

The Effectiveness of Graphic Design Guideline Mobile Application for Designing Visual Artwork

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Abstract: This study focuses on the effectiveness of using graphic design guideline mobile application among users for designing visual artwork. ‘I Am Designer’ application was developed using ADDIE model. Due to the effectiveness of mobile application compared to printed books or notes, this application was developed focusing on guideline on graphic design. There are several advantages of this mobile application which user can save more time in finding graphic design guidelines, user friendly, marketable and lastly it implements all-in-one concepts. However, to prove this, a survey was given to 35 users who used this mobile application. The results gathered that, by using this application, users gave positive feedback which make them learn about the guidelines, easier, faster and in simple manner.

Key words: *mobile application, mobile learning, graphic design guideline, ADDIE model*

INTRODUCTION

Mobile application or also known as mobile app is an application that is designed to be used with handheld devices such as smartphones or tablets. It has been used widely in line with today’s technology as handheld devices become more powerful. This has been proven by Miakotko [1] that stated “smartphones and handheld devices combine advanced computing capability, such as internet communication, information retrieval, video, e-commerce and other features, that makes the device is one of the necessities for many people.”

Mobile app can be divided into three types which are native app, web app and hybrid app. Each of these types are different in terms of its purposes and usages. As stated by Budiu [2] in 2013, native apps are developed specifically for one platform and use the advantages of devices features such as cameras, contact lists, compass, GPS, device’s notification or even can work offline. He also stated that it can be installed through application store for instance Google Play or Apple Apps Store. This statement has been supported by Huang [3] in 2012 where he stated that “native apps written for one platform cannot be deployed on another”.

In the other hand, web application can be accessed through multiple web browser unlike the native

application. It also required network connectivity for user to access the contents and it is inaccessible through application store. While, hybrid app combined both elements of native and web applications. The advantage of hybrid application is that it can look native with different platforms on all devices [4]. In 2016, More and Chandren supported that hybrid apps allow the cross platform development of mobile apps and make it gain its popularity.

Mobile apps offers various advantages to the user for instance, it has the ability to work offline or online. Thus, the user can access any related content quickly [5]. In addition, Get Mobile Exposure [6] explains that “the best thing about mobile apps is that they are very simple and easy to use.” This means that user only have to download and install their intended application into their phone. Based on the advantages given, ‘I Am Designer’ application is being developed under native application after being considered by several related features such as fast performance, distribution via application store and offline or online connectivity.

This application provides an alternative way in guiding novice learner that is interested in designing visual artwork. It focuses on several important elements that need to be considered before the process of designing related artwork. Although the main target is for novice

user but this application is also suitable for any designers who wants to add their knowledge in design.

Problem Statements

Although the number of mobile apps increased each year, but it seems that, there are less of Android applications related with design guidelines as well as no specific production of product design. Moreover, the existing graphic guidelines are more focused on web based and printed version rather than mobile apps.

Byars [7] studied on the pros and cons of printed books compared to digital version. He added, although printed books are more familiar by the users, there is a major transition from printed books to digital version. This is because digital version is easier and more efficient. In addition digital version is cheaper than printed version and it can be easily accessed anytime and anywhere.

Furthermore, according to the review on Google Play store, most of the existing mobile apps are focusing on certain software that user can learn with additional element of video tutorial. Photoshop Training, Learn Illustrator Tricks, Guide to Photoshop and Desygnr are some example of mobile applications

However, Learning Graphic Design app provide with graphic design tips that gives the user an initial idea in designing their artwork. Moreover, Graphic Design developed by ArtAppsGo is an application that offers user to discover graphic design domain as well as Logo Design Tips Plus that helps user understand logo design fundamentals with additional related tips.

Hence, based on the stated problem, all in one application that related with graphic design should be developed with combination of guideline item, typography, design style, printing material and finishing as well as related tips and tricks.

LITERATURE REVIEW

Mobile Application and Mobile Learning

A survey from Statista [8] on mobile phones users from 2015-2020 shows that the number of mobile phone users are increasing from year to year. There is an increase of 0.63 billion of mobile phone users as shown in Figure 1 from year 2015 until 2020.

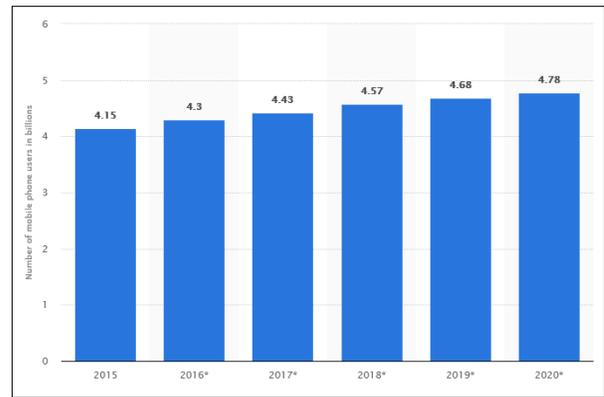


Fig 1: Statistic of mobile phone users

In 2019, it is estimated that mobile phone user will be around 4.68 billions. With the enhancement of handheld devices computing capability and mobility, user tend to use mobile devices widely compared to other devices such as laptops and personal computer [9] in various fields.

Mobile device provide learning opportunities, learning advantages and also introduced new learning activities for learners to explore more [10]. This paper will focus on mobile learning since the application that will be developed will aid users in providing information on graphics design guidelines.

Jacob and Issac [9] added, there is a brand new learners or students who can easily connect to technology and innovative mobile devices. This is due to the fact that mobile devices can provides information (instructional materials and interaction) wherever and whenever the user is [10][11].

The main advantage of learning thru mobile devices is that it make learning seamless and personal [11]. Yang and Wang [11] added by using computers and wireless mobile devices, student tend to perform better and enhance learning activity. Not only that, Trongtortam et al [10] also added four more advantages of mobile learning as listed below:

- a) Able to help evaluate learning outcome of users.
- b) Able to promote users' capabilities in learning outside of traditional methods.
- c) Able to extend learning opportunities in time and location.
- d) Can be delivered to tablet PCs and motivate student to learn more and exchange knowledge with friends.

Compared to traditional methods, mobile learning also allow teaching and learning process to go beyond the normal pace whereby the content and contexts of information retrieval, sharing, and delivery to users can be done easily [12]. It also allow generation and sharing of information to circulate easily since mobile device is small, portable and lightweight.

Due to a lot of advantages of mobile devices and mobile learning, this medium will be used to share knowledge and related information regarding graphic design. The next sub topic will discuss on graphics design and why is graphic design being used as a scope in this research.

Graphic Design

Graphic design is broadly use in our daily life as a visual communication in advertisements, books, websites and others. Jof [13] added graphics design is important in business and everyday life to create an impressive marketing material. In business, a good graphics design will provide an effective communication with the audience. Not only that, a good graphics design can also draw attention of potential customer toward business. Briley Creative Team [14] also agrees on this statement and they added six other benefits of good graphics design as listed below:

- a) It can create professionalism and consistency. It will provide visual consistency on the company's marketing effort
- b) It can build company's identity and brand recognition. For example, a great logo can build company's identity and customers can recognize the company easily.
- c) It can attract attention from the customer which makes the customer wants to communicate with the company in order to learn more about the company.
- d) Good graphics design can expand the business since it can convert audience into buyers.
- e) A stand out graphics design can help the company to be recognized easily by customer. In addition, unique graphic design can make the customer remember the company easily.

Designer must have the knowledge to create variety of design by using communication tools to deliver the message to the audience. In order to create the designs, designer must know the basic guideline needed before creating the design for example, the size specification, expected outcome, as well as production files. O'Donovan et. al [15] stated that designer should know variety of display sizes from mobile phones to posters in

order to create designs. He also suggested that as many designs are created by inexpert users with less knowledge in graphic design, therefore, there should be an automatic tools that helps to create, adapt and improve graphic design.

In addition, there are wide variety of books in graphic design published on the market which makes difficult for user to get the required knowledge. Not only that, graphic design guidelines is not only focused on one certain element. There are a lot of elements that needed to be focused by the designers which sometimes can be confusing and misleading.

For example, [16] point out four elements of graphics design which is space, unity, page architecture and type. This four element types are suitable to be used in images and pictures. Different multimedia data needed different element in designing the graphics for it.

Another example is from [17] which suggested 14 elements in map design which comprises of perception, communication, design, optical illusions, area, area aesthetics, color, type of aesthetics, composition type, signs, publication, map symbols, map design and lastly external map design. Although it focuses on map, there is also a need to design graphics to the map.

Then, there is another paper from [18] who listed out alignment, contrast, proximity, and repetition as the elements in graphics design. Although the number is still the same as in [16] the elements seems to be 100% different.

Therefore, this will lead to misleading information to the graphics designer who want to study the correct guidelines for graphics designing. It is suggested that a mobile application is developed to help graphics designer to explore the graphics design guidelines easily.

The next topic will discuss on the methodology used in developing the mobile application. ADDIE model is selected since it is simpler than other methodology.

METHODOLOGY

I Am Designer Mobile Application

The development of I Am Designer will follow ADDIE model. Once the process completed, a fully functioning application will be developed. This topics will talks about the modules of I Am Designer. There are five main modules in the application, which will be discussed on each module briefly in the next section.

Figure 2 shows I Am Designer main interface with five modules including Guideline Item, Typography, Graphic Design Style, Printing Material and Finishing and Freelance Tips and Tricks. User can get all related information easily based on the module provided. In this app, a simple and easy to understand explanation is given. Not only that, related graphics on design guidelines is also included in the app.

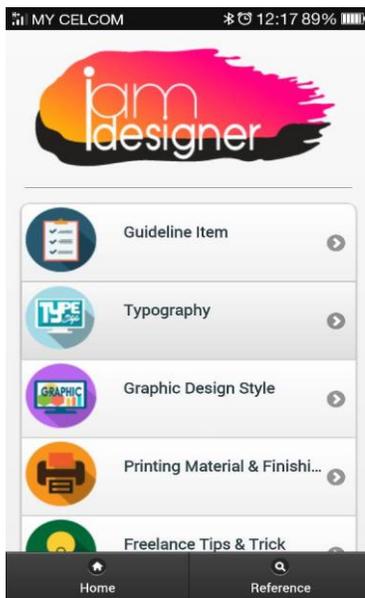


Fig 2: Home Module

As shown in Figure 3, there are five main sub-modules provided in Guideline Item including Elements, Composition, Tips to Create Design, Size and Info Graphic. User are able to gain the related information that is useful before creating a design. This application is not only focuses on one design guideline item like the other existing application.

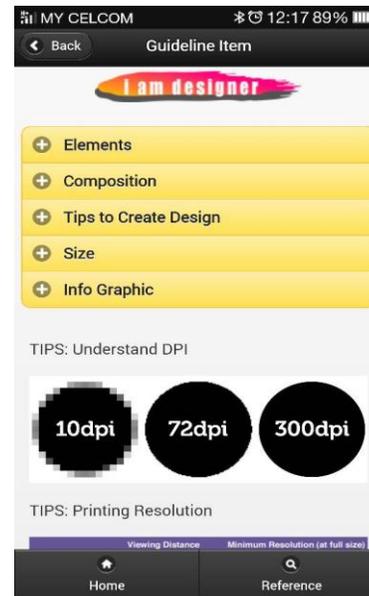


Fig 3: Guideline Item Interface

Figure 4 shows the module for typography. Typography is needed in any design because it will make the design becomes more interesting and attractive. A comparison of different categories of fonts are included as in Figure 5. Important terms are also included so that user can understand and conveyed the information easily and effectively.

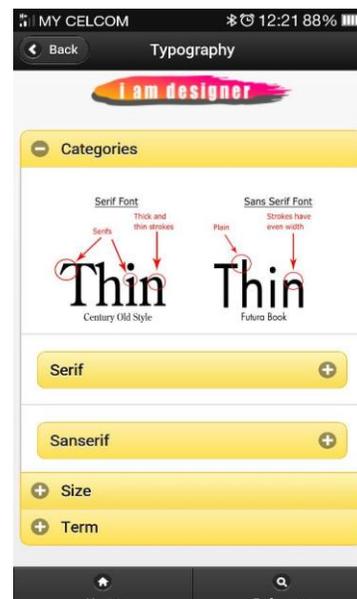


Fig 4: Typography Interface

Printing Material and Finishing in Figure 5 allow user to understand the important elements that need to be considered to get better output of design.

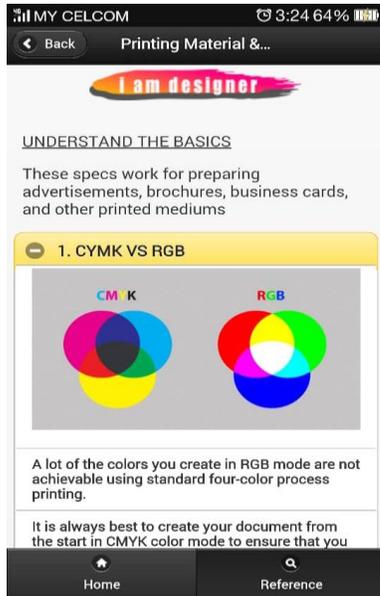


Fig 5: Printing Material and Finishing Interface

Figure 6 shows that user can learn valuable tips and expert advice as a way to improve their career in design. With these tips and trick, user can gain more knowledge easily compared to other applications or methods.

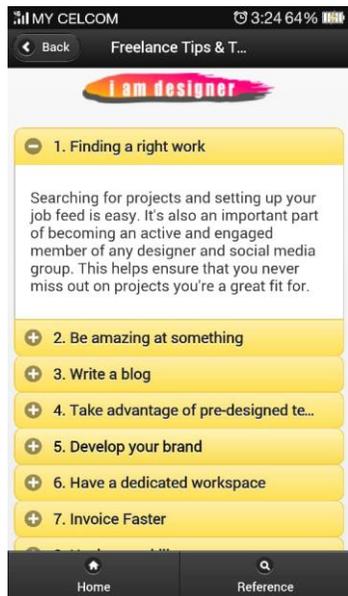


Fig 6: Freelance Tips and Tricks

Figure 7 shows references interface that can be used by user to search for any related references provided. User could visit the references given for any further information after searching for their intended references.

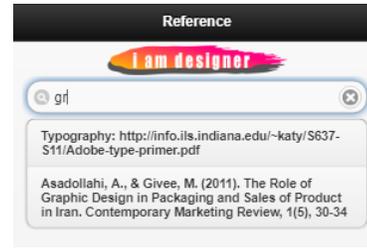


Fig 7: Reference Interface

Due to the simplicity of 'I Am Designer', this paper will try to analyze the effectiveness the application between user on learning graphic design guidelines using questionnaire method.

Questionnaire

Questionnaire introduced by Dr. Rensis Likert in 1932 has been adapted in this research with 4-point scale. This is because a 4-point scale can produce a forced choice measure where no indifferent option is available for the respondents [19]. The questionnaire has been used to evaluate the effectiveness of mobile graphic design guideline application. There are 5 pre and 5 post questions that respondents need to answer before and after using the application. The questionnaire is distributed to students who registered Digital Imaging as their core course.

RESULT AND DISCUSSION

Respondent background

The questionnaire was distributed to students in Digital Art Diploma course, Politeknik Tuanku Syed Sirajuddin Perlis. There are 35 respondents who answered the questionnaire distributed with 18 of them who are male (51.4%) and 17 respondents who are female (48.6%) as shown in Figure 8.

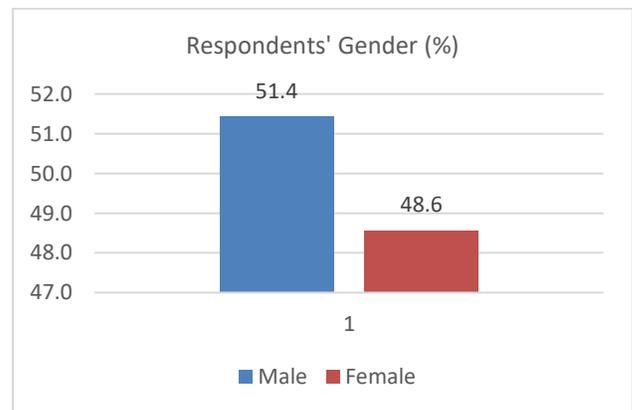


Fig 8: Respondent Gender

As shown in Figure 9, 2.9% respondents strongly disagree that they have difficulties in learning for graphic design as no guidelines given to them. In contrast, 85.7 % respondents agreed with the statement. While 11.4% strongly agreed with the statement.

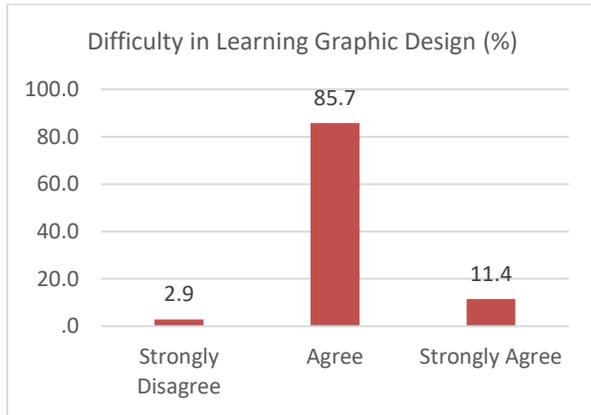


Fig 9: Difficulty in Learning Graphic Design

However, the result shows in Figure 10 major changing after user use the application given. As 77.1% respondents agree and 22.9% strongly agreed that the application helps them in improving their knowledge in graphic design guideline.

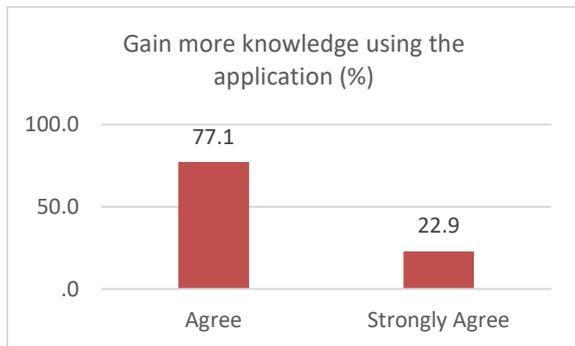


Fig 10: Gain more knowledge using the application

As shown in Figure 11, 11 of respondents disagreed that they feel less confident in designing before using the application, but 23 of the respondents agreed with the statement which they unsure with the source obtained.

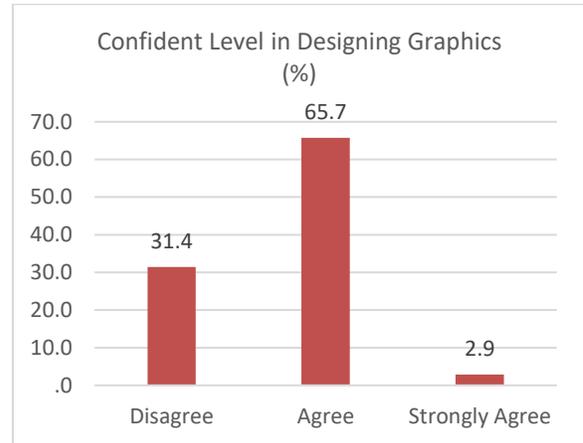


Fig 11: Confident level in designing graphics

Nevertheless, after using this application, 33 of the respondents agreed that they gained confidence in designing as the source are reliable. While 2 of the respondents totally agree that they are more confidence in designing with the help of the application as shown in Figure 12.

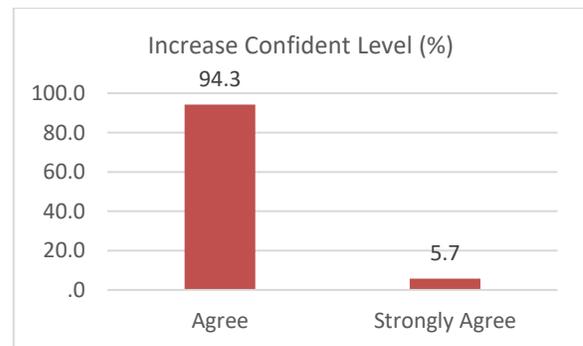


Fig 12: Increase confident level

Figure 13 shows that 8.6% of respondents totally disagree about difficulty in finding information about graphic design guidelines. While 77.1% agreed and 14.3% totally agreed with difficultness to search for graphic design guidelines.

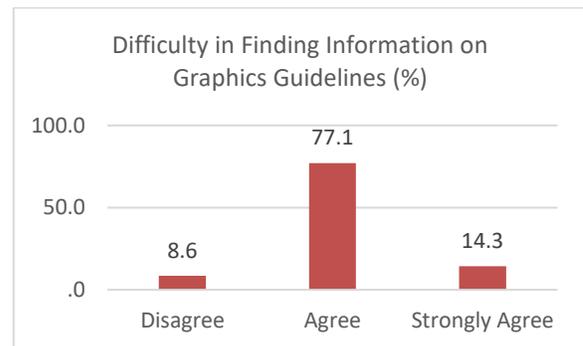


Fig 13: Difficulty in Finding Information

However, after using the application, there are 2.8% slightly increased percentage of respondents disagreed with difficultness in searching for graphic design guidelines. The result is shown as in Figure 14.

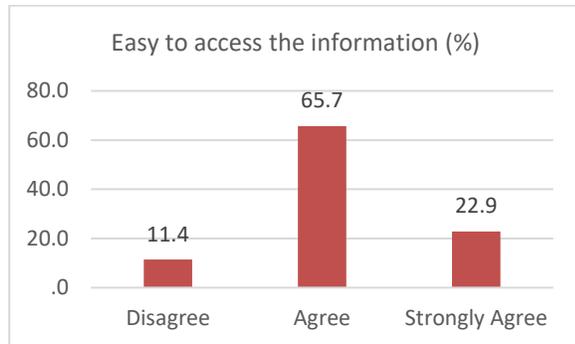


Fig 14: Easy to access the information

There are several advantages that user can gain through I Am Designer application. Listed below are four of the advantages in I Am Designer:

1) Time Saving

By using this app, user can save their time in finding design guidelines since all the guidelines are included and user do not need to surf the internet and find one by one information in various website. This app is also an online-based app that can be downloaded easily. An added value in this app which makes it more useful is that it also has a searching function which will make it easier to find information.

2) User friendly

This app is developed based on the user requirement which makes it more user friendly than any other apps. It includes the usage of interesting icons, structured information and graphics.

3) Marketability

This app is developed mainly for three types of users which are educational institutions, industry and normal users. Educational institutions can be divided into teacher, lecturers, researchers and student while industry is divided into graphics designers and freelancers and normal users are anyone who are interested in doing or learning graphics.

4) All in one application

Various information related to graphic design is included in this simple and easy to use application. The information is structured into basic graphics design guideline, graphic printing, tips of how to set the price of design product and others. With all these information, user just use this single app to find related information of graphics designs.

CONCLUSION AND FUTURE WORKS

Based on the questionnaire given to 35 users 'I Am Designer', it is proven that this application gave positive feedbacks of easiness, users friendliness, increase confident level and gain more knowledge when used this application.

The main advantages of I Am Designer are divided into four which is time saving, user friendliness, marketability and all in one application. Nevertheless, since the content of related graphic design has been included based on reliable sources, it is expected to be helpful for user to start designing their artwork easily and in a right manner.

In the future, it is hoped that this application can be used widely by other target user like lecturer, students as well as general public who are interested in graphic design. Once it is implemented widely, another testing process can be implemented to increase the application completeness by examining the view of the related user towards the application. These feedback can help improved the application in creating a simplified and user friendly application.

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