Design and Build a Multimedia System for Indonesian Religious Activities Based on Android

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Abstract

The people of Indonesia have a wide range of traditions and customs, as well as religious activities. The public's interest in Indonesian religious activities has grown as a result of the diversity of religious activities carried out by Indonesians. Multimedia has an essential role in allowing individuals to obtain information fast, especially as technology advances. As a result, in order to obtain information centrally, the public must search for appropriate information, which takes time. In circumstances like these, the issue is creating and developing an android-based multimedia system application that may assist the public in learning about the Indonesian people's religious activities. This study intends to assist Indonesians in obtaining information on their religious activities, so that they may quickly obtain information and learn about and comprehend their religious activities. The Luther–Sutopo version of the Multimedia Development Life Cycle (MDLC) was utilised, including stages for idea, design, material gathering, assembly, testing, and dissemination. This study led to the development of an Android-based multimedia system for religious activities among Indonesians.

Keywords : Multimedia, Multimedia Development Life Cycle, Android Apps.

1. Introduction

Multimedia as a kind of information medium is becoming increasingly important as technology advances. Gadgets are becoming the primary source of information. Gadgets are complex tools that are designed for a variety of uses, including news, social networking, hobbies, and even entertainment. The availability of gadgets plays a big role in people's ability to obtain information quickly and readily, one of which is the community's ability to obtain

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information about religious activities. Religious activities are those that are intended to improve one's faith and piety towards God Almighty[2]. Religious activities of various religions can be identified among Indonesians by places of worship, scripture names, and religious festival customs.

Previous STTG study has already been completed (Garut High School of Technology). Fatimah, Tresnawati, and Ma'rup[3] did the first study with the title of building puzzle games for learning utilising multimedia techniques. Tresnawati & Wijaya [4] did both research under the heading of the design of interactive media muroja'ah matan android-based coach. Tresnawati, Satria, and Adinugraha[5] did three research under the term "creation of multimedia-based hadith comic applications. Based on the foregoing, a multimedia system was developed to assist users in learning about religious activities in Indonesia, including places of worship, scriptural names, and religious holidays.

2. Research Description

The Luther - Sutopo Methodology is used in the creation of this study system, including the stages of concept (concept), design (design), material collection (material collection), manufacture (assembly), testing (testing), and distribution (distribution). The first image is of a work breakdown. Structure with follow Stages on methodology multimedia Luther - Sutopo.
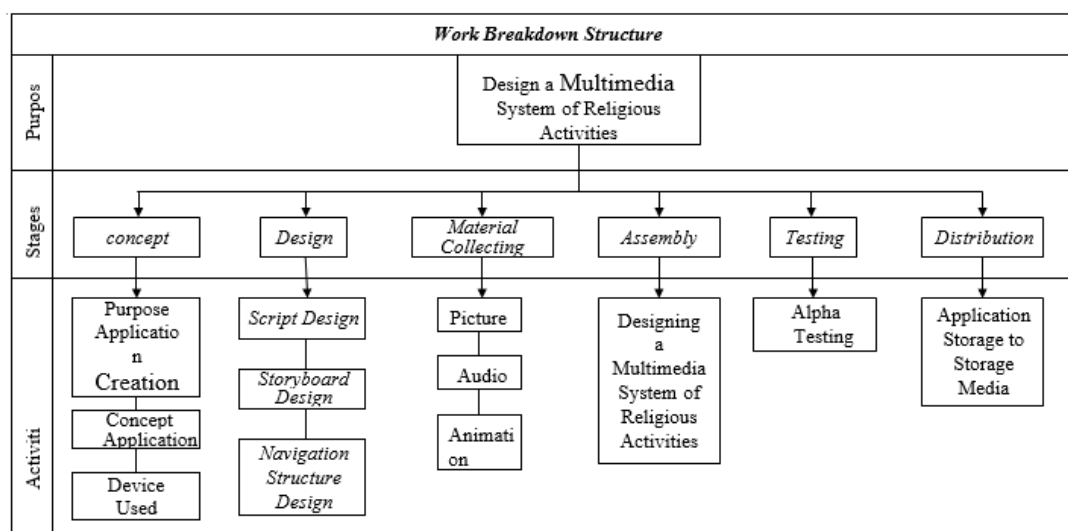

Figure 1. Work Breakdown Structure

a. Concept

The initial action is to make observations through interviews that are blessed with the construction of applications, which is known as the concept (Concept). Following observations, such as establishing the objective of application development, determining the application users' targets, and assessing the needs and concepts in the application to be built.

b. Design

Design (Design) is the stage of creating application architecture, look, style, and materials for application demands once the concept has been defined. Then, using a storyboard, construct a description of each scene by listing all of the things that appear in each scene. By creating a design of activity sequences and activity details, this design is structured with a Work Breakdown Structure.

c. Material Collecting

Material Collecting (Material Collection) collects material needed for the creation of applications, such as photos, animations, audio, and so on, from the outcomes of the design that has been developed.

d. Assembly

Assembly (Manufacturing) is the stage in which the application is built utilising all of the items or multimedia elements that were collected during the material collection stage. The design phases of this application, including as storyboards and navigation structures, were used to create it.

e. Testing

After the application programme has been completed, testing can be done in one of two ways: alpha testing or beta testing. The adaptation of the system is one of the steps of this test, which attempts to determine the capacity to apply new technologies / systems.

f. Distribution

The last step of the application software will be saved on storage media if it passes the following test. The final application will be developed again for the better at this step, which is usually referred to as the assessment stage.

3. Results and Discussion

a. Concept

1. Purpose of Application Creation

This application was created with the goal of providing an interactive learning multimedia system for the community to better comprehend the religious activities of the Indonesian community. The goal of developing this application is to provide information and understanding about Indonesian religious activities to all Indonesians.

2. Application Concept

The application concepts are described in Table 1 below.

Table 1. Description of Application Concepts

Title	:	Design a Multimedia System Activity Religious Indonesian Society Based on Android
User	:	All Ages
Duration	:	Unlimited
Picture	:	.png format, .jpg
Animation	:	.fbx format
Interactiveness	:	Menu buttons, return, and move buttons from one *scene* to another.

3. Devices Used

Used devices in this application are:

    a. Hardware

This application hardware uses:

- Toshiba satellite
- Intel (R) Core (TM) i5 3230M
- RAM 4GB
- HDD 500GB

Apps can run on smartphones with minimal specifications

- Android verses 4 KitKat
- CPU Dual Core
- RAM 512MB

    b. Software Used

Creating image objects using Adobe Photoshop CS6 Application Creation using Adobe Flash CS6.

b. Design

    1. Script Design

Script design is a representation of information that explains the sequence of occurrences; it gives an overview of the flow of applications to be developed. Table 2 of The Script Design breaks down the script design into various sections.

Table 2. Script Design

Script Component	:	Description
Script	:	Indonesian religious multimedia system
Track	:	Material, quiz
Role	:	Audiens
Prop:		Audio, background, animations, and navigation buttons

Input:		The user clicks the start button on the initial view
		The user selects the menu on the main view:
		  1. Material
		  2. Quiz
		  3. About the app

Scene:		The application is executed according to user commands
Results:		1. The application of multimedia systems of religious activities can be used by all clans. 2. Easy-to-use app 3. The application can help the learning process.

    2. Storyboard Design

The purpose of storyboard design is to identify the plot or activities in an application. Designing a Storyboard Table 3.

Table 3. Storyboard Design

Scene	Description
Scene intro	: Opening page *scene*
Main menu scene	: Main menu page *scene,* in this *scene* there are 3 navigations options, materials navigation, quiz navigation, and navigation about apps
Navigation scene material	: *Scene* to display choices regarding activity material Indonesian religious society consists of 6 religions, and is distinguished from religious activities, sacred books, places of worship, and traditions on holidays.
Scene material	: *Scene* to display material of religious activities
Quiz scene	: *Scene* to record quizzes, where in this *scene* users will be given questions in the form of multiple choices, as an evaluation of the material that has been studied in the material *scene*
Scene about application	: *Scene* about the application, to display application info and app creator profile

3. Navigation Structure Design

Be sure to organise your navigation. Create a relationship chain that allows you to connect all of the application's parts simply issuing a command. The navigation structure of this design is based on ties or connections between scenes. Figure 2 of the Structure Navigation shows it after that.
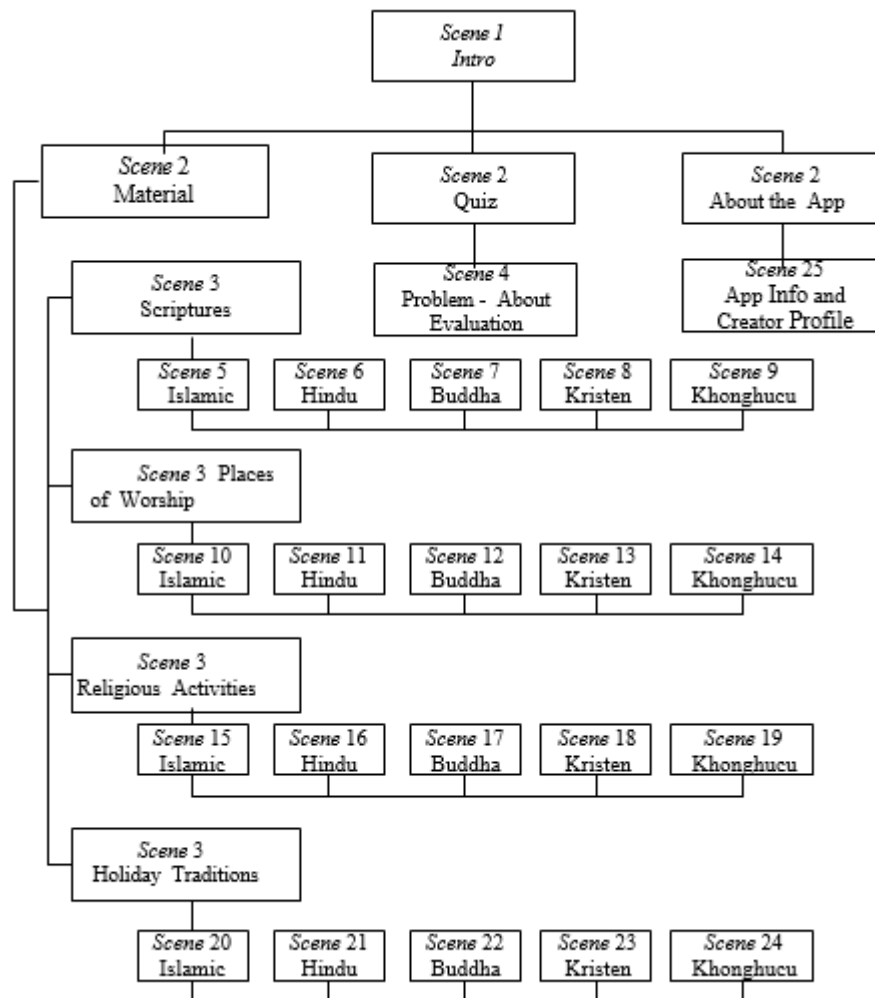
Figure 2. Navigation Structure.

c. Material Collecting

    The stage in which data is collected, as well as the material and archiving of all materials that will be utilised in the application process. Materials gathered throughout the development of multimedia system applications, such as graphics, animations, and sounds, in accordance with design requirements.

d. Assembly

    This is the stage of development when aspects such as script design, storyboard design, and navigational structures from the design stage are combined with materials such as photos, audio, and animations from the material gathering stage to create an application utilising Adobe Flash CS6 software.

e. Testing

    Alpha testing uses black box testing to see if the application's features and functionalities can execute according to the user's demands.

f. Distribution

The distribution stage is where programmes that have passed the next Alpha testing step are saved and installed, or installed on an Android smartphone using the apk-shaped file format, and are ready to use by users.

4. Conclusions

Conclusions of this study are as follows:

a. Successfully achieving the purpose of benefit is to be able to introduce the community to the religious activities of the Indonesian people through materials described in the form of names of scriptures, places of worship, religious happiness, and religious holidays, as well as a multiple choice quiz that serves as an evaluation.
b. Using Luther Sutopo's multimedia technique for study design and successfully representing scripts, where scripts are part of the science of artificial intelligence.
c. Make Android-based applications an advantage by allowing consumers to access them from anywhere and at any time.

References

[1] Widiawati and Sugiman, "The Effect of Gadget Use on Child Development Power," *E-Journal of Nursing,* p. 6, 2014.

[2] U. Rahmawati, "Development of Santri Spiritual Intelligence," Research *Journal,* p. 17, 2016.

[3] D. D. S. Fatimah, D. Tresnawati and C. S. Ma'rup, "Puzzle Game Design For Learning Using Multimedia Methodology," *Journal of Algorithms,* 2017.

[4] D. Tresnawati and C. Wijaya, "Design Interactive Media Muroja'ah Matan Jurumiyyah Based on Android," Algorithm *Journal,* 2016.

[5] D. Tresnawati, E. Satria and Y. Adinugraha, "Multimedia-Based Hadith Comic Application Development," *Algorithmic Journal,* 2016.