How mobile application can increase moslem worship activities

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Abstract. Independent learning about moslem worship activities can be done using technology assistance. The purpose of this research is to design android based application about procedures about sunnah prayer for worship activities doing by moslem. Application development uses multimedia development life cycle method and worship material proposed by Syafii priest. The result of this research is design and application about sunnah prayer activity with multimedia features which help the user to master the material learned. We hope this application can be alternative learning tools for moslem to learn procedures of praying.

1. Introduction

The concept of worship in Islam is divided into several implementing laws. The first implementation is a mandatory law. However, there is a sunnah law in addition to worship activities carried out by Muslims. Sunnah is an activity that is done will get a reward, if left behind does not cause sin. Prayer is worship which is included in the mandatory and Sunnah. Knowledge of the procedures for the Sunnah prayer is needed so that in its implementation in accordance with Islamic teachings.

Previous research, generated by the design of a mobile app for mandatory prayer services, contains procedures for the implementation of obligatory prayer services by displaying the form of text and graphics, but without accompanied by sound [1]. Other research on the quality of components that are dynamic and interactive will influence the user's conception of multimedia usage [2]. An emerging problem is how to develop effective learning content that leads to user performance and satisfaction [3]. A mobile application can provide access for learners to increase their confidence in learning, which ultimately increases the positive attitude towards learning [4].

Based on the crucial concept of worship in the day-to-day implementation and the findings of previous research on the use of multimedia and mobile apps, this study aims to design and build a mobile app by combining text, graphics and sound. The mobile app that is formed is expected to be an alternative to independent learning media to increase the knowledge and activities of worship users.

2. Methodology

The methodology used in this research is Luther Sutopo's methodology [5], consisting of five stages, namely: Concept, Design, Material Collecting, Assembly and Testing. Concept; this stage determines the purpose of the application based on the various needs needed in application development, especially for mobile phone users, the student as beginners and educators who understand about worship
procedures. Design; At this stage create a scenario that describes the appearance of each menu. Scenes are made in detail for the next step of the process, namely collection of materials (collecting materials), so that further work is determined in the scenario. Collecting Material; The stage for collecting data such as image data, text data, and sound data. Assembly; At this stage the implementation of the previous design results will be carried out, this stage includes the step of making learning media applications. Where making this application is based on a scenario or storyboard that is at the design stage. Test; Testing or testing aims to try whether the app that has been made is in accordance with the results of the previous steps. At this stage using alpha test and beta test (figure 1).

Figure 1. Research methodology.

3. Results and discussion
The first stage is the concept. At this step after a literature study, observations and interviews produced a content presentation of information on the sunnah prayer procedure for Muslim users, especially those starting in the age of 15 years with the use of mobile phones as a supporting device. The target for making is an android based application that displays a combination of text, images and sounds. The second stage designs. This step, the storyboard design specifications are generated for each scene and menu structure which is illustrated through a flow chart that shows the application activity sequence.

The third stage is material collecting. There are three essential requirements for making applications, namely text, images and audio. Text; the process of text collection is carried out by citing and processing in word processing applications, as well as selected formal font types for the content section and artistic types for the main menu section [6]. Picture; the process of collecting images is done by downloading on the internet and then modified using an image processing application with the results of png file type (Portable Network Graphics) because this format stores images that use compaction methods that do not eliminate part of the image and are useful for graphical presentation [7]. Audio; the audio collection process is done by recording sound directly, then the editing process is done using an audio processing application with the results of the wav file type [8].

The fourth stage is the assembly. The step of integrating from the prepared materials is adjusted to the design that has been developed at the design stage, which is based on the appearance and navigation structure that fits the storyboard and scene in the previous steps. At this stage an application is generated as seen in the opening page layout in figure 2. The navigation structure is a button box and text that is enabled for access to the next page in figure 3.
The content list about the procedure of the Sunnah prayer presented in the main page section appears in figure 4, on this page also contains navigation to go to the next page and previous page. The content page contains material explanatory narratives using text with formal fonts along with supporting images in figure 5, in the section that contains prayer text accompanied by features to make a sound.

The testing phase is done with black box testing and usability test. Black box testing is performed on all features contained in the application, the test results are summarized in table 1.

Functions on the main menu, menu content, contents of the material tried for each part include page views, function buttons on the page and the role of the voice buttons found on the application page are operating well done.
Table 1. The results of black box testing on the application.

| Test class    | Test item     | Success yes/no |
|---------------|---------------|----------------|
| Main menu     | Page content  | Yes            |
|               | Button        | Yes            |
|               | Sound         | Yes            |
| Content menu  | Page content  | Yes            |
|               | Button        | Yes            |
|               | Sound         | Yes            |
| Material content | Page content  | Yes            |
|               | Button        | Yes            |
|               | Sound         | Yes            |

Then usability test was tested using a questionnaire involving 20 users [9]. This test is to measure the level of learnability, efficiency, memorability, errors and satisfaction [10].

Table 2. Score usability test.

| Usability Aspect | Score |
|------------------|-------|
| Learnability     | 3.21  |
| Efficiency       | 3.47  |
| Memorability     | 3.12  |
| Errors           | 4.07  |
| Satisfaction     | 4.31  |

The measurement score uses a Likert scale with scale 1 to 5 [11], the following test results are presented in table 2. The test results display ratings of all aspects more than 3, so that overall the application of Sunnah prayer can be accepted by the user. While other studies which found that usability aspects are the key to success and user acceptance requirements for applications, whereas Ali et al. uses ISO 9126 standardized testing from aspects of Functionality, Reliability, Usability, and Portability [12,13].

4. Conclusion
The conclusion of this study is that the design and manufacture of Sunnah prayer applications have been successfully applied to mobile platforms. The application made makes users easier to do learning and increase knowledge about various kinds and procedures for sunnah prayer. App appearance is made simple so that users are comfortable in operating the app. Hopefully with this app user will be more active in carrying out their worship activities. The suggestion for the next research is to add facilities for scheduling activities for worship activities programmed in the app as a reminder of daily routine activities.

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