Designing of Application for Learning Sundanese Cultures

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Abstract. Sundanese culture is one of the cultures that is come form West Java region. Along with its development, not many students around West Java areas understand the Sundanese culture, if allowed to continue, Sundanese culture will lose its identity. As the development of information technology, a mobile application can be used as an application as learning media to help students and make students more interested in learning Sundanese culture as what they learn at school. This research aims to help to attract and motivate students to learn the Sundanese culture and provide entertainment aspects for students. The research method used was structured approach method and prototype development. The research design used was descriptive methods and actions. The method of data collection used was observation techniques, documentation, and interviews. System design tools used to describe the system model include use case diagrams and use case scenarios while for designing data dictionaries use were Use case diagrams, Activity diagrams, Sequence diagrams, and data dictionaries. The information system developed was using adobe flash CS6. The expectation is this application can stimulate students to learn Sundanese regional culture and can facilitate teachers in providing interactive lessons to stimulate students creativity.

1. Introduction

Sundanese culture is one of the cultures in West Java. Along with its development, not many students around West Java areas understand the Sundanese culture, if allowed to continue, Sundanese culture will lose its identity. This is due to the lack of interest because of limited learning media related to Sundanese culture. While in this era, studying Sundanese culture is seen as something that is seen with one eye. Therefore, Sundanese culture learning is better to introduce at an early age. Because at an early age a child is able to catch things quickly [1].

Today information technology used as a learning media continually improved to help students to be easier and more interested in learning Sundanese culture on a par with what they learn in school. Schools improve educational facilities by applying learning methods that are practiced by using computer information technology. Learning methods using computer information technology interactive is expected to provide positive motivation for students and can help the performance of teachers at school. In addition, it is expected that the use of this learning media can be useful to make the teaching and learning process more effective.

Based on the results of previous studies, there is no doubt that the application of learning using computer information technology can support the educational process in school [2, 3]. Learning applications using computer information technology in several aspects when compared to conventional learning methods.
One significant advantage is the existence of animation that can improve memory so that students can store subject matter in a longer time than conventional teaching methods [4]. From previous research, it was also said that with the inclusion of Sundanese script learning in the education curriculum, the role of the computer as interactive media could help in providing interactive learning, so the development of interactive multimedia learning media is necessary [5]. Adobe flash is a multi-functional software, regardless of its initial function, which makes it easier to create web animations, it turns out that adobe flash is growing rapidly so that it can be used as an extraordinary multimedia software [6]. Based on the explanation above, the use of computer information technology as a media for Sundanese culture learning for students is very necessary for schools, especially elementary students.

The problem of this research is how to design a Sundanese culture learning media that can make it easier for teachers to deliver material in schools effectively. Aim of this research is to help to attract and motivate students to learn the Sundanese culture and provide entertainment aspects for students.

2. Methods

The method used to analyze and conduct research was the descriptive method, by making a description (from a group of people, objects, conditions, at present) systematically, factually and accurately about the facts, nature, and relationships between phenomena that have criteria [7]. The approach method used was object-oriented system approach, which is a software development strategy that organizes software as a collection of objects that contain data and operations that apply to it [8]. The system development method used was prototype method because it pays more attention to the needs of the user system as a whole, which will refer to the satisfaction of users who will use the system.

At this stage, an analysis of the problem of what was happening to the object of research was carried out. The problem analysis was done by literature study, interviews with the school and students. In addition to conducting problem analysis, requirement analysis was also carried out, that used as a tool in process to build prototypes as the final step. After analyzing the system requirements, at this stage re-identification of the system requirements was carried out if the system needs are well identified, the next process can be carried out, namely the creation of a prototype user interface. This prototype user interface was a display to interact with the application. After the prototype user interface had been completed, the next process was to design prototype architecture and application components that were built as a reference to make a complete application. After the application was completed, the testing process or testing application was carried out to test or determine the quality of the application that had been built. After testing the application, the school and students had the right to evaluate the application, whether the application was in accordance with the needs or not. If the application was in accordance with the requirements, the application was ready to be implemented [9].

3. Results and discussion

The design of this system is the improvement of the running system to be more effective and efficient. Improve existing system goals, design or improve output that is currently used to achieve a more interactive Sundanese culture learning process that can help students understand the lesson. At the design stage is to build a system that can configure existing components so that it can produce a good information system.

In the existing use case, the teacher and student have role where the teacher can deliver Sundanese cultural learning and provide practice questions and games that have been learned in the learning application to students. While students can use the application to get material from the teacher and fill out questions and games exercises in class and to learn at home. The selection of teaching media for learning Sundanese culture here is a type of multimedia which is a combination consisting of text, graphic art, sound, animation, and video that is received by users through a computer. The advantage can improve students' ability to understand an abstract concept more easily, besides that, the use of computer media in the form of multimedia can give a positive impression to the teacher because it can help the teacher explain the contents of the lesson to students, save time and increase student motivation in learning [10]. General view of propose system as shown in Figure 1:
There are many kinds of learning media so that the utilization must be able to choose according to the material and the learning objectives to be achieved. There are steps that need to be considered in selecting the media, namely learning activities, determining the transmission of messages, determining the characteristics of the lesson, classification of media and analysis of the characteristics of each media [11]. There are many media that can help in the learning process where one of them is using Adobe Flash because it has advantages, one of which is being able to make simulations needed in the teaching and learning process and the resulting file size is relatively small [12]. In principle, the material is more easily understood by students if in the learning process, students not only see and listen but also see the display of Sundanese cultural dance videos, working on quiz questions from the material that has been delivered in Sundanese cultural learning and playing with puzzle games that related with images of Sundanese culture as shown in Figure 2.

Previous studies result show there have been studies on the introduction of animal names and their habitat by multimedia-based (Wang and Wu, 2009). Where previous research has developed regarding motion animation, back sounds, learning materials, and games. This is very interesting for students to be more motivated to learn Sundanese culture with learning applications using adobe flash CS6. Also, in making educational games, the focus must be on developing interactive games because these interactive games are the main media in learning delivery [13].
In the material of Sundanese culture learning, there are also several sub-menus regarding traditional houses, musical instruments, proverbs, Sundanese dances, and Sundanese scripts. Where all of this learning material is in accordance with the 2013 curriculum in the local content of Sundanese language. Here students can see text, graphics, videos, animations and sounds to get information about Sundanese culture learning. The interactive use of Sundanese language learning using Adobe Flash has the potential to reach all levels of society in various places with the same quality [14]. As revealed in the study (Miaz et al, 2018) that with adobe flash can be made animation and visualization to present information, such as quizzes, puzzles, and other interactive applications such as product catalogs, company profiles, or tutorials that can be packaged on CD [ 15]. On menu number 1 is material to introduce Sundanese traditional houses, on menu number 2 is learning material to introduce Sundanese musical instruments, on menu number 3 is the Sundanese proverb material, on menu number 4 is lesson about traditional Sundanese dance, for menu number 5 is Sundanese script learning, menu number 6 to turn on and turn off the music in the application, and finally the menu in number 7 to return to the main menu. This is shown in Figure 3.

As the results of the study (Uther and Banks, 2016) state that multimedia has great potential in facilitating the learning process and as an alternative to knowledge transformation, and by digitizing learning media is also able to make students more interested in learning independently, so that it helps a lot of education especially participants students in understanding and exploring a subject material [16].

Figure 2. Home Page
4. Conclusion
From the results of this study, it is expected that changes in previous learning can be a tool in the Sundanese culture learning process among elementary school students, besides that it can be a companion medium besides books, so that the teaching and learning process is more fun, more innovative and interactive, effective and efficient and not static. Teachers will always be required to be innovative in finding a breakthrough in learning that is able to combine text, images, audio, music, animated images or videos in a mutually supportive unit to achieve learning goals that can create pleasure during the learning process. It is also expected that this application can be a learning application that motivates and attracts the attention of students so that the maximum learning objectives will be obtained. And also helps in teaching Sundanese culture learning interactively. In the future, the development in 3D (three-dimensional) display will be more attracted for students who will study Sundanese culture both in school and in general. It can be concluded that interactive learning media with Adobe Flash media can help teachers and students in learning Sundanese culture more independently. In addition, the attractive appearance and sound facilities will make increase student’s interest in learning Sundanese culture.

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