Designing SwiSH Max Learning Software Based of Multimedia

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Abstract. Multimedia computers have grown rapidly. Various kinds of multimedia programs have been produced by combining text, video and sound features. This capability has been developed to form interactive programs such as tutorials. SWiSH Max is software to create animations that has become a standard in the web industry with a large and growing number of users. This software was first introduced in 1999 as software to make vector-based animations with navigation capabilities, graphic illustrations and file sizes that are small enough to be able to pass an Internet connection using a normal modem. The results of this study are designed learning software about SWISH Max. With this software, users can learn how to use SWiSH Max independently because the material displayed in video so the material can be repeated and re-learned.

1. Introduction

Current learning has entered the digital learning stage. Digital learning is closely related to the development of teaching materials or digital-based learning instruments. Many types of development software development, such as Android, Website, Animation, etc [1]–[3]. Recently learning modules on a topic for learning in schools are widely developed in the form of multimedia programs that are packaged on CD-ROMs or in the form of DVDs (Digital Versatile Discs). The advantages of these learning programs are attractive displays accompanied by animations and videos so that understanding of a topic becomes easier [4]–[7].

There are various kinds of subject matter that can be packaged in the form of software, one of which is material about learning using SWiSHMax. SWiSHMax is software for creating animations that has become a standard in the web industry with a large and growing number of users [8][9]. This software was first introduced in 1999 as software to create vector-based animations with navigation capabilities, graphic illustrations and file sizes that are small enough to be able to pass an Internet connection using a normal modem. In a SWiSHMax document, an animation can be created by changing the contents of several frames in a row. Animation can also be made by moving an object across the stage (an area for creating animation), enlarging or reducing the size of objects, circling objects, changing the color of...

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objects, or changing the shape of objects [10]–[12]. In order for SWiSHMax software to be easily managed, learning about SWiSHMax can be made in the form of multimedia learning programs [13]. This multimedia learning program has several facilities [14], for example there is a video display that provides an overview of how to use SWiSHMax accompanied by a narrative that explains how to use SWiSHMax. With the existence of learning programs like this make it easier for users to learn independently where each topic that is poorly understood [15] can be repeated as often as possible [16].

2. Related Works
Animation is a series of moving stories. Animation simulates movement by displaying a series of still images in a fast shifting time [17]. Animation is used to convey information that is quite complicated if only given a still image [18]. Animated objects can be taken from real objects and artificially constructed. An example of animation taken from a real object is video animation captured through video recorder equipment and digitized with the help of video capture board. While the animation of the synthesis object can be obtained from information packages such as Autodesk 3D Studio, Autodesk Animation, and others.

3. Research Methodology
3.1. Data Analysis
At this stage the author used flow charts and diagram process to describe the process of the program to design by data / literature. In the process of drawing program used algorithms to show the process of the program [19].

3.2. Interface Design
Designing a system to facilitate in carrying out process activities such as designing input forms directly in the Integrated Development Environment (IDE) Visual Basic 6.0 by arranging and arranging objects to form an interface that is easy to use.

3.3. Program Design
In this stage coding is done on a number of previously designed interfaces so that a software can be produced that can perform the calculation process in accordance with the implementation of predetermined algorithms [20].

3.4. Testing Program
This stage is useful for testing the program that has been made whether it has been running as intended and if there is an error it will be corrected and a re-evaluation will be carried out as shown in Figure 1.

3.5. Algorithm
Algorithms are structured steps and gradual and specific sequences of problems, to analyze and explain the sequence and relationship between activities that will be taken to solve and solve a problem so that the desired goals are achieved [21]–[24]. The following is an algorithm and SWiSH Max learning program designed by the author.

The video playing algorithm is used to play videos that will be displayed according to the menu by the user. The form of the algorithm for playing videos can be seen in the algorithm below.

```vbnet
m_bstrFileName = FilePath
Set m_objMediaControl = New FilgraphManager
Call m_objMediaControl.RenderFile(m_bstrFileName)
Set m_objBasicAudio = m_objMediaControl
m_objBasicAudio.Volume = Volume.Value
m_objBasicAudio.Balance = Balance.Value
```
Set m_objVideoWindow = m_objMediaControl
m_objVideoWindow.WindowStyle = CLng(&H6000000)
m_objVideoWindow.Top = 0
m_objVideoWindow.Left = 0
m_objVideoWindow.Width = picVideoWindow.Width
m_objVideoWindow.Height = picVideoWindow.Height
m_objVideoWindow.Owner = picVideoWindow.hWnd
Set m_objMediaEvent = m_objMediaControl
Set m_objMediaPosition = m_objMediaControl
For nCount = optPlaybackRate.LBound To optPlaybackRate.UBound
    If optPlaybackRate(nCount).Value = True Then
        Select Case nCount
        Case 0
            If Not m_objMediaPosition Is Nothing Then _
                m_objMediaPosition.Rate = 0.5
        Case 1
            If Not m_objMediaPosition Is Nothing Then _
                m_objMediaPosition.Rate = 1
        Case 2
            If Not m_objMediaPosition Is Nothing Then _
                m_objMediaPosition.Rate = 2
        End Select
    End If
Next
m_dblRunLength = Round(m_objMediaPosition.Duration, 2)
m_dblStartPosition = 0
m_dblRate = m_objMediaPosition.Rate
tbControlBar.Buttons("play").Enabled = True
tbControlBar.Buttons("stop").Enabled = False
tbControlBar.Buttons("pause").Enabled = False
4. Result and Discussion

4.1. Designing SwishMax Learning Videos with Screen Corder 3.0

To make a SwishMax learning video, the first thing to do is use an application that can capture the screen and move the mouse. The author uses the Screen Corder 3.0 application made by the MatchWare accompanied by screen capture problems where the results of the screen capture can be stored in AVI format, making it easier for authors to design playback programs later in Visual Basic. Recordings can be stored in three different formats namely AVI, WMV, and Animated GIF. If the file is saved in the normal AVI format, it can be edited using a third party video editing program. WMV format can also be exported where this format is a streaming format that compresses video and audio properly. For storage in the Animated GIF format, the thing to do is to set the computer screen to 256 colors. This last format will produce low image quality but with the smallest size [13] [25].

The following steps explain how to use the Screen Corder application to record a screen display. The first thing to do is to run the SwishMax application first. After that, run the Screen Corder application. When ScreenCorder 3.0 first starts, the first window display will appear is Settings Window. This window holds two tabs: the Video tab and the Audio/Mouse tab.
The following are the steps that are executed to record a screen display into a video:

1. The Video tab will be selected by default (if not selected it can be clicked on this Tab) as shown in Figure 2.

2. Click on the Select Window button to select the recording area.

3. Screen Corder disappears and the user can select a frame window with the mouse pointer. Move the mouse pointer around until the correct window or frame is highlighted. Then click to select it.

4. If to get a good setting from the area you can use X, Y, Width and Height fields. This setting is found in Figure 3.

5. Click OK at the bottom of the Settings dialog to save Settings and exit the dialog.

6. Click on the Record button to start recording (capturing). Screen Corder will hide the window itself, but will still record every screen movement that exists. Users can move the mouse pointer, click using the left and right mouse, use the keyboard, open the menu, and so on. Each screen display in the window or area selected in the Settings section will be recorded. For more details, it can be seen in Figure 4.
As a tip for a common mistake when recording mouse movements is not move the mouse pointer quickly. When recording mouse movements, make sure that the mouse pointer is moved slowly. Moving the mouse ensures that end users can follow speech, and look at on-screen actions.

4.2. How to Run the Program
The first step to running this program is to do the installation process first. After the installation process is complete, select the Start menu> Programs> Swish Max or you can do it by clicking on the icon that has an image like this.

After it is run, a form will appear which contains the display menu of the learning topic. To see this tutorial from Swish Max, click on one of the topics to be studied and the next display will display an animated form. This animation form is used to give a brief explanation of the tutorial that will be studied along with examples of animation that will be studied. With this form, it is expected that users can understand what topics they will learn.

5. Conclusion
From the results of the writing made, the authors can draw several conclusions, namely:
1. The multimedia learning application program is an application that combines multimedia functions such as text, video, sound, and animation.
2. The process of capturing the screen to form videos and save in AVI format turns out to require a large storage capacity.
3. With a learning program like this, it is expected to be able to learn software independently.

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