

THE IMPLEMENTATION OF BETA TESTING FOR TRASEL APPLICATION

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ABSTRACT : *Tourism Applications have come to be used to refer to adaptation of technology in tourism industries. Tourism Application is a term arise from the convergence of Information and Communications Technology with the tourism activity. In this project, an Android application called Trasel (Travel Selangor) have been developed to guide tourist either local or international to get the latest information regarding with tourism in Selangor. In order to verify the quality of Trasel, two types of testing must be implemented: Alpha Testing and Beta Testing. Alpha-testing is the first round of independent testing to ensure that software, systems, and projects run as planned. Alpha testing is a type of acceptance testing that performed to identify all possible issues/bugs before releasing the product to public. Alpha testing is carried out in a laboratory environment and usually the testers are internal employees of the organization. All the feedback then will be analyzed in order to get the result of acceptance and usability. Beta Testing of a product is performed by "real users" of the software application in a "real environment" and can be considered as a form of external User Acceptance Testing. Beta version of the software is released to a limited number of end-users of the product to obtain feedback on the product quality. Beta testing reduces product failure risks and provides increased quality of the product through customer validation. Trasel is considered as ready to enter the market after completed the testing*

KEYWORDS: *alpha, beta ,tourism apps, testing, validation*

1.0 INTRODUCTION

The tourism industry in Malaysia generates 14.8% of the country's economic growth. Tourism Industry in Malaysia continues to expand in 2016 with the contribution of 14.8 per cent (RM182.4 billion) to the economy. This statistic officially announces by The Office of Chief Statistician Malaysia Department of Statistics, Malaysia on 15 September 2017 states that Selangor remained as one of the Malaysia's leading domestic visitors travel destination. The greatness of mobile device technology today has a give a significant impact on human life. Therefore, human need smart device to assist them to capturing data [1]. The android application namely Trasel will be the subject of study. Trasel is a short form of Travel Selangor. The application includes the history of the place of interest, directions, travel cost, operating hours as well as a rewarding explanation of why one should travel to a place of interest. In order to ensure all function in Trasel works correctly, beta testing will be applied. The testing reduces product failure risks and provides increased quality of the product through customer validation.

Selangor have the biggest tourism industry in Malaysia with more than 25 million visitors came to visit Selangor. Currently in a Google Play Store only have 3 mobile application available for user. One of them is provide by Selangor State Tourism while the other two application provide by private company. So, user have limited application to discover interesting places in Selangor. Other resource is coming from personal website or blog and from printed document. This could be unpleasant thing to use or bring the paper during visit Selangor. Travel Selangor is an application that will be develop to give more choice for a user who need to get an information about interesting places in Selangor. Tourists who came to Selangor need to find an information about interesting places in Selangor. Today's technology of smartphone should be use to give human a simple and better technique to get the information regarding with place of interest in Selangor Darul Ehsan. After the application have been develop, it should undergo a tested to ensure its effectiveness. The test is compulsory to detect any bug or to reduce its failure. All possible issues/bugs need to be detected and fix before releasing the product to public. Beta Testing is a kind of test to make sure the application is ready to deploy to market.

The user acceptance testing (Beta Testing) of Trasel must be implemented. So, the quality of Trasel can be disputed. Without any verification by user the product failure may be high and this will decrease the quality of Trasel. There are three objectives for this study. The first objective is to gather and information and requirement to conduct Beta Testing on Trasel. Second objective is to implement Beta testing using all the information and requirement derived from first objective. And the third objective is to analyze Beta testing result.

The scope of this research is to develop a test procedure call "Beta Testing". Beta Testing of a product is performed by "real users" of the software application in a "real environment" and can be considered as a form of external User Acceptance Testing. To implement Beta Testing, almost 100 "real user" will be used. The application can display information about a place of interest sorted by regions and category. Selangor have 9 regions. The regions in Selangor are Petaling, Hulu Langat, Klang, Gombak, Kuala Langat, Sepang, Kuala Selangor, Hulu Selangor and Sabak Bernam. Trasel displays or provide the information based on following category: Food, Stay, Shop, amusement and heritage. The user will search based on which region they want then user will determine the category that they search. User also can add review for better user experience. User have an ability to share the information direct through other applications. User also can do the following task:

- i. Users can search the popular attractions and important cultural sites by browsing through the categories
- ii. Users can choose to visit a place of interest based on their budget.
- iii. Users can insert feedback of their own and view feedbacks from other users.

As a result of this study, it is hoped that the process to gather and information and requirement to conduct Beta Testing on Trasel work well and accurate data are taken. The development of the application must use right methodology because methodology is an engine of project [2]. The application must provide accurate information about interesting places in Selangor. Beta testing will be performed by "real users" of the software application in a "real environment, based on the information and requirement gather in previous step. Second expected result is to find and fix bugs using Beta Testing and to analyze, implement and evaluate the external user acceptance of Trasel app using Beta Testing. All the bug will be fix to make sure Trasel work properly. All result produce by Beta Testing will be analyze for each item before Trasel is fixed. Lastly a report of Beta Testing will be generated as a literature for future reference in the field of Mobile Tourism Application

2.0 LITERATURE REVIEW

A mobile application is software that runs on a mobile device that has an operating system that supports standalone software and can connect to an internet or network [3]. Mobile applications are real packages that are downloaded and installed on smart phone or mobile devices, as opposed to being rendered inside a browser [3]. A survey is conducted by Suruhanjaya Komunikasi Dan Multimedia Malaysia shows that 90.7% internet user have smart phone. The percentage of smartphone ownership rose from 74.3% in 2014 to 90.7% in 2015. The Figure also shows that tablet and smart TV continue to increase over the past three years, with 35.4% of Internet users having tablets, and one quarter of them (25.7%) have smart TV

Personalized Learning Environment: Alpha Testing, Beta Testing & User Acceptance Test is a previous study that was referred in this study. The study was conducted using Personalized Learning Environment for Nutrition (PLENut) a multimedia application increase student performance in learning Science subject. The research implement Alpha Test, Beta Test and User Acceptance Test. Alpha Test that implement to this multimedia application involving content expert. They have been asked regarding with General Impression of the Personalized Learning Environment for Nutrition (PLENut) found the integration of Personalized Learning with learning styles can facilitate Personalized Learning Environment for Nutrition (PLENut). Most of the content expert give feedback. Beta Testing was performed by students and teachers. The test was conduct to get feedback regarding with usability of the prototype [4]. The respondents is 30 student of Form 2 at secondary school in Malacca. The respondents given a prototype to test and answer a questionnaire to get the result

Another previous study used as a reference was Beta Testing of a Mobile Application: A Case Study. Contextual investigation inquire about is directed by cycle over an arrangement of stages. In the outline stage, the targets are settled on and the case is characterized. Information accumulation is first arranged regarding information gathering system and information sources. Techniques for information accumulation incorporate meetings, perception and the utilization of authentic information. Beta testing is a basic segment of the product approval and testing stage as a result of its prompt effect on the item being tried [3]. Main objective of this study is to get the best number of testers who can reveal the majority of errors and mistakes during beta testing. The number of testers obtain through the case study research method.

There are several similar applications that are used as a literature review. The Application is Discover Selangor and Tourism Selangor. Discover Selangor is the application develop by Tourism Selangor is the example of current application that apply smart tourism. Its objective is to help tourist who came to Selangor to find an interesting place to visit. Each place of interest is provided with a description and multiple options which is to share, locate or bookmark. The first option would be, bookmark. The bookmark option is represented by a star icon which means that the place of interest can be bookmarked and are available to view for future reference. Secondly, the option to share the place of interest. Users are given the ability to share the place of interest through the medium they chose which either could be Facebook or Twitter. This option is meant to attract more travelers to explore Selangor. The last option provided is locate. By clicking on the locate icon, the user would be directed to a map and is able to locate the place of interest. and most effective methods to warn the relevant authorities and vulnerable homes

Another application is Tourism Selangor. The application develops by Selangor Apps. The application allows the user to search for a main attraction through maps and also through keyword search. The places of interest are sorted by categories such as accommodation, education, entertainment, events, medical and health as well as sports and adventure

3.0 RESEARCH METHODOLOGY

The Waterfall Model have been chosen to develop an android application call Trasel. The Waterfall model is a sequential (non-iterative) design process, used in software development process in which progress is seen as flowing steadily downwards like a waterfall. In addition, the waterfall model is also easily monitored through the progress in this model.

Testing is characterized as a procedure of assessment that either the particular framework meets its initially indicated necessities or not. It is for the most part a procedure enveloping approval and confirmation process that whether the created framework meets the necessities characterized by client. Thusly, this movement brings about a contrast amongst genuine and expected outcome. Software Testing alludes to discovering bugs, blunders or missing prerequisites in the developed system or software. Along these lines, this is an examination that furnishes the partners with the correct information about the nature of the item. Unit Testing, Integration Testing and System Testing is three basic steps in software testing [5]. All this type of testing is included in the Software Development Life Cycle.. The testing specified above advances is comprehensive in the Software Development Lifecycle (SDLC). After all, three testing completed then it will follow by Alfa and Beta Testing

This research has been designed to clearly explain step to be taken in order to complete the research. Firstly, the researcher will gather the requirement or information on how to conduct the test. First steps for beta testing is to gather information regarding with the best solution to conduct the test. Second step questionnaire will be developed to get feedback from external user. This research design involves in to two section. First section the researcher must implement Alpha testing. Result come out from Alpha testing should be used in Beta Testing as shown in Fig 3.1. Any bugs found in Alpha Testing must be fixed first before putting the Trasel to Beta Development.

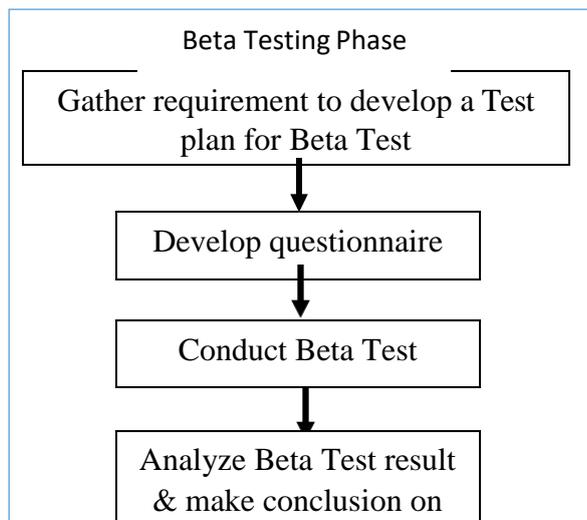


Figure 3.1: Beta Testing phase

Beta testing take place at the end of software development cycle before final release of the software [3]. Beta testing is run after Alpha test. The test will involve “real user” in “real environment. It’s also considered as external user acceptance testing [3]. Beta testing is performed by end user outside the organization. Beta Testing use Black box as software testing techniques. Black Box testing is a testing technique that no need to refer to the internal structure of the component or system [6].

4.0 RESULT (EVALUATION AND ANALYSIS)

Usability is a piece of the more extensive term "client experience" and alludes to the straightforward entry or potentially utilization of an item or site. A plan isn't usable or unusable as such; its highlights, together with the setting of the client (what the client needs to do with it and the client's condition), decide its level of ease of use. Usability testing is performed keeping in mind the end goal to ensure the expectations of the application working with its assigned clients. [7]. Based on Bar chart in Fig 4.1, shows that most of the respondents are Strongly Agree and Agree Trasel is a usable application. Stability is the "degree to which an item can be utilized by indicated clients to accomplish determined objectives with viability, proficiency and fulfillment in a predefined setting of utilization [8]

List of the questions that use to get the feedback on usability factor are listed below

A. Usability

- 1 Searching for the place of interest is easy
- 2 The application is simple
- 3 The application is easy to use
- 4 I need the support of a technical person to be able use the application
- 5 The various function (ex: sharing location and GPS localization) in the application were well integrated
- 6 The application’s interface is consistence
- 7 I would learn to use the application very quickly
- 8 I felt very confident using the application
- 9 I’m clear of what tasks to do and how to complete them
- 10 I understand the meaning of each icon used in this application

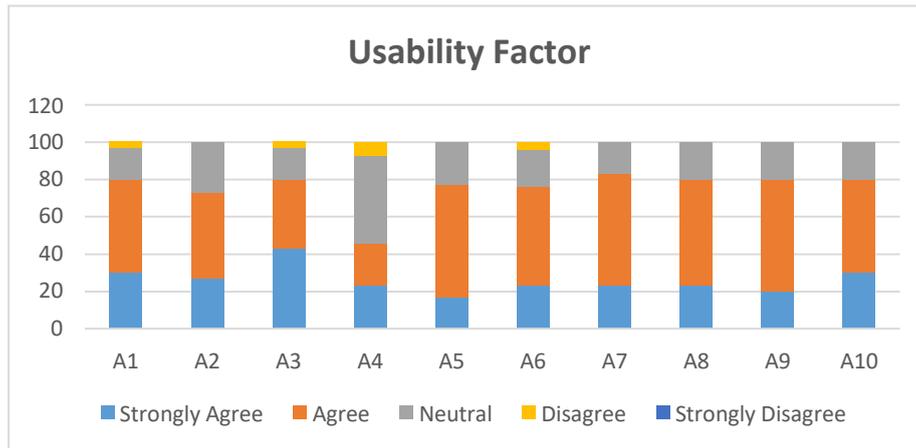


Figure 4.1: Respondent's answer for Usability section.

Based on figure 4.1 it can be concluded that the majority of users agree that this application is easy to use and very useful. Almost no users find this application is difficult to use or not useful to its users.

User experience become the most important to design a multimedia mobile application. User Experience (UX) which centers around estimating the acknowledgment level of client toward application [9] Fig 4.2, shows that most respondents are agree that Trasel have better User Experience

B. User Experience

- 1 It's easy to figure out how to use or start the application?
- 2 It's easy to understand the instructions to search a place of interest using the application?
- 3 The language use in Trasel is simple and easy to understand.
- 4 It's easy to see or read the on-screen text?
- 5 It's easy to know what you were supposed to do.
- 6 How comfortable did you feel interacting with the application?
- 7 The application is flexible to interact with
- 8 The design menu is simple easy to understand
- 9 The screen design is smart and simple
- 10 The button is large and easy to select
- 11 The navigation button is easy to locate and use

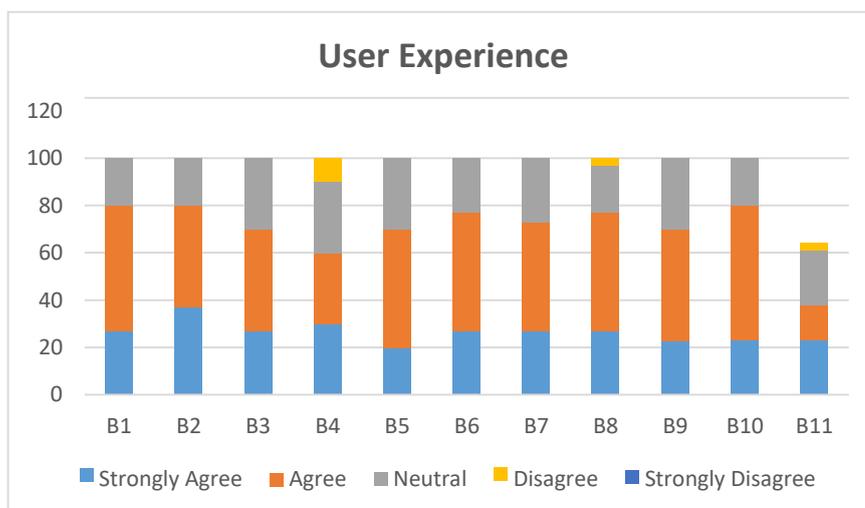


Figure 4.2: Respondent's answer for User Experience section.

Based on the finding of the survey conducted it can be concluded that this application has an easy-to-use, effective and useful interface. This statement is proven by the majority of users who choose agree and strongly agree. The highest number of user choose Strongly Agree is a question number two.

Accurate information is fundamental to the dissemination of information. Therefore, accurate information is required in this application. This section will examine the accuracy of the information or content of the Trasel application.

List of the question that use to get the feedback on content factor are listed below

- 1 The information given in this application is accurate.
- 2 User easily can go to place of interest.
- 3 Picture for interest of place is accurate.
- 4 The information given in this application is up to date.
- 5 No fake location found in the application.
- 6 The telephone number provided is correct.

Table 4.1 The information given in this application is accurate

	Frequency	Percent	Valid Percent	Cumulative Percent
Disagree	3	3.0	3.0	3.0
Neutral	20	20.0	20.0	23.0
Agree	47	47.0	47.0	70.0
Strongly	30	30.0	30.0	100.0
Agree				
Total	100	100.0	100.0	

TABLE 4.1 is one of the results have been produce in section C. In conclusion most of the user agree that content of the Trasel is accurate. Most of the user state that Trasel is a reliable application. Fig 4.3, shows that most respondents are agree that Trasel have good content.

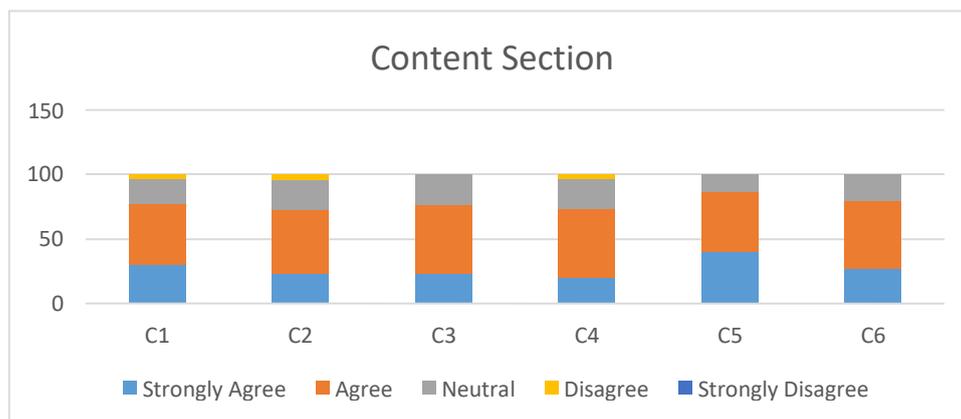


Figure 4.3: Respondent 's answer for Content section

List of the question that use to get the feedback on overall evaluation are listed below

- 1.0 The application is easy and beneficial to use
- 2.0 I would like to use this application frequently
- 3.0 It's worth to download, install and use the application
- 4.0 I would like to suggest the application to others.

The result produce in this section prove that most of the user ad it that the application is beneficial to use, worth to download and they like to use Trasel. Most of the also like to suggest this application to other. Fig 4.4, shows that most respondents are agree that Trasel is a good application. No users provided negative feedback for this app's overall rating

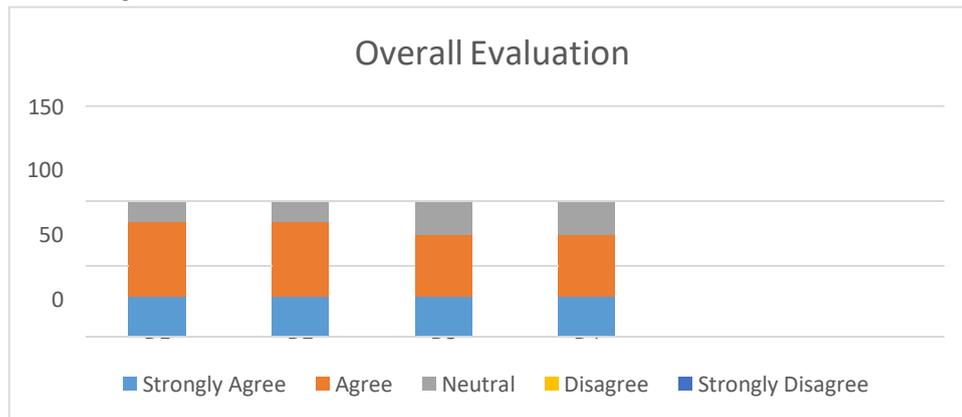


Figure 4.43: Respondent 's answer for Overall Evaluation

5.0 CONCLUSION

The main objective of this study is to carried out Beta Testing on Tourism Application called Trasel. Based on the result this main objective has been achieve. Trasel are ready to deploy to its market. Four domain item that measured in this study is Usability, User Experience, Content and Overall evaluation. A testing that measure usability can wipe out design problem. [10]. User, task and context of use is the factor that can affect the overall usability of mobile application. [11]. User Experience is one of the factors that measured in Beta testing. Acceptance level of user toward application that have been measure considered as user experience [9]. Other's objective that have been achieved prior to Beta testing is gathering requirement to develop Trasel.

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