



School Information Three Dimensional Animation Using Blender Version 2.79

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ABSTRACT

With the development of the movie and gaming industry the which is currently a field of motion capture has experienced rapid growth Also supports the development of the film and gaming industry. Captured motion in animation, it is important to create characters that move realistically, in a situation that is not practical or too dangerous for an actor. To Obtain the natural motion with the motion capture technique is still very low, due to the availability of equipment and application of human motion capture technology in the world of animation is still very expensive in terms of both hardware and software used. One type of human motion capture system that Utilizes optical motion capture cameras. The purpose of this study is to Obtain a realistic movement and shorten the time penganimasian for 3D animation filmmaking.

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1. Introduction

The development of the film industry led to innovations in the form of animated films created by teknologikomputer. At this time the animation is often used is 3D animation. This 3D animated fruit memiliki3 coordinates that can produce the viewpoint object look more real so very effective in attracting the attention of the public, especially children in a film production. Animation is a process of recording and playing back a series of static images to get an illusion of movement [1].

The development of computer technology is also encouraging the development of an information. Particularly information regarding the production of film industry development perfilman. Setiap year increase. Generate innovation - innovation that continues to enliven the film industry who constantly keep changing direction lebihbaik. [2]

With the development of the film and gaming industry which is currently a field of motion capture has experienced rapid growth also supports the development of film and gaming industry. Captured motion in animation, it is important to create characters that move realistically, in a situation that is not practical or too dangerous bagiaktor

At that time, in visualizing something, someone using the manual method by drawing on paper and then in filmmaking evolved into traditional animation or two-dimensional animation techniques. Nowadays everyone can realize easily without having to have talen.

Animation is one part of the world forms of entertainment visualization moving images well equipped with audio or not, and usually in the presentation in the form of two-dimensional images or three-dimensional. In connection with many entertainment program which is currently developing the animation program is one form of event is very popular with children. So the authors look at the future prospects that it would enable animation program be given out to parents to educate their children, with the aim to provide educational and entertainment facilities are good, and useful to help the growth of children's creativity.

In competition in the entertainment world today, many display events that are intended for children, but in the development of many events that are not good for consumption or viewed by children. Due to many factors that tend to carry the show scenes of violence, a scene that is less educated, and also





sometimes the scenes are displayed too vulgar for the age of the children. Given some of the factors that are above it will greatly affect the behavior of a child in its development. It is therefore necessary quality programs and full of moral education that can be applied in-hari. Dengandemikian maka anak tidak kehidupan sehari will lack entertainment loaded with knowledge that is positive.

2. Research methods

A. Flow chart

Flowchart shape of the design process of animation that will be made are as follows:

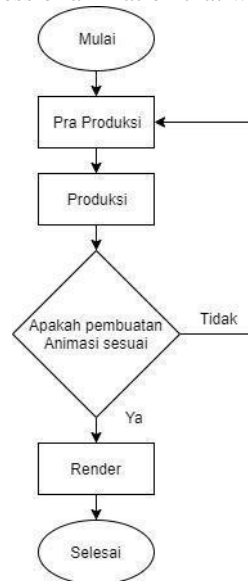


Figure 1. Flowchart Creation of 3D animation

Explanation flowchart in Figure 1 is sebagai berikut:

preproduction

Storyboard is a translation of the text in the form of a picture story that was made contains about taking corners of the image, as well as special effects. Storyboard function is to translate the contents visually or depiction scenario briefly. Storyboard sequence and in accordance with the storyline, very good to make a movie into a good story and interesting, because before the start of production, there are depictions of the story or can be called as a guide filmmaking [3]. All the crew must know and understand the content of the manuscript, so as to have an idea of what the shot will be taken. Script and storyboard to be understood as a reference in the shooting.

Production

At this stage the stage of making animated films actually took place. Starting from the stage of 2D kebentuk 3D modeling, texturing and post production. As follows:

a. modeling 2D ke3D

2D to 3D modeling begins with 2D object transfer is made into a 3D object. Both the Head Modeling, and Body modeling [4].

b. texturing

So that objects that are created for the texture has a natural or unnatural, then the stage called Texture Mapping Object [4].

c. Set Up Lighting

Set up lighting is the lighting arrangement is needed to illuminate objects that will shoot. Light settings are wont to do is adjust the position of the light fitting and adjust the brightness of light generated Yag lamp [4].

d. rendering

The process to generate output image or movie. How quickly rendering that takes place depends



on the computer specifications [4].

B. The algorithm in 3D animation

Motion Planner

To realize the full range of motion in 3D animation needs to be planned method - the method used motion. Motion animation in 3D can be divided into several sections according to the description in bawahini scheme.

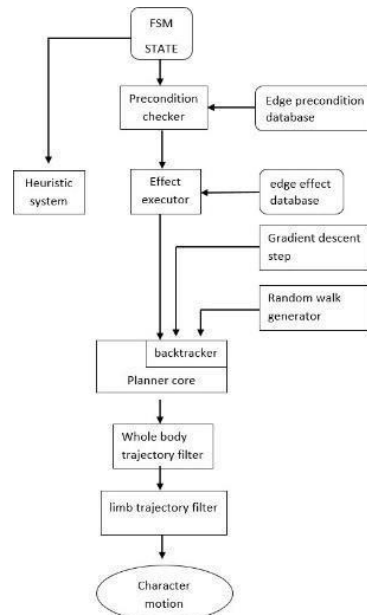


Figure 2. Graph Algorithms Motion Planner

In figure 2 is backtracking method on 3D. Setiap motion animation in animation have the coordinates. These coordinates indicating that a character moves from one location to another. For example, a character moves from the coordinates (16, 5) to (18, 5), from (18.5) to (22.5), and so on will be seen characters move (migrate).

C. Data collection technique

The steps in this research are:

- 1) Observation and Documentation Process observation and documentation is done in the Western Cape SDN 05 Pagi by taking pictures Building - the building and immediately implemented into the making of the animated film [5].
- 2) Interviews: Interviews are Interview structured. Interviewers conducted interviews with principals in these schools, aims to find out what are the facilities at the school Adadi [5].

D. Motion Capture, Motion Tracking or Mocap

Motion Capture is a term used to describe the process of recording movement and cognition such movements into digital models. Mocap means record the action of the movement of the object or objects to animate digital character models to a two-dimensional computer animation or tigadimensi [6].

C. 3D animation

3D animations are objects or animation that are in 3D space. Objects and animations can be in the form, rotated and moved like real objects [7].

D. Multimedia

Multimedia is the use of computers to present and combine text, sound, images, animation and video with tools (tool) and connections (links) so that the user could have made (navigation), interact, work and communicate [7].

3. Results and Discussion



A. Specifications Making animations

Blender is an open source software 3D computer graphics. This software is used to create animated films, visual effects, 3D printed models, interactive 3D applications and video games. Blender has several features including 3D modeling, texturing, bitmap image editor, reinforcement, fluids and smoke simulation, particle simulation, animation, video editing, digital sculptors, and rendering.

Adobe Premiere Pro is a video processing program choice for professionals, especially those who like to experiment. The program is widely used by companies Filming / Soap Opera, Broadcasting, and television. One is the BBC and The Tonight Show. Also been frequently used for films, such as Dust to Glory, Captain Abu Raed, and Superman Returns. For other places such as Confessions Tour by Madonna. Adobe Premiere Pro has approximately 45 video effects and 12 audio effects, which could be to change the pattern of the display and animate video and audio clips. Some effects require high quality graphics card. But of the 45 effects, only three effects that require high-class graphics card (eg, AMD or NVIDIA) to be applied to the Movie clip.

Table 1. Hardware

PROCESSOR	Intel® Core™ i7- 7700HQ
RAM	12 GB
VGA	NVIDIA GTX M960

In table 1 hardware researcher uses Intel® Core™ processor i7- 7700HQ, 12GB RAM and NVIDIA GTX VGA M960 in the manufacture of three-dimensional animation.

Table 2. Software

blender v2.79
Adobe premiere CC 2018

In Table 2 investigators using Blender v2.79 software for manufacturing three-dimensional animation and Adobe premiere CC in 2018 to combine video and sound

B. Implementation

The implementation stage consists of stages of production and post-production stages of the manufacture of Video Elementary. The stages are implemented according to the preparation that has been done in the preproduction phase.

1) 2D Modeling ke3D



Figure 3. Schematic and infrmasi Building

Figure 3 is a scheme of making the primary school building use MS.Word then these sketches will be on dijadikan reference to create a wall in the form of 3D animation software Blender 3D do.

2) Color Award



Figure 4. Staining Model School

Color poster intended that the animation is not made too plain and can be easy to distinguish the objects that exist in the animation.

3) texturing



Figure 5. Making Texture On 3D animations

Award aims to make an animated texture look more real and mmbuat look more interesting to see. The color and texture is highly related and important because it is a beautiful pepaduan if the color and texture have harmony.

4) exposure

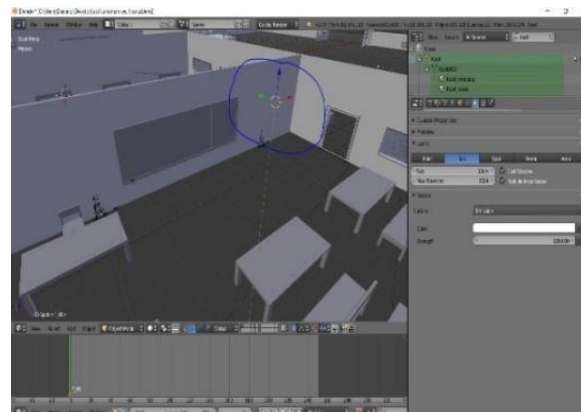


Figure 6. Giving Light In 3D Animation

The lighting is done so that the animation has been given the color and texture can be seen clearly. If it is not given then the light coloring and the texture will not be visible.

5) compositing

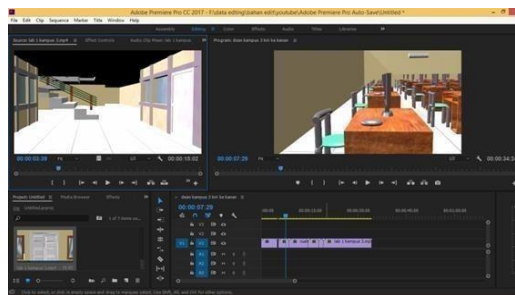


Figure 7. Merging Video and Sound

compositing is uniting stage scene per scene already rendered animations into an animated sebuah video intact. Animation scene is based on a storyboard that have been made. Usually in this process to cut sections are not in need to make videos more interesting later on and the addition of video to smooth the transition between the first scene to the turn of scenes selanjutnya.

6) Audio

After all the editing process is complete then the last stage is where the audio editing audio will be divided into two parts, namely, back sound and dubbing.

7) rendering

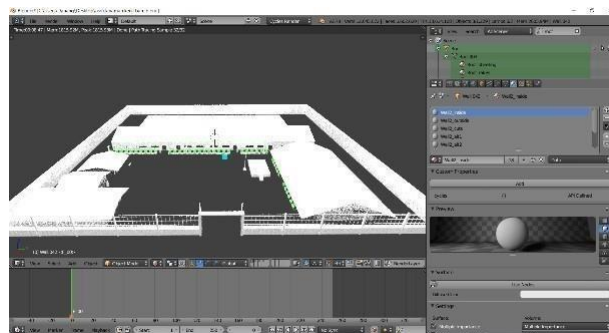


Figure 8. Rendering Process

Rendering is an image output from a 3d scene or an object. Features such as materials, lighting, oversampling and shadows have an influence on the effect and quality of the rendering. The more features you add, the more realistic result, but will affect the time rendering. Making the video rendering results Elementary School-Based Animation of three-dimensional (3D).

4. Conclusion

Based on previous discussions in the making of this animation, then on the cover can be concluded:

- 1) Based Video Making Animation Three Dimensional (3D) has been successfully designed using Blender 3D and Adobe Premiere Pro.
- 2) Making the Video \ Based Animation Three Dimensional (3D) aims to provide information about the existing facilities at the school.
- 3) Design and manufacture of animation made as closely as possible to the original in order to convey information secara fakta.
- 4) This animation is very well used as promotional as it saves time

5. Reference

- [1] Purwanti R. and N. R, "Video Animation Stop Motion For Media Learning On Introduction of Conduct Passes Campaign For Youth Cross Motorcycle Riders," Widyakala J., vol. 3, p. 1.2016.



- [2] E. Herliyani and LB Sutrisno, "Development of Interactive Multimedia Learning Media Based On 1 Lesson Course Animation Motion Graphic Design Department of Visual Communication (DIII) UNDIKSHA," *Prasi*, vol. 11, no. 02, pp. 70 to 79.2017.
- [3] F. Azmi and DI Setyadi, "Motion Graphic Design Professional Introduction As efforts FTK ITS Field of Maritime Technology For High School Students," *J. Science and Arts of ITS*, vol. 7, no. 2, 2019.
- [4] MATP Son, Dengen N., and A. Shakir, "Public Service Ads On Flood Hazard Based Multimedia Animation Motion Graphic," *Pros. Semin. Komput science. and Teknol. Inf.*, Vol. 2, no. 1, pp. 60 to 67.2017.
- [5] Hardiyan and I. Fajriyah, "Animation Interactive Multimedia Based Learning songs in the National," *J. Swabumi*, vol. 5, no. 2, pp. 142 to 145.2017.
- [6] L. Thousand and C. Prambanan, "Making 3D Animation Short Film," no. 5, pp. 1 to 6.2008.
- [7] "Application-Based 2D Animation Interactive Media Recognition As the Planet," vol. 4, no. 1, 2019.

