

E99: Desktop Game Application for Learning Asmaul Husna

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Abstract

Nowadays, students still use conventional methods to learn about the Asmaul Husna, the use of technology has not been fully utilized. This causes difficulty in understanding of students in the learning process. Moreover, causing boredom in memorizing Asmaul Husna. Need appropriate learning media needed so students become more interested in memorizing the Asmaul Husna. Therefore, the purpose of this study is to design and develop the game to introduce Asmaul Husna in the form of the game called “E99” a game application of learning Asmaul Husna. This study involves 20 students aged 7 – 14 years old. The method used to carry out formative evaluation is the quantitative method and Perceived Usefulness and Ease of Use (PUEU) and Questionnaire for User Interface Satisfaction (QUIS) as an instrument. Overall findings show this application 89% useful, 83.75% ease of use and 85.5% satisfying. It indicates E99 is effective game for help students recognize and memorize Asmaul Husna.

Keywords: boredom, media, memorize, quantitative

1. Introduction

Getting to know about Asmaul Husna (99 Names of Allah) is very important for every Muslim. Especially introduce Asmaul Husna since childhood is important for Muslim children. By knowing the names of Allah, a servant will be called to give love, fear, hope, and sincerity in the deed he did it to Allah. And there is no other way to know Allah except by knowing and understanding Asmaul Husna, the faith of a servant will increase and become stronger (Marzuki, 2006). Every time knowledge names of Allah and attributes of Allah increase, so automatically their faith will increase and strengthened his conviction. There are various ways of learning, using the game is one way of learning something (Noem í& M áximo, 2014).

In this project, the E99 game had been developed. E99 is a game application of learning Asmaul Husna, game to help students recognize and memorize of Asmaul Husna. Type of E99 game is a combination of adventure and quiz. This game will be developed and running on a PC desktop. This paper reports on the results of usability evaluation by users on the E99 desktop game.

2. The Issue to Recognize and Memorize Asmaul Husna

Memorizing learning activities so boring that it makes students struggle to enjoy the learning and memorizing process, interesting methods needed are made appealing and enjoyable to help optimize child's recall of memorization and child's ability to memorize (Ismawati, 2016). A traditional teaching method only provides limited information to the students and emphasize on teachers' instruction (Pun, 2014) Implement game-based learning (GBL) into lessons is a way to motivate and engage students to diverse learning styles (Vlachopoulos & Makri, 2017). Games stimulate an increase in midbrain dopamine to help store and recall information (Howard-Jones, Ott, Leeuwen, & Smedt, 2015). An individual is able to accomplish inner peace and satisfaction by having a strong faith in Allah. This refers to believing in the existence and oneness of Allah (Tawheed) and Muhammad is His last Messenger. It is one of the pillars in Islam that is encapsulated through the expression of shahadah. The following verse from Al-Quran confirms that individuals can offer gratitude and seek satisfaction by remembering Allah always (Ahmet & Akdogan, 2012). When a Muslim knows and remembers the names and attributes of Allah, he or she will progressively gain more knowledge about Him, stay closer to His supreme being, and eventually reflect upon the reasons and purposes of this life and the afterlife. Al-As'a al-Husna integrated learning is an effective model to be applied in the character education building of the children. This philosophy is based on the concept that educating children to be smart should be inlined with their good beliefs and faith to Allah (Bahar, Ismah, & Mutjaba, 2016).

Therefore, the researchers have designed and developed an educational desktop game named E99 to incorporate the digital teaching method and also to motivate the student to help students recognize and memorize Asmaul Husna.

3. E99 Game

E99 is an educational desktop game that uses as interactive pedagogy for students aged 7 – 14 years old. E99 has covered 99 names of Allah and it can help students recognize and memorize Asmaul Husna. In order to install this game, it required 60 Mb file size and windows version 7.0 and above. This desktop games developed in English language it can be used without internet connection. E99 has an attractive and well-designed interface in order to motivate students to learn Asmaul Husna and make the learning process more fun and enjoyable.

Prior to the usability evaluation, a comparison analysis was conducted in Table 1. Table 1 summarizes the comparison of 4 examples existing Asmaul Husna application.

Table 1. Comparison of E99 and Existing Application

Game	Marbel Asmaul Husna	Asmaul Husna Untuk Anak	Asmaulhusna. in	Mydua online. com	E99
Platform	Android	Android	Web	Web	Desktop
Image	√	√	√	√	√
Video	×	×	×	×	×
Audio	√	×	×	×	√
Animation	√	×	×	×	√
Text	√	√	√	×	√
Database	×	×	×	×	√

4. Flow and Structure of the Game

E99 is a desktop game that including a set of questions in the game to let students discover by themselves. E99 consists of 6 levels, every level has different difficulty. This game combination of adventure, simulation quiz, and battle game.

Before the game starts they need to complete tasks on the main menu scene. This scene consists of “Play”, “Continue”, “Setting”, “Exit” button. Once the user clicked on the Play button and Continue button, it will enter the game level. This game starts with a storyline that describes there is 4 characters started his study in a school. They study about Asmaul Husna in these schools, and one day they found a secret room at school. That school locked, and need a key to open it. They need to finish every obstacle to a key. Level 1 will be a class session this level will let know students 99 names of Allah and there is 5 class for this session. The end of class will have a simulation of quiz about Asmaul Husna that already learned in class. They need to collect a key to open every class, after finish a class they will get a key for the next class until they get key for an open new map. Level 2 will be started they adventure it will move to another map not in school again. Total there are 5 levels for adventure session, with 4 different house and 3 different maps. Obstacles this game is, users need to answer every question in every house and there is a battle session too.

E99 game have point system, if user correctly answers the question, they will get 5 gold and if wrong will be reduced by 3 gold. However, the ending of this game storyline will be the same but the total point that users get will make a difference.

The following figures illustrated the interfaces of the E99 game.



Figure 1. Main Menu



Figure 2. How to Play

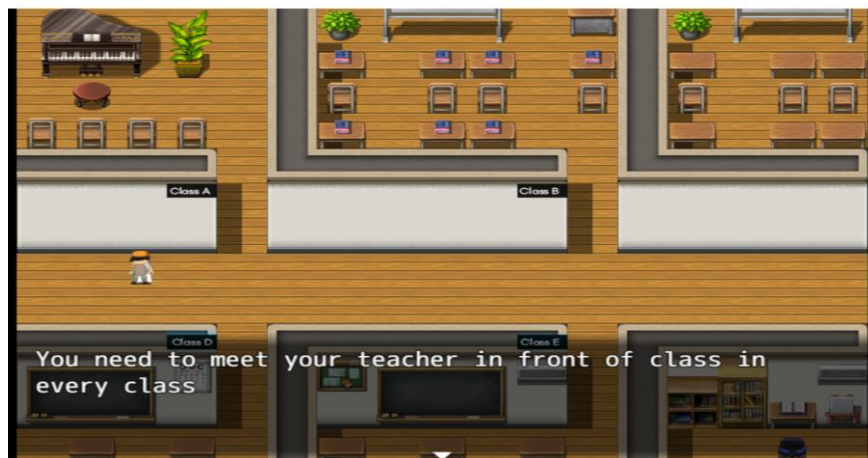


Figure 3. Map of School



Figure 4. Study in Class

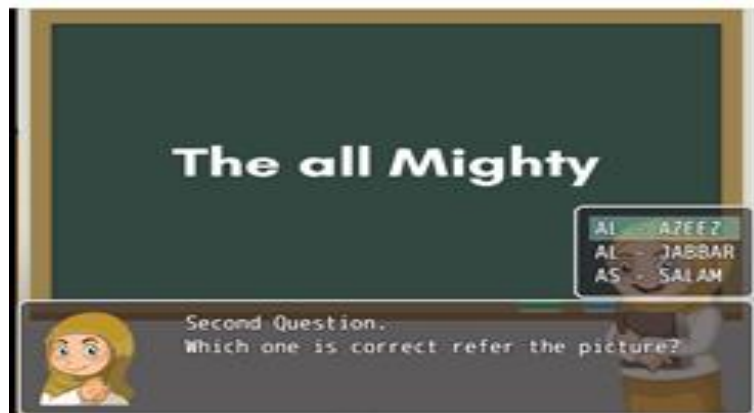


Figure 5. Quiz session



Figure 6. Pause Menu



Figure 7. Database Menu



Figure 8. Example Map



Figure 9. Setting Menu

5. Usability Evaluation of E99

The purpose of this study is to carry out usability evaluation of the E99 game. The questionnaire was designed based on Perceived Usefulness and Ease of Use (PUEU) and Questionnaire for User Interface Satisfaction (QUIS) and created in a form of quantitative data. The quantitative data were collected based on respondents opinions of the E99 game. E99 was analyzed based on the aspect of usefulness, ease of use, and satisfaction.

A. Perceived Usefulness

Perceived usefulness is defined here as "the degree to which a person believes that using a particular system would enhance his or her job performance (Davis, 1989). In the Usefulness aspect, the evaluations focus on how E99 can help the user to learn about Asmaul Husna, and whether the E99 material is in accordance with what they learned at school or not.

B. Ease of Use

Ease of use is a basic concept that describes how easily users can use a product (Interaction Design Foundation, 2016). In the ease of use aspect, the evaluations focus on easy to use, user-friendly, and can user use the application without instruction or not.

C. Satisfaction

The meaning of satisfaction is how pleasant is it to use the design (Nielsen, 2012). There were some aspects being evaluated such as the satisfaction of learning, the pleasant to be used for learning purposes and the engages of fun learning. The satisfaction of this game is to ensure the students understand, enjoy the learning process in a fun and joyful way.

6. Methodology

The aim of this study is to conduct usability testing on E99 game. Figure 10 shows the process of methodology for this evaluation. Collect and gather data is the process of gathering and measuring information on targeted variables, then analysis the data collected were then inserted in Microsoft excel so that it will be easier to conduct an analysis of overall data collected, the output from analysis checked for completeness then summarize and obtain useful information.

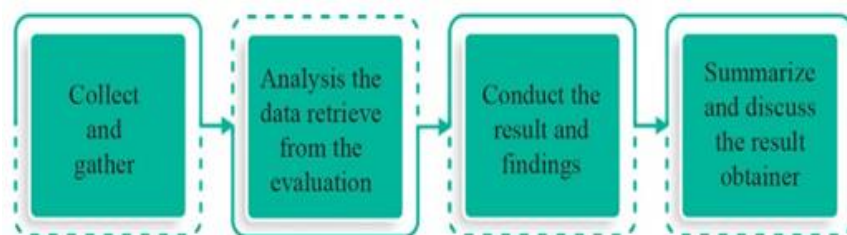


Figure 10. Process of Methodology

The samples of the study were involved 20 respondents aged 7 – 14 years old.



Figure 11. Usability Testing from Respondent

Firstly, the respondent has given some briefing on how to play the E99 game. After that, some explanation was given to them regarding the questionnaire since the respondents are still young and they might have difficulties in understanding the questions. To make the respondents easier to understand the questions, the questions was in three languages that is Bahasa Indonesia, Melayu, and English.

7. Result and Findings

E99 Game was evaluated for its usability, ease of use, usefulness, design activity and satisfaction. The evaluation was carried out with 20 students aged 7 – 14 years old as the respondent.

Table 2. Demographic Information of Respondents

Variable	Category	Total	Percentage
Gender	Male	7	35
	Female	13	65
Nationality	Malaysian	5	25
	Indonesian	15	75

Table 2 shows general information of the respondents. 65% or 13 of the total respondents are female and 35% or 7 respondents from the total respondents are male. Furthermore, the Nationality of respondents is 75% or 15 of the total respondents is Indonesian and 25% or 5 respondents are Malaysian.

Table 3. Result of Perceived Usefulness

Question	Scale				
	1	2	3	4	5
I am happy learn use E99 as a learning method	0	0	2	13	5
I easily remember how to use E99	0	0	2	11	7
I quickly became skillful	0	0	4	10	6
E99 give more control over the activities inside the application	0	0	3	10	7
Material in E99 same with syllabus I have learn at school	0	0	0	0	20

Scale rate: 1(Strongly Disagree), 2(Disagree), 3(Neutral), 4(Agree) and 5(Strongly Agree)

Table 3 above shows result from the perceived usefulness section, Most of the respondents rated for 4 which is 65% or 13 respondents are *agree E99 as a fun learning method to learn about Asmaul Husna*. There are 25% or 5 respondents rated for 5 (strong agree) and 10 % or 2 respondents have neutral opinion and rated as 3.

For the following *statement it easy to remember how to use the E99 game*, there are 55% or 11 respondents from the total agree and 35% or 7 respondents are strongly agree and rated as 5. 2 respondents out of 20 or 10% rated 3 as neutral.

For the next statements, 50% that is 10 respondents agree and rated 4 and 6 respondents or 30% strongly agree and rated 5 for a statement *I quickly became skillful*. There are 4 respondents or 20% rated 3 for neutral.

For the statement, *E99 give more control over the activities inside the application* 50% (10 respondents) rated 4 that is agreed. 35% (7 respondents) rated 5 for strongly agree with the statement, and 15% (3 respondents) rated 3 for neutral.

Lastly, for the statement of *material E99 game is same with the syllabus they learn at school* all respondents rated 5 (strongly agreed).

Table 4. Result of Perceived Ease of Use

Question	Scale				
	1	2	3	4	5
E99 easy to use	0	1	2	6	11
E99 requires the fewest steps possible to accomplish what I want to do with the application	0	0	3	7	10
I can use E99 without instruction	0	0	5	8	7
E99 is user friendly	0	0	2	8	10

Scale rate: 1(Strongly Disagree), 2(Disagree), 3(Neutral), 4(Agree) and 5(Strongly Agree)

Table 4 reveals the result from perceived ease of use. For the statement *E99 is easy to use*, 55% or 11 respondents rated 5 (strongly agree) and 30% or 6 respondents rated 4 (agree). There also some respondents feel neutral and disagree with the above statement. 10% or 2 respondents rate 2 for neutral, and only 5% or 1 respondent rated for 2

(disagree).

For the following statement that *is E99 require the fewest steps possible to accomplish what I want to do with the application* there are 50% or 10 respondents rated for 5 (strongly agree). 35% or 7 respondents rate 4 (agree) and 15% or 3 respondents rated for 3 as neutral.

For the next statement, 40% or 8 respondents agree and rated for 4, and 35% or 7 respondents are agreed and rated as 4 for the statement *I can use this application without instruction* since they did not felt E99 flow and navigation is confusing during the gameplay. There are 25% or 5 respondents from total respondents rated 3 (neutral).

For the statement, *E99 game is user-friendly* 50% or 10 respondents rated for 5 that is strongly agree, 40% or 8 respondents rated for 4 that is agree with the statement. And 10% or 2 respondents from total respondents rated 3 that is neutral.

Table 5. Result of Questionnaire for User Interface Satisfaction (QUIS)

Question	Scale				
	1	2	3	4	5
Screen					
Character is suitable	0	0	2	6	12
Organization of information is clear	0	0	4	11	5
E99 is user friendly	0	0	2	8	10
The display interface format is consistent and clear	0	0	3	10	7
The button used in E99 is standart and clear	0	0	5	4	11
Capabilities					
E99 feedback (System speed) is enough	0	0	1	8	11
E99 system is reliability	0	0	2	6	12
Learning					
I easy learning to operate E99 game	0	0	3	8	9
Performing task is straightforwards	0	0	6	7	7
E99 is supplemental reference material to learn Asmaul Husna	0	0	1	9	10

Scale rate: 1(Strongly Disagree), 2(Disagree), 3(Neutral), 4(Agree) and 5(Strongly Agree)

Table 5 describes the result of the Questionnaire for User Interface Satisfaction. The first statement, most of the respondents which are 60% or 12 respondents rated 5 for strongly agree that *character in E99 is suitable*. 30% or 6 respondents rate 4 (agree), and 10% or 2 respondents rated 3 (neutral) for this statement.

The next statement, Organization of information is clear has 55% or 11 respondents from total respondents rated 4 (agree). Moreover 25% or respondents rated 5 (strongly agree) and 20% or 4 respondents rate 3 (neutral).

For the following statement, *E99 is user friendly*, 50% or 10 respondents state strongly agree as 5. There is 40% or 8 respondents rated 4 (agree) and 10% or 2 respondents rated 3 (neutral).

From statement *The display interface format is consistent and clear*, 50% or 10 respondents rated 4 as agreed. Moreover, 35% or 7 respondents rated 5 for strongly agree, and 15% or 3 respondents rated for 3 as neutral.

A statement the *button used in E99 is standard and clear*, 55% or 11 respondents rated 5 as strongly agree. Moreover, 25% or 5 respondents rated 4 for agree, and 20% or 4 respondents rated for 3 as neutral.

Furthermore, most of the respondents rated 5 as strongly agree that *E99 feedback (System speed) is enough* which is 55% or 11 respondents rated 5 as strongly agree that *E99 feedback (System speed) is enough*. Another respondent there is rated 4 (agree) and 3 (neutral), 40% or 8 respondents rated 4 and 5% or 1 respondent rated 3.

60% or 12 respondents strongly agree that *the E99 system is reliability*. There is 30% or 6 respondents rated 4 (agree) and 10% or 2 respondents rated 3 (neutral).

For statement, *I easy learning to operate E99 game*, give results the most of respondents 45% or 9 respondents rated 5 as strongly agree. 40% or 8 respondents rated 4 (agree) and 15% or 3 respondents rated 3 (neutral)

Next statement, for statement *Performing task is straightforwards*. This statement have the same result for scale 5 (strongly agree) and 4 (agree). 35% or 7 respondents rated 5 and 4. The rest of it 30% or 6 respondents rated 3 as neutral.

Lastly, according to the results of the statement of *E99 is supplemental reference material to learn Asmaul Husna*,

The total of 10 respondents (50%) are strongly agree, and 9 respondents (45%) agree. Only 1 respondents rate for 3 (neutral) in this statement. There is no respondent rated for disagreed and strongly disagreed.

8. Discussion

In an overview, the results reveal that E99 is an educational desktop game that users can easily understand the game flow and it is easy to use. This can be said because E99 is user friendly, which means every time when the user plays the game they can play without any additional instruction.

Moreover, E99 can be categorized as a useful game where the users can quickly learn and remember the content of the game. Based on the results, E99 is a game where the users can easily learn and respond to the game environment since the content can be easily understood by the target users and it follow the syllabus at they school.

In term of Information Structure and Design Activities of E99, the findings indicate that the game attracted the users where it increases the user's interest to play the game, since E99 have consistent and clear of display interface format. Even the buttons used are standard and easy to recognize, besides that the character design also matches with the theme of the game. Moreover, the organization of information every scene is clear. And in terms of capabilities can be concluded satisfactorily, since system speed and reliability are good. And E99 game is considered as additional reference material for studying Asmaul Husna.

Overall, E99 can be label as an effective pedagogical tool since it is engaging for a fun learning environment. Other than that, E99 also pleasant to be used for learning purposes since it is not only provided with questions but also provides some guidance to the users in the learning process. The majority of the E99 users are satisfied with the game content. This evaluation claims that a well-designed education desktop game should not only consist with interesting gameplay and it is easy to use and learn, but it also should be full fill with some fun learning components as well.

9. Conclusion

The major finding of the study reveals that E99 is an effective educational desktop game to help students recognize and memorize Asmaul Husna. The results obtained have shown that 86% of the respondents are very much interested use E99 as media learning to recognize and memorize Asmaul Husna, this is an evident that E99 as usable for help student memorize and recognize about Asmaul Husna. By adopting E99 in teaching to recognize and memorize Asmaul Husna, it brings the benefit to students and leads them to a positive attitude towards. E99 also can use as supplemental reference material to learn Asmaul Husna. We believe E99 gave a new and desirable kind of experience for the student in learning and provide an opportunity to improve on the traditional classroom teaching model.

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