

The Evaluation of EMGS Mobile Application: Users Experience

Salah Mortada, Azham Hussain

Abstract. *There is an increase in advancement of mobile applications as of late. This makes the usability assessment of these mobile applications an essential feature in the extent and application of innovative expertise. In this paper, an evaluation on usability of EMGS application utilizing 20 users who performed 5 assignments on the EMGS mobile application. A survey with administering questionnaires was distributed to operators to view their perception on how easy they find the EMGS application. The findings show that users are pleased with the EMGS mobile application. All the usability factors such as perceived efficiency, ease of use, usefulness and user satisfaction, reveals that users enjoy the experience they have with the mobile application.*

Keywords: *EMGCS APP, Mobile Application, Usability Testing*

I. INTRODUCTION

The explosive developing numbers of mobile applications in the Apple stores and Google Play have challenged software programmers to create software with most extreme value so as to fit into the rising mobile applications markets. There is a great deal of quantifiable viewpoints on the nature of mobile applications, and the remarkably critical issue is usability[1–3]. The improvement of mobile applications should contemplate a few plan requirements, for instance, constrained and limited assets, the Web availability issues, information section models, diminutiveness of screen measure and a large group of other various showings of mobilephones[4]. However, usability of mobile phone application has turned into a vital issue on the grounds that few programming items that recently ran utilizing PCs (desktops and laptops), are right now run utilizing advanced smart mobile phones. From the point of view of users, usability is basically an assessment of the adequacy and proficiency of a system. Usability may be ordered as per the meaning of ISO 9241-11 under 3 focal components, and they are: client fulfillment, effectiveness, and efficiency of an item in an explicit setting of utilization [5][6][7]. In the same vein, usability testing is additionally critical in estimating the productivity, fulfillment and viability of the interface of a mobile phone as operators associate with the mobile phone in real use condition[7][8]. The non-assessment of the usability of mobile applications amid the advancement and configuration periods of such applications often causes operators' failure,

frustration, trouble being used of the application, much consuming of users' profitable assets, forswearing of utilization, and inside and out dismissal of the items. Viable convenience issues ordinarily manifest in real use of the application. This makes ease of use a part of programming quality. There is a solid interest for it to be inputted during development and planning of all product items[9][10].

The EMGS is an application which is used by international students in Malaysia to track their application process. The EMGS mobile application is used to track medical screening result, Visa application status of international students. The EMGS application is convenient and used basically by international students in Malaysia. The EMGS application can also be used to track the percentage of visa application status and also tells the international students when he/she is to make submission of his passport or any other document that may be required of him to submit to the visa processing unit. In other words, the usability of the EMGS is of paramount importance to international students due to the lot of advantages which it offers to them. The objective of the study is to assess the usability of EMGS mobile application. This paper is structured based on the following: Section 2 presents the related works. Section 3 describes the methods. In Section 4 the results and discussion. Section 5 presents the conclusion and some possible plans for future work.

II. RELATED WORKS

Nowadays, mobile phones utilization has quickly enhanced and expanded colossally within a short period of years. These gadgets have become further developed and direct users to endeavor and accomplish colossal task. Cell phones and their distinctive applications give extensive advantages to their administrators regarding versatility, position cognizance (area mindfulness) and furthermore availability. Sensibly valued things and their upgrades inside the PC equipment alongside programming program capacities including PDAs in the marketplace particularly the handhelds have prompted the tremendous expansion of cell phone in the related commercial centers. This has produced enormous measures of portable applications that have been created and sent inside the most recent couple of years [3][11]. The essence of utilizing the cell phone isn't restricted to communication alone, but an essential device in our everyday exercises. Completely, it very well may be said that the likelihood of future research lies in mobile terminal. Currently, Android operating framework is picking up prominence, particularly with regards to advanced

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Salah Mortada, School of Computing, Universiti Utara Malaysia, 06010 Sintok, Kedah, Malaysia.

Azham Hussain, School of Computing, Universiti Utara Malaysia, 06010 Sintok, Kedah, Malaysia



The Evaluation of EMGS Mobile Application: Users Experience

mobile phones. A great deal of free access to open sources and advancement devices are accessible. This outcome in the improvement of numerous helpful and reasonable applications that impacts many individuals to utilize the Android worked advanced cells. Besides, it gives better and appropriate equipment stage for designers, and all through the procedure, engineers can apply lesser components to transform their thoughts into the real world, and further advancement can be accomplished through the Android working framework[7][12].

Likewise, users of cell phones have the chance to appreciate films or play shared games highlighted in their cell phone. These imaginative attributes with respect to mobile applications assist users with performing diverse assortments of exercises utilizing their mobile phones. The achievement of mobile applications relies upon accomplishing a high level of users' fulfillments; subsequently, ease of use assessment is a mandatory procedure in ensuring that mobile application has the highlights of adequate reasonableness, viability, usability, effectiveness and value, especially from the point of view of users[13]. The Nielsen Norman Group did an ease of use assessment for sites and portable applications that were especially intended for the iPad tablet. Users who had the capacity to move between various pages that contains a summation of an article by tasting the page or by hauling the surface, can peruse the entire article [14][15].

Moreover, mobile applications which work on cell phones have quicker development and unavoidable data get to anyplace and at whenever. For example, numerous mobile applications get to Internet administrations by means of mobile phones. In the business world, a few applications are identified with m-trade, for example, the promoting and portable managing an account application. These applications enhance business electronic things. Customers can check their ledgers balance and can perform different business exchanges with their mobile phones[3][16][1]. What's more, the utilization of an advanced gadget is very old. Alan Kay spearheaded models for e-reading around the year 1960 and a couple of ages of gadgets were typified later on. For instance, EMGS mobile application. All the more in this way, there is some progression, which occurred in gadget innovation, for example, presentations, batteries, and CPU among others. Furthermore, distributors can offer a few carefully distributed arrangements, which tend generation towards distributing, and the precedents incorporate AppCross and others[17][18].

Furthermore, usability evaluation is a bit of a more noteworthy effort that destinations at upgrading the profit, arranging decisions and the restricting of the disappointment and oversights for users [19]. So as to achieve the goal of evaluation, systems require building a sensible arrangement. Different usability evaluations ought to be enhanced to improve circumstance all things severally before the thing gets released. Without a doubt, even after it has been released, a couple of ease of use evaluations ought to perform regardless be executed moreover. This is adapted towards evacuating the failure and issues related to design from the perspective of the users and the usability issues that will follow in the utilization of the applications. The result is that users gets productive, convincing, viable and fulfilling

products[20][21][22]. Different examinations have put emphasis on the convenience of cell phones. Gafni[23] and Ryu [24] express the evaluation that inconveniences experienced are a result of the physical objectives as for remote systems and mobile phones, including the period of coordinating and the organizing of usability testing mulls over for portable applications [16]. The examination of Zhang et al. [16] demonstrates that versatile usability is looked with a couple of convenient related challenges like: compact setting, accessibility, little screen measure, different exhibit objectives, confined taking care of limit and power, and data segment techniques.

III. METHOD

This section presents the method to achieve study objective. The study is descriptive and quantitative in nature. The current study is based on deductive approach as it follows the philosophy and characteristics of this approach. The populations of this study were international students of UUM (Undergraduate and Postgraduate). Moreover, the survey questionnaire method has been used and data was collected from students by applying simple random sampling. Furthermore, unit of analysis for the current study is individuals who use EMGS for visa application. Questionnaires were distributed among undergraduate and postgraduate students and asked them to respond to the given questions.

IV. TEST DESCRIPTION AND TASK

Twenty individuals were used in the test session. All individuals were international students. A touch screen was used to complete 5 tasks. The middle person recorded the entire sessions on the chronicle of video while the individuals were playing out their task. The ease of use test was performed utilizing a person at any given moment, that is, one user at a time. In the wake of finishing the task, the individuals were required to finish a questionnaire. Coming up next are the five tasks associated with the test: i) Profile, ii) Check Application Status, iii) Check Student Card (iKAD), iv) View Insurance Card, and v) Social Media Notification. The individuals were likewise requested to be free and do anything of their choice. This was done as such as to get users lead at the period of investigating one page then onto the following. The ease of use test incorporated the going with: Execution of the 5 undertakings by the 20 who surveyed the EMGS application. These individuals were arbitrarily tried the application. Individuals are presented to two minutes to complete every task (pilot testing is done to set up that 2 minute is sufficient for undertaking realization). Right when the 5 errands are done, the individuals were immediately given a post-test poll. To respond to evaluate each factor of energy for the ease of use test. Finally, quantitative data gathered on the action (assignment) time, screw up repeat, and errand accomplishment rate were figured. The aftereffects of this test were inputted using SPSS version 24. Descriptive



measurements for instance, mean and frequency distribution were used to break down the gathered data and present results. This present paper anyway covers just the aftereffects of the apparent ease of using the subjective post-test questionnaire.

ages ranged from 20 – 29; twelve in the age range of 30 – 40. Ordering the individuals dependent on their past experience on the utilization of the application, 1 was a novice, 6 were moderate users, while just 13 were expert users. Three of the members were an undergraduate; 5 were master’s students, while 12 were PhD students.

V. RESULTS

The individuals' statistic data is as per the following: of the 20 individuals associated with the examination, 14 were male and 6 were female. Eight of the individuals had their

Table. 1 User Demographics

Member	Gender	Age	Study level	Experience
1	Male	20 – 29	Undergraduate	Novice
2	Male	20 – 29	Master	Moderate
3	Female	30 – 40	PhD	Experienced
4	Female	30 – 40	PhD	Experienced
5	Male	30 – 40	Undergraduate	Experienced
6	Male	30 – 40	PhD	Moderate
7	Male	30 – 40	PhD	Experienced
8	Male	20 – 29	PhD	Experienced
9	Female	30 – 40	Master	Moderate
10	Male	30 – 40	Master	Experienced
11	Female	20 – 29	PhD	Moderate
12	Male	30 – 40	Master	Experienced
13	Male	20 – 29	PhD	Experienced
14	Female	30 – 40	Undergraduate	Experienced Moderate
15	Male	30 – 40	PhD	
16	Female	20 – 29	PhD	Experienced
17	Male	20 – 29	Master	Experienced
18	Male	30 – 40	PhD	Moderate
19	Male	30 – 40	PhD	Experienced
20	Male	20 – 29	PhD	Experienced



The Evaluation of EMGS Mobile Application: Users Experience

Perceived efficiency: Table 2 demonstrates the descriptive statistics for perceived efficiency of the application. As appeared in the table beneath, a large number of individuals agreed that the application was proficient for them to use. The mean and standard deviation is shown in Table 2. The usage of the application was not difficult or hard to majority

of the users. Amazingly, ease of use is focused on the convenience of an application. In the event that an application is difficult to use or utilize, most users will leave such application in disappointment and go for a less complex alternative. This is the reason individuals are traitorous to various items in the market today.

Table. 2 Perceived Efficiency

	Questions	Members	Min	Max	Mean/Avg	Standard Deviation
Efficiency	Q1	20	2	5	4.05	0.8870
	Q2	20	2	5	4	0.8583
	Q3	20	2	5	4.05	0.8255

Perceived Ease of Use: Table 3 demonstrates the descriptive statistics for perceived ease of use of the application. As shown, most members concurred that the application was simple for them to use. The mean and standard deviation appears in Table 3. The use of the application was not bothersome and worrisome to the vast

majority of the users. Excitingly, ease of use is focused on the usability of an application. If an application is hard to utilize, users will desert such application in disappointment and go for a simpler option. This is the reason users do not stick to a particular application in the market today.

Table. 3 Perceived Ease of use

	Questions	Members	Min	Max	Mean/Avg	Standard Deviation
Ease of use	Q1	20	2	5	4.03	0.8013
	Q2	20	2	5	4.2	0.8944
	Q3	20	2	5	4.25	0.8506

Perceived Usefulness: The descriptive measurement for perceived usefulness of the application appears in Table 4. The findings demonstrate that a greater part of the members are delighted in using EMGS application. A Larger part of them concurred that they are delighted in using EMGS application. The mean and standard deviation shows up in

table 4. Perceived usefulness upgrades users' satisfaction and devotes their commitment to an application. It makes users to be unequivocally organized and pulled in to an application and to have an opinion of fun while using the item.

Table. 4 Perceived Usefulness

	Questions	Members	Min	Max	Mean/Avg	Standard Deviation
Usefulness	Q1	20	2	5	4.35	0.9333
	Q2	20	1	5	4.3	0.9233
	Q3	20	1	5	4.4	0.9403

Perceived User Satisfaction: The perceived user satisfaction of the mobile application is shown in Table 5. The descriptive measurement for perceived user satisfaction of the application appears in Table 5. The findings demonstrate that a greater part of the users are satisfied in using EMGS application. A Larger number of them agreed

that they are fulfilled in utilizing EMGS application. The mean and standard deviation is shown in table 5. Perceived user fulfillment improves users' satisfaction and increases their dedication to an application. It makes users to be enchanted and cheerful in to an application and to have a sense of fulfillment when utilizing the application.



Table. 5 Perceived User satisfaction

	Questions	Members	Min	Max	Mean/Avg	Standard Deviation
User satisfaction	Q1	20	1	5	4.4	0.9403
	Q2	20	2	5	4.15	0.9333
	Q3	20	2	5	4.25	0.9665

VI. CONCLUSION

This paper assessed EMGS mobile application on four client encounter factors, in particular, perceived efficiency, usability, usefulness and user satisfaction. The outcome demonstrates that the application gave an improving client experience to the vast majority of the users who took an interest in the examination. Most of the users saw that the portable application satisfied their necessities to the extent the four usability qualities surveyed in the examination. Regardless, since a part of the individuals (anyway in the minority) had issues with the application, it prescribes that the application still ought to be further and continually upgraded to suit the troubles of this class of clients who are most likely expansive in number when their example is foreseen to the masses.

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