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DESIGN INTERACTIVE ANIMATION RECOGNITION OF NUMBERS AND ALPHABETS FOR PLAYGROUP

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Abstract

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This study aims to make conventional learning more interesting for students in playing groups with the help of an educational game. Educational games made are interesting's animations. Animations should have bright colors and cute characters. The animations are about recognizing letters and numbers and training children's memory. This educational game is design interactively so that teachers can help children complete the game. The teacher gives directions so that the child can complete the game. This application is made using Adobe Flash CS3 and can be run with a flash player.

Keywords: Educational game, Animation, Adobe Flash CS3

1. Introduction

Early childhood education (PAUD) is a level of education before basic education, which is a coaching effort aimed at children from birth to the age of six. What is done is through the provision of educational stimuli to help physical and spiritual growth and development so that children have the readiness to enter further education, which is held on formal, non-formal, and informal channels[1]. Implementation of education requires methods to achieve success in learning. Learning methods are also the most important thing to pay attention to because uninteresting learning methods will cause boredom for students[2]. In the teaching and learning process, the teacher in determining the method should not be arbitrary. The teacher in determining the method must go through a selection that is by the formulation of the learning objectives. Each method chosen in teaching and learning activities must pay attention to the accuracy (effectiveness) of the learning methods used in the teaching and learning process[3]. The types of learning methods can be described as follows: storytelling, demonstration, conversation, assignment, drama/role play, field trip, project, and experiment. This type of learning is referred to as conventional learned[4].

Along with current technological developments, technological developments in education have also produced many innovations to support the learning process. One of them is the increasingly diverse learning media thanks to the rapid development of technology[5]. One of the alternative media that can help early childhood is educational games. Educational games are one of the media or physical facilities that can be used as learning media to achieve learning objectives[6]. In Indonesia, the game is defined as a game. The game is a complex activity in which there are rules, play, and culture. A game is a system in which the player engages in artificial conflict, here the player interacts with the system, and the conflict in the game is engineered or artificial[7]. According to Ernest Adams and Andrew Rollings in the book Fundamentals of game design, the game is a type of play activity where players try to achieve the goals of the game by taking actions according to the rules of the game[8].

Often games are considered to have a bad influence on children. Games have good functions and benefits for children, including children who know computer technology, practice problem solving and logic, train motor nerves, and spatial skills establish parent-child communication when playing together, and provide entertainment[9].

Educational games are very interesting to develop. There are several advantages of game learning compared to conventional learning methods. One of the main advantages of learning games is the visualization of real problems. So that it can support the conventional learning process. One of the advantages is the animation which makes the game more interesting. This will certainly make children happy and motivated to play so that learning in games can be accepted by children in a longer time than conventional teaching methods. Making games for playgroup students must be educative, and have a learning system that is easy to understand, therefore high creativity is needed in making games like this. The software used is Adobe Flash CS3.

Adobe Photoshop CS3 Adobe Photoshop is a professional standard image processing program. Adobe Photoshop Tutorial is an image editor software made by Adobe System which is devoted to editing photos/images and creating effects. This software is widely used by digital photographers and advertising companies so it is considered a market leader. Image/photo processing software is considered the best product ever produced by adobe Systems. Adobe Photoshop CS3 is the tenth version of Adobe Photoshop[10]. Adobe Flash is an animation program that also supports programming with its ActionScript. This program is suitable for developing interactive learning multimedia because it supports animation, images, images, text, and programming[11]. Flash is software that can draw as well as animate it, and is easy to learn. Flash is not only used in making animation, but in this day and age, flash is also widely used for other purposes such as in making games, presentations, building webs, learning animations, and even in making films. The animation produced by flash is an animation in the form of a movie file. The resulting movie can be in the form of graphics or text. The graphics referred to here are vector-based so that when accessed via the internet, animations will be displayed faster and look smoother. In addition, the flash also can import sound files, video, and image files from other applications[12].

So by using this software, researchers can create digital original images and create interesting images to create animations about recognizing letters and numbers and train children's memory. This educational game is designed interactively so that teachers can help children complete the game.

2. Research Method

The research method used by the author there are 2 ways, namely:

1. Data Collection Techniques

   In collecting data to support the writing of this research, the authors conducted research in the following ways:

   a. Observation
      The author searches for data or information by making direct observations of the object being studied.
   b. Interview
      Obtaining data by holding direct questions and answers with the teacher regarding learning methods.
   c. Literature review
      The author searches find, and studies data from literature studies or books related to the theme of writing this research, especially the problem of learning animation.

2. System Development Method

   The research used by the researcher uses the Research and Development method or research and development method, this method is used to produce a certain product and test its effectiveness of the product.

a. Analysis
At this stage, the researcher analyzes what needs to be done and prepared in building the number recognition animation learning that will be made. The needs analysis is also related to the game genre. In general, games can be divided into several types of genres, namely:
1) Strategy Games (Strategy Games)
2) Role-Playing Games (RPG)
3) Sports Games (Sports Games)
4) Vehicle Simulation (Vehicles Simulation)
5) Adventure Games (Adventure Games)
6) Puzzle Games (Puzzle Games)
7) Action Games [13]
From that genre, the writer makes number recognition animation with the Role-Playing Games genre.

b. Design
Researchers carry out the necessary designs in building animation learning.
In a game, several components exist, for example the type of game, character, animation, background, sound, and music. All of these components are very important in making a game that supports each other so that if we make each component interesting, of course, the game we make will not be boring[14]. The following are the stages of making the game
1) Game Genre
2) Tools
3) Gameplay
4) Graphics
5) Sound
6) Timeline
7) Manufacture
8) Publishing[15]
Here's how the programming works from an animated introduction to the alphabet and numbers in the form of a flowchart.

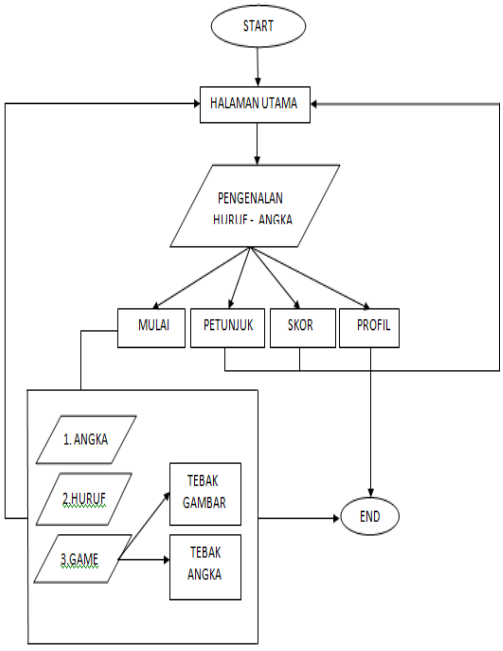

Figure 1. Flowchart of programming animation of alphabets and numbers

c. Implementation
The implementation stage is the process of implementing the design display into a real view. In this stage, the requirements needed are a software as an interface design tool. The software used is Adobe Flash CS3.
d. Test Researchers do test whether the software that has been made can run well or not. This test is useful for finding errors in the Software that has been created. This testing process is carried out with Blackbox.
e. Media Improvement The media improvement stage is the stage that is carried out after the program is validated or checked by the author. If the content of the media has met the competency standards, then the learning media is suitable for use
f. Product After the testing process is carried out, the next process is the application extraction process. The product produced in this study is an educational game for learning numbers that is suitable for use as a learning medium.

3. Results and Discussion

Testing of the alphabet and number animation program :

Figure 2. Flowchart of programming animation of alphabets and numbers

The picture above is the initial view of the Letter-Number Learning game that was made. In this menu the player must press the Start button to run or use this application. After pressing the Start button, the player will enter the next page where the player is asked to select the game mode to be played. Players can press the Hint button to view the hints of this game. Players can also view their name and score data by pressing score.

Select one of the menu modes to enter the game's submode menu page where players will be asked to follow the rules. Players can also return to the previous menu by pressing the button with the arrow keys.

Figure 3. Display of numbers

The picture above is a Number select menu where players can learn to recognize numbers from 0 – 9. Players can press numbers at will and when a number is selected, the spelling of the number will appear. Players can also return to the previous menu by pressing the button with the arrow keys or return to the main menu by pressing the home button.

Figure 4. Display of numbers

The picture above is a letter select menu where players can learn number recognition from A - J and the next letter just presses the arrow below K - T as well as from U - Z.
Players can press letters at will and when a letter is selected, an image will appear along with the spelling of the image. Players can also return to the previous menu by pressing the button with the arrow keys or return to the main menu by pressing the home button.

4. Discussion

A. CONCLUSION

From the data that the author works on, the following conclusions can be drawn:

1. Games are interactive so teacher can play and learn with their children.
2. Games provide knowledge of letters and numbers so as to train children's memory.
3. The colors and pictures in the game are interesting so that children feel at home playing.
4. Adobe Flash CS3 software is a good software and supports to create an animated image and to make your own game. Accompanied by Action Script 2.0 so that making games more effective and attractive.

B. SUGGESTION

As for the author's suggestions in making this learning game, namely:

1. Making this game is expected to provide new knowledge about games and how to make them using
2. Adobe Flash CS3.
3. In the process of designing the animation, it may be possible to make it better and more interesting, for
4. example the characters used and the images in the game.
5. The overall appearance of the game can be made of higher quality if it is displayed in a 3-dimensional
6. view so that it looks more attractive. This may be due to the limited ability of the author in designing.

Reference

[1] Siswanto, Zaelansyah, E. Susanti, And J. Fransiska, “Metode Pembelajaran Anak Usia Dini Dalam Generasi Unggul Dan Sukses,” J. Paramurobi, Vol. 2, No. 2, 2019.
[2] E. Sriwahyuni And Nofialdi, “Metode Pembelajaran Yang Digunakan Paud (Pendidikan Anak Usia Dini) Permata Bunda,” Thufula, Vol. 4, No. 1, Pp. 44–62, 2016.
[3] E. Akbar, Metode Belajar Anak Usia Dini. Kencana, 2020.
[4] Anik Lestariningrum, Perencanaan Pembelajaran Anak Usia Dini. Cv. Adjie Media Nusantara, 2017.
[5] Galang Sansaka Megahantara, “Pengaruh Teknologi Terhadap Pendidikan Di Abad 21,” [Online]. Available: Http://Megahantara.Blogs.Uny.Ac.Id/Wp-Content/Uploads/Sites/15470/2017/10/Jurnal.Pdf.
[6] Mala Hayatie, “Penggunaan Game Edukasi Pada Pembelajaran Aktif Untuk Menstimulasi Kecakapan Hidup Anak Usia Dini 5-6 Tahun Di Tk Islam Al-Muhtadiin Kota Tangerang,” Vol. 8, No. 2, Pp. 264–279, 2021.
[7] W. Pratama, “Game Adventure Misteri Kotak Pandora,” J. Telemat., Vol. 7, No. 2, Pp. 13–31, 2014.
[8] A. Ernest And A. Rollings, Fundamentals Of Game Design. New Jersey: Pearson Education, Inc, 2007.
[9] M. Reza, A. Dwinusa, And S. Susanti, “Pengembangan Game Edukasi Belajar Huruf Alphabet Pada Anak Usia Dini Menggunakan Construct 2,” In Eprosiding Sistem Informasi (Potensi), 2021, Vol. 2, No. 1, Pp. 212–217, [Online]. Available: Http://Eprosiding.Ars.Ac.Id/Index.Php/Psi.
[10] E. Sutinah, “Adobe Photoshop Cs3.” Ilmuti.Org, 2008.

[11] B. Rifani, I. Setiawan, And Ari Pantjarani, "Multimedia Pembelajaran Interaktif Matematika Untuk Kelas Xii Ma Menggunakan Adobe Flash Cs3 (Studi Kasus Madrasah Aliyah Al Falah Gedongan Baki Sukoharjo)," Indones. J. Inf. Technol. Comput., Vol. 1, No. 1, Pp. 1–10, 2021, [Online]. Available: Https://Journal.Polhas.Ac.Id/Index.Php/Imaging.
[12] A. Irawan, M. S. Laurin, And Suherman, "Perancangan Animasi Pembelajaran Perawatan Mesin Kendaraan," J. Prosisko, Vol. 2, No. 1, Pp. 1–9, 2015.
[13] M. A. P. Tanjung, "Analisis Pengaruh Storytelling Terhadap Game Lorong Waktu – Pangeran Dipenogoro Sebagai Media Edukasi Sejarah," J. Ilm. Komput. Dan Inform.
[14] A. Syafrando, J. Wahyudi, And Y. Arliando, "Pembuatan Aplikasi Game Merawat Hewan Peliharaan Dengan Menggunakan Macromedia Flash 8.0," J. Media Infotama, Vol. 10, No. 1, Pp. 65–71, 2014.
[15] N. L. Indyawan And E. T. Luthfi, "Perancangan Game Shoot Enemy Planes Menggunakan Adobe Flash Cs3," J. Dasi, Vol. 13, No. 2, Pp. 55–59, 2012.