without the user-friendly features and have inconsistent meanings. The FED application is developed using interaction design concept and describes the actual meaning of these emojis based on the Unicode Consortium guidelines. Table 1 shows the comparison of the existing applications in the market with FED application.

Table 1. Comparison of existing application with FED

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Emoji Dictionary**  **(Parikh)** | **Emoji Dictionary**  **(Hamsoft)** | **Emoji Meanings**  **(Worlds Apart)** | **Smiley Emoji Meaning** | **Face Emoji E- Dictionary** |
| Operating System | Android | Android | Android | Android | Android |
| Language | English | English | English | English | English |
| Content Source | Emojipedia | NIL | NIL | NIL | Unicode Consortium |
| Text | √ | √ | √ | √ | √ |
| Graphic | √ | √ | √ | √ | √ |
| Search |  |  | √ | √ | √ |
| Quiz |  |  |  |  | √ |
| Favorite tab |  |  | √ |  |  |
| Consistency |  |  | √ |  | √ |

METHODOLOGY

This study is an attempt to investigate the usability of the FED mobile application from the perspective of 50 respondents who are young adults aged between 17 to 30 years old who are active users of emojis. They responded to the usability testing questionnaire after experiencing the mobile application for two days. Prior to the evaluation, the respondents were given a brief introduction of the application.

Three aspects of usability have been evaluated, namely usefulness, ease of use, and user interface satisfaction. For this purpose, this study employed a usability questionnaire that was adapted from the USE (Usefulness, Satisfaction and Ease of Use) questionnaire (Lund, 2001) as its evaluation instrument. This questionnaire contains 15 statements that require the respondents to indicate their response, according to the rating based on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The data collected were analyzed using parametric statistical method.

FINDINGS

The purpose of this study is to conduct usability evaluation on a mobile application called Face Emoji E-Dictionary, also known as FED. The mobile application is designed as a guide to describe the nature (positive, negative or neutral) and intended meaning of 92 face emojis. 50 young adults responded to the research by evaluating the mobile application using a usability questionnaire. Among the aspects that are evaluated are usefulness, ease of use and user interface satisfaction. Table 2 describes the descriptive analysis of the respondents' demographic information.

The findings revealed that 29 of the total respondents are male and 21 respondents are female. They are in between 17 to 30 years old. 9 of them are from foundation educational background, 25 of them have a degree, 12 of them have masters and 4 of them have PhD. Majority of them were using Android smart phones.

Table 3 describes the statistical analysis of the respondents' persepective on the usability of the FED mobile application. For description purpose, the researchers have added the responds of 'strongly agree' and 'agree' as they bring the similar perception.

Table 2. Respondents' Demographic Analysis

|  |  |  |  |
| --- | --- | --- | --- |
| Information |  | Distribution | Percentage *(%)* |
| Gender | Male | 29 | *58.0* |
| Female | 21 | *42.0* |
| Age | 17 - 19 | 13 | *26.0* |
| 20 - 22 | 20 | *40.0* |
| 23 - 25 | 11 | *22.0* |
| 26 - 28 | 4 | *8.0* |
| 29 - 30 | 2 | *4.0* |
| Education | Foundation | 9 | *18.0* |
| Degree | 25 | *40.0* |
| Master | 12 | *24.0* |
| PHD | 4 | *8.0* |
| Smartphone Platform | Android | 46 | *92.0* |
| Microsoft | 4 | *8.0* |

Table 3. Respondents' Perspectives on the Usability of FED

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Item | Neutral  n*(%)* | Agree  n*(%)* | Strongly Agree n*(%)* | Mean | Total Mean |
| **Usefulness** |  |  |  |  | 4.38 |
| 1. It provides all the meaning of face emoji. |  | 24*(48)* | 26 *(52)* | 4.52 |
| 1. It able helps me to find what I need. | 5*(10)* | 31*(62)* | 14*(28)* | 4.18 |
| 1. It saves my time when I use it. | 1*(2)* | 24*(48)* | 25*(50)* | 4.48 |
| 1. It helps me to know the actual meaning of face emoji. |  | 33*(66)* | 17*(34)* | 4.34 |
| **Ease of use** |  |  |  |  | 4.38 |
| 1. I found this mobile application is easy to use. | 2*(4)* | 27*(54)* | 21*(42)* | 4.38 |
| 1. I learned to use this mobile application quickly. | 1*(2)* | 34*(68)* | 15*(30)* | 4.28 |
| 1. I can use this mobile application without prior learning. |  | 30*(60)* | 20*(40)* | 4.40 |
| 1. I can accomplish what I need with any few steps. | 2*(4)* | 23*(46)* | 25*(50)* | 4.46 |
| **Satisfaction** |  |  |  |  | 4.49 |
| 1. I'm satisfied with the buttons' size and font. | 1*(2)* | 25*(50)* | 24*(48)* | 4.42 |
| 1. I'm satisfied with background colour. |  | 38*(76)* | 12*(24)* | 4.24 |
| 1. I'm satisfied with font size of the text. |  | 28*(56)* | 22*(44)* | 4.44 |
| 1. I'm satisfied with font style of the text. |  | 28*(56)* | 22*(44)* | 4.44 |
| 1. I'm satisfied with the layout of the content. |  | 24*(48)* | 26*(52)* | 4.52 |
| 1. I'm satisfied with the fully functional application. |  | 15*(30)* | 35*(70)* | 4.70 |
| 1. I'm satisfied with all navigation links. |  | 15*(30)* | 35*(70)* | 4.70 |

\*n=number of respondents

The descriptive analysis indicated that for the usefulness aspect of the FED mobile application, 26 of the respondents strongly agreed and 24 of them agreed (total = 100%) that the application provides the correct meaning of the face emojis. 45 (90%) of them agreed that that the application was able to help them to find what they need. In addition, 49 (98%) of them agreed that the application can save their time when they use it and all of them (100%) responded that the application help them to know the actual meaning of face emojis. The mean scores for all the items for this aspect are above 4.00 signifies that the respondents agreed that the FED application provides all the meaning of face emoji and helps them to know the actual meaning of face emoji. The total mean for the usefulness aspect is 4.38 indicating that most of them agreed that the FED application is useful.

As for the ease of use aspect, the findings show that all the respondents agreed with the items. However, 2 of the respondents felt it was neutral that the application is easy to use. One of the respondents feels it is neutral that the mobile application can be learned to use quickly. And two of them argue that it takes them longer to accomplish what they need. For this aspect, the respondents have agreed on the all the items; easy to use, quick learnability without prior learning and less navigation as the mean scores for all the items are above 4.00. The respondents scored 4.38 for the total mean for this aspect indicating that the application is easy to be used.

The third aspect is user interface satisfaction. For all the items, all the respondents are satisfied with the buttons' size and font (98%), background color (100%), font size and style (100%), and layout of the content (100%). The respondents also agreed that the application if fully functional (100%), and all the navigation links work (100%). As for the mean scores, the respondents have scored above 4.00 for all the items, implying that the user satisfaction level is high. For this aspect, the total mean score is 4.49, stating that the respondents are satisfied with the user interface of this FED application.

DISCUSSION

Face Emoji E-Dictionary (FED) mobile application is designed to provide a guide that describes the actual meaning of 92 emojis that are popularly used by users in digital communication. The application helps users to get quick access to the intended meaning of the emojis instead of searching through other sources. This is because the users should know the actual meaning of emojis before using them to avoid any unnecessary misunderstanding.

A usability evaluation of the FED mobile application was done from the perspective of 50 respondents who are young adults aged between 17 to 30 years old who are active users of emojis in their digital communication. The findings of the evaluation indicated that is suits is intended purpose and usable for the use of the young adults. The respondents agreed that the mobile application is useful, easy to learn and they are satisfied with the user interface. This is because the content of the mobile application is well organized and the explanations of the emojis are clear. The mobile application is designed with suitable font, background color, button size and content layout is structured accordingly. The respondents also stated that all the navigation links are working correctly. They claimed that they are able to use the application without prior learning.

CONCLUSSION

Emojis are very popular among young adults who are digital native and diverse user of digital social messaging. However, they do not interpret the emojis in the same way individually and also they interpreted them differently that its intended meaning. Their visual nature leaves them open to different interpretation by the sender and receiver. There are potentials of misconstrual when using these emojis in digital communication because of the variation in emoji interpretations.

Face Emoji E-Dictionary (FED) mobile application is designed to provide a guide that describes the actual meaning of 92 face emojis. Its purpose is to help digital users to get quick access to the intended meaning of the emojis and help them avoid any unnecessary misunderstanding. It is hoped that the mobile application will make some small contribution to understanding the meaning of the face emojis, and as aids in generating desired implications in digital communication.

Future research should implement a larger respondents' scale as a representative of the whole population. A more comprehensive instrument should be used to encompass more adjective. The feedback and comments from the respondents who represent the target users should be implemented in future improvement of the FED mobile application.

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