

An Interview Report on Users' Perception about the Usability Performance of a Mobile E-Government Application

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Abstract—Mobile governance enables citizens to comfortably do business with government anywhere, any time. This provides an enriching experience to users as they use these platforms in their convenience and with comfort. MyEG Services Berhad ("MyEG") is a concessionaire for Malaysian Electronic-Government ("E-Government") MSC Flagship Application. MyEG manages the electronic channel that offers services from various Government agencies to the Malaysian citizens and businesses. The MyEG developed a mobile application that can be used to check summons, pay summons, renew road-tax and renew auto insurance. In this study, a usability assessment was done using interview approach to examine the experience of users (with regard to usability) of the mobile application. The interview was carried out after participants engaged and interacted with the application in some task's scenarios. The assessment was done at Jabatan Technology Maklumat and Komunikasi, Polytechnic Seberang Perai, with 15 volunteers who consisted of lecturers and students. The findings showed that overall the application was perceived usable and also enriched the experience of participants. However, there were some improvements that should be implemented in the area of findability to further improve on users' satisfaction and felt experience.

Keywords—E-government, interview approach, mobile experience; usability performance, user perception

1 Introduction

Mobile governance enables citizens to comfortably do business with government anywhere, any time. This thus provides an enriching experience to users. MyEG Services Berhad ("MyEG") is a concessionaire for Malaysian Electronic-Government

("E-Government") MSC Flagship Application. MyEG manages the electronic channel that offers services from various Government agencies to the Malaysian citizens and businesses. The MyEG developed a mobile application that is used to check summons, pay summons, renew road-tax and renew auto insurance. The mobile MyEG app has gone through a complete overhaul with the provision of new features and functionalities. The new improvements offer users accessibility to a collection of e-government transactions. The users are required to first login into the MyEG app to gain access for the services provided by the app. These services are inter alia: renewal of road tax, renewal of auto insurance, checking and payment of PDRM summonses, checking and payment JPJ summonses, and the checking of delivery status for requested MyEG services. With the updated mobile app, customers can quickly carry out their e-government transactions at any time and any place with ease, convenience and comfort [1-15].

2 Methods

Fifteen (15) volunteers were recruited for this study. These participants were made to first do some tasks on the MyEG app and then were thereafter interviewed. The think aloud protocol was employed. A facilitator coordinated the entire assessment [16-27].

There were five tasks tested in the test:

- Install the application
- Login into the application
- Customize user profile
- Check PDRM summonses
- Make a payment for PDRM summonses

The task scenarios are as follows [28-39]:

Task 1 Scenario: Install the application

Instructions are as follows: Using android phone, try to install MyEG app.

Description: This task requires a participant to install the MyEG app using an android phone. Users success rates in accomplishing this task will be measured as well as the time they took for the installations process. The steps involved include:

- The participant should find the "Play Store" in the android phone, and then type MyEG at the Google Play search engine. After that, the participant should select the install button for the installation process.
- If the installation process is success, the participant will see the open button at the application.
- The user should login into the application.

Task 2 Scenario: Login into the application

Instruction: From the home page of android phone, try to login into the MyEG app using the given ID and password. ID: ayumiesz; and Password: sonicz; the steps involved include:

- After installing the MyEG app, the participant should try to login into the application using the information given, that is, he/she should key in his/her username and password and then click on the login button;
- See the error message if any exists.

Task 3 Scenario: Customize user profile

Instruction: In login status, try to update user profile for item address and item phone number based on the information below:

Phone number: 013 – 3425874

Postcode: 13800

City: Butterworth

State: Pulau Pinang

Address: No 234, Taman Saujana, Jalan Keramat

The steps involved include:

- In login status, participant is required to click menu function and then choose edit profile;
- At the edit profile, participant is required to update information based on the task instructions and then save the changes.

Task 4 Scenario: Check PDRM Summonses

Instruction: In login status, try to check PDRM summonses based on the ID: 840512105386

After the list of summonses is viewed at the android phone screen, the participant/tester must speak aloud on how many summonses were viewed. The steps involved include:

- In login status, at the home page, participant is required to click check & pay PDRM Summons function and then insert the given ID Number;
- After inserting the ID Number, participant then clicks the button Check Summons. If the ID Number have summonses, then a list of summons will be viewed.

Task 5 Scenario: Make a payment for PDRM Summonses.

Instruction: In login status, select one PDRM summons and make payment for that summons using the information below to fill payment information.

Card Type: Visa

Card Expiry Date: MM = 12 and YYYY = 2019

Card Number: 4786 7040 0008 0233

Security Code: 011

Card Holder Name: Norzila Ishak

Card Issued By: Bank Islam Malaysia Berhad

Tick authorized and then submit the payment.

The steps involved include:

- After inserting the ID Number, click the button Check Summons. If the ID Number have summonses, a list of summonses will be viewed
- Tick one summons and make payment. A click of the button pays 1 summons

- After that, confirm details will be viewed. Participants are required to click proceed to payment button and then payment details will be viewed
- Participants then make payment using credits card. To make payment, participants click on credit cards (Master/Visa) button and then the credit card form details will be viewed
- Participants need to fill the credit card information using the given information at task
- Next, participants click the authorized button and then submit the form
- The MyEG app will process the information for the validation of card details

Some equipment and materials were used to support the usability evaluation:

- Android mobile devices: Android mobile devices were used to carry out the tasks on the MyEG app. Participants used these devices to carry out the evaluation.
- Mobile device camera: Mobile device camera was used by the facilitator in capturing and understanding the users' interaction by capturing their facial expressions.
- Internet connectivity: this was provided by Celcom First Gold Plus CBS to make the task of app installation successful (task 1).
- Written instructions: these written instructions provided guideline for participants as they perform their tasks.

The ISO/IEC 9241-11 standard served as a guide for the evaluation of the app. The standard posits that usability is “the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use”. Effectiveness: The accuracy and completeness with which specified users achieve specified goals in particular environments and contexts. Efficiency: The resources expended in relation to the accuracy and completeness with which users achieve goals in a given context of use. Satisfaction: The comfort and acceptability of use. It is the positive feelings that users have or show toward a product after using or interacting with it. The interview was used to capture users' perception about the usability of the MyEG application [40-50].

3 Results and Discussion

The following table displays summary of the result of the interview conducted.

Table 1. Summary of Findings from the Interview

Question 1: What are your overall impressions about the application?
With regard to this question, the feedback from all the respondents was that the application was very useful and easy to use. They all concurred that they can check summons, pay summons, and renew road tax by the click of the hand. Indirectly this application saves them time and energy, and so they do not need to travel to JPJ, or Police Station to pay summons or to renew road tax.
Question 2: What are the things you like best about the application?
Most of the respondents liked the simplicity of the application's user interface and the ease of use of the application.
Question 3: What are the things you like least about the application?
Most of the respondents do not have any things that they do not like about the application; however there was one candidate who suggested that the main menu should be reconstructed in terms of arranging the menu in grid form, and providing each menu an icon so that it will be more user friendly. He also complained about the user profile interface, that users cannot scroll down easily when they are filling up their details.
Question 4: Given scale 1-10, how would you rate this application?
Most of the respondents gave the MyEG application 7-10 rating (i.e., they rated the performance (usability) of the application as being in the range of 70-100%).

Findability issue was however observed. There were a few participants who failed to follow their given task accordingly, especially task 3, because they failed to find the update menu. Overall, the results of the study can be summed in the following themes, namely, performance, learning, interface, and end-user satisfaction. Performance: It was found that the performance of the application in term of application installation, application response, and site information depended on the speed of the mobile data or Wi-Fi used by the respondents. The respondents perceived that they were satisfied with the performance of the application. Learning: In terms of learning, it was found that most of the respondents perceived that they were able to follow and carry out the tasks accordingly, however, there were a few of them that felt that they had trouble doing some tasks, particularly carrying out task 3, where they were required to customize the user profile, the respondents seem to have had trouble in finding the user profile menu and updating their given user profile details. Interface: with regard to the user interface, it was found that most of the participants were satisfied with the user interface. They found that the user interface was simple, attractive, and that there was the use of appropriate symbols. They perceived that the interface was user friendly and easy to use. However, the user profile interface seems to require some modifications as expressed by some participants. End-user satisfaction: regarding end-user satisfaction, all the participants felt satisfied with the application and opined that it is easy to use and that the functions of the application is straight forwards [47-53].

Recommendations: The study proffers a couple of recommendations that can be used to further improve the experience and satisfaction of users for the application:

- Re-arrange the main menu in grid form so that it is more user friendly. Add more appropriate symbol/icon in the menu
- Re-locate the user profile menu so that it is easier to find
- Make the edit user profile interface scrollable when used in filling the details so that users can scroll up and down easily
- Change the colour of the edit button in the edit user profile interface so that it will be more noticeable to improve findability. This is because when users want to update their details, they must press the button.

4 Conclusion

The study employed interview approach to assess the usability of a mobile e-government application (MyEG app). The assessment was meant to capture the user experiences of the application. The ISO 9241-11 standard was used to guide the assessment. The result of the assessment revealed that overall the interface of the mobile application was usable and offered users enriching experience. However, there were some issues findability that demands attention and improvement in subsequent updates of the application. To improve findability and user experience, the main menu needs to be re-arranged and more appropriate symbol/icon need to be added in the menu. The user profile menu needs to be relocated to make it easier to find. The edit user profile interface needs to be made scrollable when used for filling user details so that users can scroll up and down easily. The color of the edit button in the edit user profile interface need to be changed so that it will be more noticeable and findable.

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