INTERACTIVE SOLAT MULTIMEDIA COURSEWARE (i-Solat)

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Abstract

This paper aims to highlight the development of a multimedia courseware to serve as a reference tool for people to get information regarding solat. From a preliminary survey conducted, it was found that existing solat courseware do not give detailed explanations on how to perform solat in a correct way where most of these courseware do not provide comprehensive contents. Interactive Solat Multimedia Courseware (i-Solat) is presented to help people to have better understanding about solat. In addition, the i-Solat Courseware is accompanied with facts from the science perspective on how solat movements can benefit our body. i-Solat covers comprehensive contents from performing ablution to reciting the doa. It is developed based on ADDIE Model which comprises of Analysis, Design, Development, Implementation and Evaluation phases. Another two phases are added which are Preliminary Study and Documentation to complete the project. The evaluation of the i-Solat Courseware was conducted on 30 respondents and to two Subject Matter Experts (SME). Questionnaire was used as an instrument to collect data. The results from the analysis indicate that the courseware had satisfied the respondents in terms of user interface, usability and content of the courseware.

Keywords: Courseware, Solat, i-Solat

1.0 INTRODUCTION

Performing solat is compulsory five times a day to every Muslim as an obedient servant to Allah the Almighty. Solat is also one of the five pillars of Islam and it comes second after shahadah or profession of faith. Solat must be performed by following the thirteen rules. Most of the time solat is learnt formally in school or from family members.

Solat is usually taught by teachers with religious background. The lesson will start with delivering explanations on its theory and continued with a tutorial. There are learners who may have difficulties in understanding the steps in performing solat and are shy to ask, even though they have a lack of understanding regarding solat.

Nowadays, with the advancement of technology, knowledge can be gathered from many sources including the usage of information communication technology (ICT) through computer-based training such as courseware. Courseware has been used in many areas of education due to its many advantages. Using courseware, various multimedia elements such as text, audio, video, graphic and animation can be utilized to impart knowledge to others. The manipulation of multiple elements makes learning

via courseware more interesting. Integrating the element of interactivity may also help users to control their learning process.

Currently, there is a limited number of courseware on solat in the market. Most of the courseware has simple contents with static pictures depicting how to perform solat and does not provide comprehensive contents.

For the purpose of giving alternative materials on the matter, an interactive courseware with comprehensive content on solat from performing the ablution (wudhu') until the prayer is developed. Users can use this courseware as a self-learning tool that helps them to get the correct information about solat at his or her own pace.

1.1 Scope of the Courseware

The i-Solat Courseware covers contents on ablution, thirteen pillars of solat, wirid and benefits of solat from the perspective of science. As an introduction, i-Solat will also include the purpose and importance of solat and conditions that should be met for solat to be obligatory for Muslims.

2.0 LITERATURE REVIEW

2.1 Courseware

According to Hick (1997), courseware is the use of different communication mediums that refers to audio for music, sound effects, voice-over narration and graphics within a single computer program used to present information to help the users further in understanding the message that is being delivered. It is developed as an aided learning and teaching application that can actually stimulate the users' mind as well as motivate them in the learning and teaching process (Noordin, 2011).

An interactive courseware should be able to create an interesting environment with the use of elements that can attract the human sense such as text, audio, graphics, videos and animation. Courseware characteristics discovered by several researchers such as individualization of programs, interactivity, multimedia elements and textology are important for effective and attractive information technology-based learning materials (Kaur et al., 2010). The courseware must be user friendly and all the linking buttons in it function well. Good values of the courseware should be provided with the interface that can entertain end users and able to enhance the level of understanding and experience among the learners.

2.2 Solat

Solat is preceded by performing ablution. It involves cleansing specific parts of the body with water so as to cleanse the body from hadas (impurities). Allah said that "O you who believe, when you wish to perform solat, wash your faces, your hands up to the elbows, wipe your heads (with water) and wash your feet up to the ankles" Surah al-Ma'idah: 6 (Yunus, 2010).

Solat is an act of prayer that is a must for all Muslims. It constitutes one of the pillars of Islam. Performing solat is a spiritual act and involves physical acts at the same time. It must be performed at least five times a day. There are several movements involved during solat, namely standing, takbiratul-ihram, bowing, prostration and sitting. The movements are performed repeatedly in accordance to the prayer regulations (Fatimah & Siti Anom, 2012). Table 1 shows the thirteen (13) pillars that must be followed in performing solat.

Table1: Thirteen Pillars of Solat

Rule Number	Rules Descriptions
1	Intention
2	Takbiratul Ihram
3	Standing up, for those who could
4	Reciting Surah Al-Fatihah
5	Bowing, with tama'ninah
6	Iktidal, with tama'ninah
7	Prostrate, with tama'ninah
8	Sitting between the two prostrations, with tama'ninah
9	Sitting for the last tasyahhud
10	Last tasyahhud recitations
11	Prayers to the Prophet Muhammad (p.b.u.h) in the last tasyahhud
12	The first salam
13	Order

(Source: Zaharuddin, 2013)

Current findings from a research conducted in University Malaya have proven that the benefits of solat not only improve the spiritual well-being but, performing it correctly with the right movements, also benefits physical and mental health. Some solat movements have been proven as a therapy for patients who suffer low back pain and erection dysfunction. Other than physical effects, solat also has been scientifically proven that it provides calming effects for the mind and thoughts (Fatimah, Wan Abu Bakar & Ng., 2010).

3.0 METHODOLOGY

In developing i-Solat, a methodology based on the ADDIE model was adapted and followed. The ADDIE Model is an instructional system design (ISD) model. The acronym refers to the major system design process comprises of the generic ISD process which are Analysis, Design, Development, Implementation and Evaluation

(Molenda, 2003). However, before continuing with the analysis phase, a preliminary study was conducted to gather the information related to the area of study. Figure 1 illustrates the methodology used in developing i-Solat.

Phase	Activity	Outcome
Preliminary Study	1. Study existing courseware 2. Study traditional approach in teaching solat	1. Problem statement 2. Proposed solution
Analysis	1. Gather requirements from potential users 2. Seeking advice from Subject Matter Experts (SMEs) 3. Conduct literature review on suitable content to be included in i-Solat courseware	1. User requirement (content of the courseware) 2. Content of the courseware from SME 3. Suitable additional content for i-Solat
Design	1. Design navigation map 2. Design storyboard 3. Design user interface	1. Navigation map 2. Storyboard 3. User interface design
Development	Develop the courseware based on the storyboard	i-Solat courseware
Implementation and Evaluation	1. Test the developed courseware to the target users 2. Distribute questionnaire to collect data on user satisfaction on the interface, usability and contents of the courseware	1. Tested courseware 2. Analyzed data
Documentation	Documenting all the steps involved in conducting the project	Full report

Figure 1 Project Methodology for i-Solat

4.0 INTERACTIVE I-SOLAT COURSEWARE

The development process is based on the result from the analysis and design phases. It concerns about the actual production of the courseware specifications based on the storyboard created earlier.

Overall, this courseware comprises of Introduction to solat, ablution, 13 pillars of solat, wirid and doa. The benefits of solat from the perspective of science can be seen from the link provided in certain pages related to solat movements. Several quizzes were prepared to test the understanding of the users.

Navigation map in Figure 2 shows how each page in the courseware is linked to each other. For each topic, there are subtopics as described in Table 2.
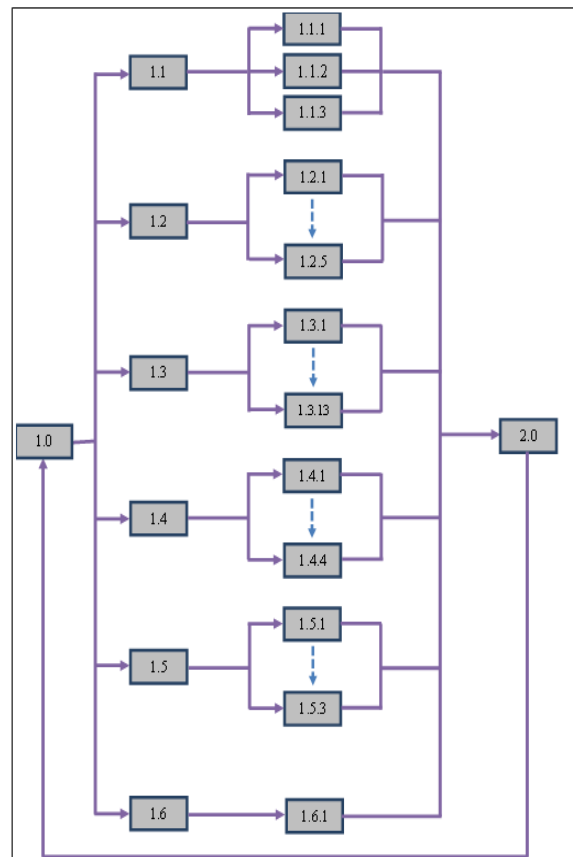

Figure 2: Navigation Map for i-Solat

Table 2: Navigation Map Description

Screen Number	Screen Description
1.0	**Home**
1.1	**Solat**
1.1.1	Syarat Sah Solat
1.1.2	Dalil Wajib Solat
1.1.3	Perkara yang Membatalkan Solat
1.2	**Wuduk**
1.2.1	Hukum Wuduk
1.2.2	Syarat Wajib Wuduk
1.2.3	Syarat Sah Wuduk
1.2.4	Rukun Wuduk
1.2.5	Perkara yang MembatalkanWuduk
1.3	**RukunSolat**
1.3.1	Niat
1.3.2	Takbiratul Ihram
1.3.3	Berdiri bagi yang Mampu
1.3.4	Bacaan Al-Fatihah
1.3.5	Rukuk
1.3.6	Iktidal
1.3.7	Sujud
1.3.8	Duduk Antara Dua Sujud
1.3.9	Duduk Tasyahhud Akhir
1.3.10	Membaca Tasyahhud Akhir
1.3.11	Berselawat ke atas Nabi
1.3.12	Salam
1.3.13	Tertib
1.4	**Wirid & Doa**
1.4.1	Wirid (teks)
1.4.2	Wirid (video)
1.4.3	Doa (teks)
1.4.4	Doa (video)
1.5	**Aktiviti**
1.5.1	Kuiz 1
1.5.2	Kuiz 2
1.5.3	Kuiz 3
1.6	**Penghargaan**
1.6.1	Penghargaan
2.0	**Keluar**

At the end of the development phase, i-Solat has been successfully produced. Figure 3 shows selected screenshots from the published courseware.

Figure 3: Selected Screenshots from the i-Solat Courseware

5.0 RESULTS

In order to evaluate the i-Solat Courseware, a test has been conducted by presenting the courseware to two experts (one for technology perspective, and the other for content perspective) and thirty respondents at the age of 21 years old and above. After using the courseware, they need to answer a set of questionnaire on his or her perception about the courseware.

The questionnaire consists of five (5) parts which are Part A to Part E. In Part A, the respondents were asked about their demographic profile. The user interface satisfaction is evaluated in Part B. Part C is about the usability of the courseware while in Part D, the respondents were asked about the content of the courseware and, lastly, Part E is the feedback section. The discussions of the results below are based on the feedback from the respondents.

Demographic data in Part A shows that 66.7% of the respondents are female and another 33.3% of the respondents are male.

Part B asked the respondents about user interface satisfaction. For multimedia projects, interface is an important element because good interface design can attract users to use the courseware. Table 3 shows the result from the interface evaluation of i-Solat.

Table 3: User Interface Satisfaction of the i-Solat Courseware

Question Code	Question	Mode	Mean	Std. Deviation
B1	Interfaces are designed in a clear and understandable manner.	4	3.53	0.507
B2	I liked using the interface of this courseware.	3	3.47	0.507
B3	I felt comfortable using this courseware.	3	3.43	0.504
B4	I found that the content is suitable with the interface.	3	3.43	0.504
B5	There is consistency in the use of colour in each screen.	3	3.33	0.606
B6	The integration of presentation means is well coordinated.	3	3.37	0.490
B7	Overall, the user interface of Interactive Solat Multimedia Courseware satisfies me.	4	3.50	0.572

Table 3 shows that most of the questions asked were ranked 3 by the respondents except for question code B1 and B7 that are ranked 4. This shows that most of the respondents were satisfied with the design of i-Solat interface.

Other information from the above table is the mean. It shows that the highest mean value is 3.53 for question code B1 and the lowest mean is 3.33 for question B5. The mean value proved that on average the respondents had accepted the interface design. In addition, the highest value of standard deviation is 0.606 for question code B5. Since the value of standard deviation for each item is small, we can conclude that there is a small difference in satisfactory level about i-Solat interface among the respondents.

Table 4 shows the usability result of i-Solat Courseware. Usability is a quality attribute that assesses how a user interface can make the program easy to use.

Table 4: Usability of the i-Solat Courseware

Question Code	Question	Mode	Mean	Std. Deviation
C1	It was easy to learn to use this courseware.	3	3.5	0.509
C2	The courseware is not frustrating.	3	3.4	0.498
C3	The response time is good.	3	3.33	0.479
C4	The buttons are clear and understandable.	3	3.33	0.547
C5	The buttons in this courseware are functioning well.	3	3.5	0.509
C6	I can understand and act on the information provided.	3	3.4	0.563
C7	This courseware has all the functions and capabilities I expect it to have.	3	3.4	0.563
C8	I can understand and act on the instruction provided by this courseware.	3	3.5	0.509
C9	Tasks can be performed in a straightforward manner.	3	3.5	0.509
C10	Overall, I am satisfied with the usability of 'Interactive Solat Multimedia Courseware'.	4	3.57	0.504

Based on Table 4, it can be concluded that most questions received rank 3 except for question code C10 that is ranked 4. The mode shows that most of the respondents determined usability of the courseware is in the range of 3 to 4. The table also shows the mean of the usability evaluation. The highest mean is 3.57 for question code C10 and the lowest mean is for question code C3 and C4. From the responses given, this shows that respondents feel that the courseware is usable.

The standard deviation data of the usability construct are ranked in the range of 0.479 to 0.563. This result shows that the dispersion was not too big thus it implies that the courseware is usable.

Table 5 shows the overall result of content evaluation for i-Solat Courseware. This part consists of three questions that focus on the content.

Table 5: Contents of the i-Solat Courseware

Question Code	Question	Mode	Mean	Std. Deviation
D1	The explanation about solat was clear.	3	3.40	0.563
D2	The content of this courseware comprise of all the information that I need to know about solat.	3	3.20	0.714
D3	I feel that I will use this courseware as a learning tool to get better understanding about solat.	4	3.37	0.740

The mode for each question is ranked between 3 and 4 which means that majority of the respondents agreed on the given statements. Most of the respondents ranked 3 for question code D1 and D2. This data shows that they were satisfied with the sufficient content and clear explanation of i-Solat Courseware.

Apart from that, Table 5 shows that the highest mean is 3.40 for question code D1 and the lowest is 3.20 for question code D2. The standard deviation, on the other hand, was ranged from 0.563 to 0.740. This reflects that the variation of responses received from the respondents is acceptable and considered as small. Overall, from the analysis, it can be concluded that the content of i-Solat is acceptable to get better understanding about solat.

Finally, Part E allows the respondents to leave their comments and suggestions to enhance the courseware in the future. Table 6 shows the comments given by the respondents about the courseware while Table 7 shows the suggestions from the respondents for courseware improvement. Overall, positive comments were accepted. However, there are suggestions on the usage of theme color, audio and video standardization, answer for quizzes and additional contents. All the suggestions will be considered in the next phase of i-Solat development.

Table 6: Comments from the Respondents

No	Comments
1.	User friendly
2.	Improve the knowledge about correct solat movements
3.	Provided with good quizzes
4.	Know the correct way to perform tasyahhud akhir
5.	Shows the correct way of ablution
6.	Can improve the quality of solat by knowing the correct way to perform it
7.	Good photos with detailed description

Table 7: Suggestions from the Respondents

No.	Suggestions
1.	Use interesting colours
2.	Add the information of Solat Qasar and Jamak
3.	Show the answers for the quizzes
4.	Standardize the usage of audio and video

6.0 Conclusion

i-Solat has been successfully tested. The respondents are satisfied based on the positive feedbacks. A majority of the respondents agreed that the courseware can be used to deliver information on solat interactively. The result also shows that the courseware has achieved its objectives. In the future, i-Solat will go through further enhancement to complement the contents with a complete set of quizzes of various formats to ensure the effectiveness of learning can be thoroughly measured.

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