

Designing an Educational Video About the Dangers of Software Piracy Using 2D-Based Motion Graphic Techniques

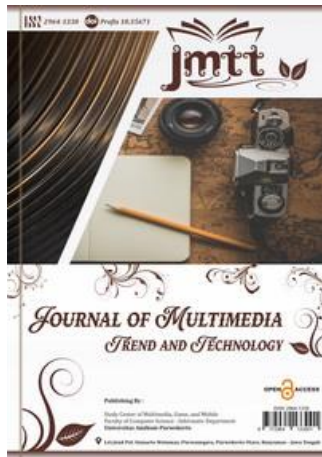
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ABSTRACT



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This study explores the potential of 2D animation-based educational videos with motion graphic techniques as a tool to increase public understanding and awareness of the dangers of pirated software. With the increasing prevalence of pirated software that can be easily accessed from various websites, there needs to be an innovative approach to increasing public understanding and awareness of its negative impacts. This study uses pre-production, production, and post-production methods to produce animated videos. The focus of the study is on the use of 2D animation and motion graphics to communicate messages about the risks of pirated software effectively. By utilizing the advantages of 2D animation in efficiency, simplicity, and cost-effectiveness, as well as the ability of motion graphics to combine text and moving images, this study aims to increase public understanding, especially young people, students, and computer users, about the illegal consequences and negative impacts of using pirated software. The results of the study indicate that 2D animation videos with motion graphics can convey complex messages about the dangers of pirated software effectively and attractively.

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INTRODUCTION

Software is a program that contains instructions for performing a data processing process[1][2]. Currently, there are many software offered with various features for various needs[3]. Unfortunately, there is a lot of pirated software that can be easily obtained from various websites[4]. Software cracking is an activity that aims to remove protection from computer software such as copying or duplicating applications, serial numbers, hardware keys, trial or demo versions, checking CDs, and advertisements on the software. This of course violates copyright and is an illegal act that can have a negative impact on users and software owners[5]. In an effort to increase public understanding and awareness of the dangers of pirated software, an innovative and effective educational approach is needed. Educational videos have proven to be an effective tool in conveying complex information in an interesting and easy-to-understand way[6]. In this context, this study focuses on the use of educational videos with a 2D animation approach and motion graphic techniques to convey messages about the dangers of pirated software. 2D animation is an animation known as flat animation. The development of animation is very innovative in terms of animated film production[7]. Animation consists of 2D animation and 3D animation. 2D animation uses paper or computers to make objects appear alive[8]. 2D animation also refers to creating videos in a two-dimensional environment. It has the advantages of efficiency, simplicity, cost-effectiveness, and artistic freedom to develop characters and worlds that meet the needs[9].

Motion Graphic technique itself is a media that combines text and images that move in a space and time[10]. Motion Graphic is also a branch of graphic design that uses motion to intentionally move or arrange design elements, such as shape, appearance, size, orientation, and texture, to make them look alive. Previous research related to the animated video entitled Making 2D Animation "Ngreksa Budaya" Using Frame By Frame and Motion Graphic Techniques. This study aims to preserve and educate about traditional Javanese culture which is currently being abandoned by the younger generation[11]. To achieve this goal, the creation of this animation presents a story based on traditional Javanese dance and uses animation techniques such as frame by frame and motion graphics. The second study is entitled Educational Animation of the Dangers of Violence Against Women and Children. This study aims to disseminate education through 2D animation to increase public awareness and knowledge about violence against women and children, with the aim of preventing such acts[12]. This study uses the DDD-E method to create 2D animated videos. And also the study emphasizes the importance of educating the public about domestic violence (KDRT) and how to take action if they experience such violence. The third study is entitled 2-Dimensional Educational Video Regarding the Indonesian Sign Language System (SIBI) for Children[13]. The researchers aim to create a media tool that can help parents in helping their deaf children learn to communicate in sign language. 2-dimensional animated educational video about SIBI (Indonesian Sign Language) for elementary school children to help parents in making the learning process for deaf children more effective[13]. The animated video aims to educate and invite viewers, especially children, to learn SIBI through 2D animation. The fourth study is entitled Making 2D Animation of the Formation of Volcanoes and the Impacts on the Environment Using Motion Graphic Techniques. The purpose of writing this research is to create a 2D animation of the formation of volcanoes and their impacts on the environment using motion graphic techniques[14]. The animation aims to educate and increase public awareness about volcanic eruptions and their impacts on the environment. Due to the limitations of face-to-face communication and education due to the COVID-19 pandemic and social restriction policies, researchers are trying to find other ways to provide information and education to the public[15].

The purpose of this study is to explore the extent to which educational videos based on 2D animation with motion graphic techniques can increase public understanding and

awareness of pirated software. Through this creative approach, it is hoped that messages about the risks of pirated software can be conveyed more effectively to various groups of people, including youth, students, and other computer users. The results of this study are expected to provide a positive contribution in overcoming the problem of pirated software which is increasingly disturbing and becoming a global problem.

METHOD

This research was conducted using pre-production, production, and post-production methods. In the pre-production stage, ideas, scripts, and storyboards were prepared for the 2D animation video to be produced. The production step is the production stage carried out by creating characters and accompanied by animations that must be in accordance with the scenario and plot that have been created previously, this aims to obtain maximum results. The post-production phase is the final phase with editing and rendering. As can be seen in Figure 1, the stages of the research method.

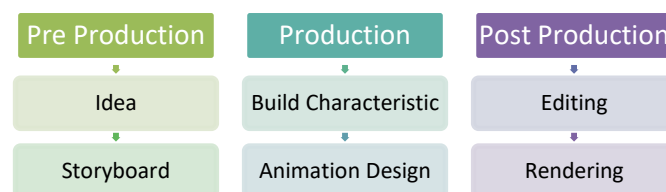


Figure 1, Design Flow Process.

The pre-production stage is the stage of compiling ideas, scripts and making storyboards.

1. Synopsis

The synopsis of the content to be created is an educational narrative video accompanied by animation related to the use of pirated software. The video content that is created will explain the negative impacts of using pirated software, the causes of the rampant use of these devices, and solutions to overcome them.

2. Script

Title: Overcoming the Rampant Use of Pirated Software

Premise: Video content containing a narrative that tells the use of pirated software Scenario and plot. The scenario and plot can be seen in table 1.

Table 1. Scenario Design.



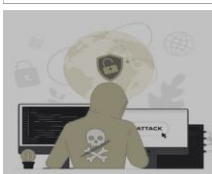

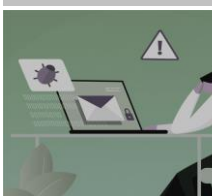

No		
	Sequence	Video
1	Opening	Showing news about the use of pirated software followed by an error message on the computer, and a message that the computer is infected with malware as a result.
2	Program Title	Showing the title of the video content 'Overcoming the Rampant Use of Pirated Software'.
3	Content	Interrelated moving animations accompanied by a narrative that tells the story of the use of pirated software. The narrative briefly explains how pirated software is pirated and then published. Followed by the causes and effects of using pirated software.

4	Ending	Resolutions and also ideas to overcome the rampant use of pirated software from a cultural, educational, and legal perspective.
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3. Storyboard.

The storyboard design is made to help in composing the scene when doing animation. At the same time arranging the sound that comes in or is used as a voice actor for animated characters. The following table 2 is the storyboard that was designed.

Table 2, Storybard Design.

No	Scene	Description	Duration
1		Opening	30 Second
2		Shows news related to the use of pirated software followed by an error message on the computer, and a message that the computer is infected with malware as a result.	10 Second
3		Program Title	1 Second
4		Shows the title 'Overcoming the Rampant Use of Pirated Software' and the beginning of the voice narration.	40 Second
5		Scene 1	30 Second
6		Visualization of the character of a cracker who is cracking a multimedia software by inserting malware into the software which is then uploaded to a website on the internet.	50 Second

RESULT & DISCUSSION

After the preparation of ideas, scripts, scenarios and plots that have been determined the next step is the production stage. This stage is the first work on the video that is adjusted to the storyboard. This includes activities such as creating, characters, animation and sound recording processes.

1. Pre Production.

Based on the storyboard in the Pre-Production stage, it is necessary to create characters such as employee characters, boss characters, and cracker characters. The creation of these characters uses CorelDraw 2021 software. It can be seen in Figure 2 as an sample character.

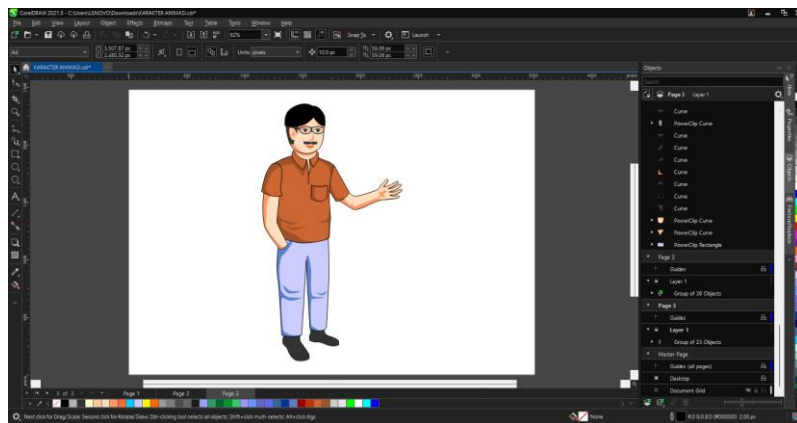


Figure 2, Sample Character.

Animation creation is the process of recording a series of still images and playing them back one by one to create the illusion of movement. From a character that has been created, the next step is to animate the character using Adobe Animate 2022 software. The animation creation process can be seen in example image 3 in the cracker animation design, namely where the animation movement in the employee scene is using pirated software.

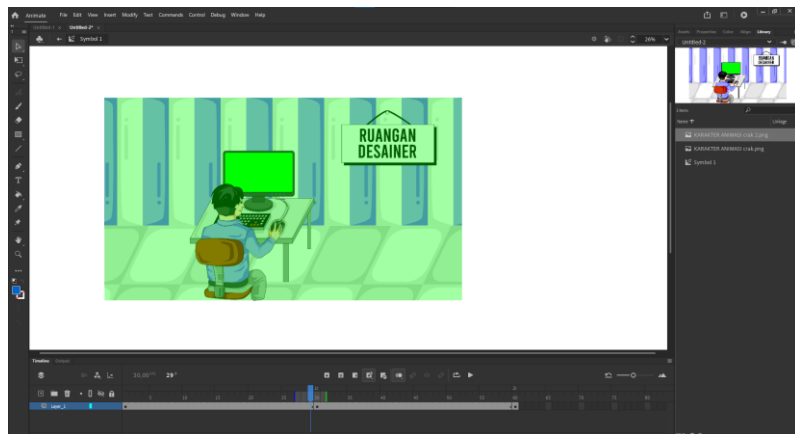


Figure 3, Design Animation on Sample Scene

2. Production.

At the production stage, all character designs and animation modeling are ready for voice acting. Voice recording is the stage where the narrator reads the narrative text, producing an audio recording in *.aac format. The audio produced through a sound editing process with the aim of improving the sound quality and combining it into an audio file in .mp3 format. This sound editing is done using Adobe Audition 2020 software. The sound recording process can be seen in Figure 4.

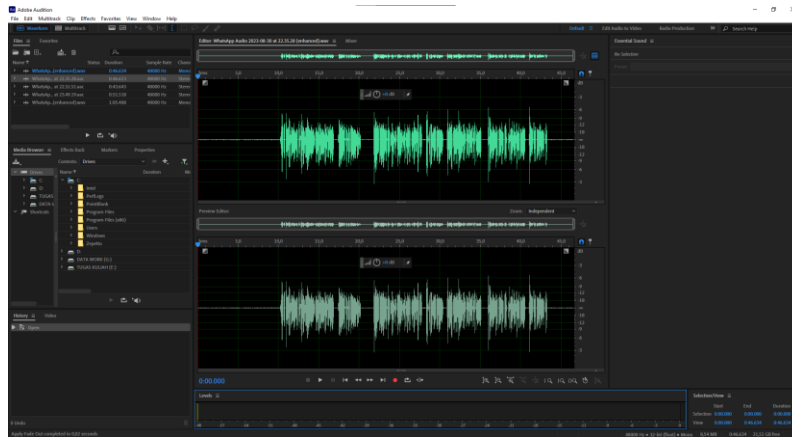


Figure 4, The process of dubbing animation.

3. Post Production.

Post-Production Stage is the final stage after the pre-production and production stages. This stage is the finishing stage where there are editing and rendering stages. Editing is the process of composing, arranging and combining several texts, images, audio, videos and other supporting files into one to produce information or video. The editing process can be seen in Figure 5.

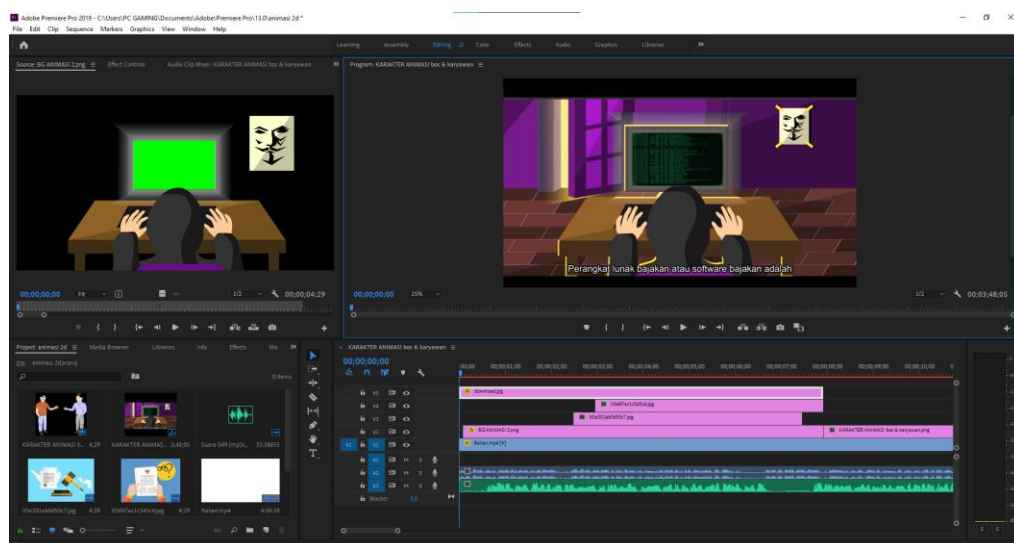


Figure 5. Editing Finalization Process

Rendering is the final process of the entire process of making 2D animated videos, this rendering process is the result of the editing process exported into an H.264 format file. The rendering process can be seen in Figure 6.

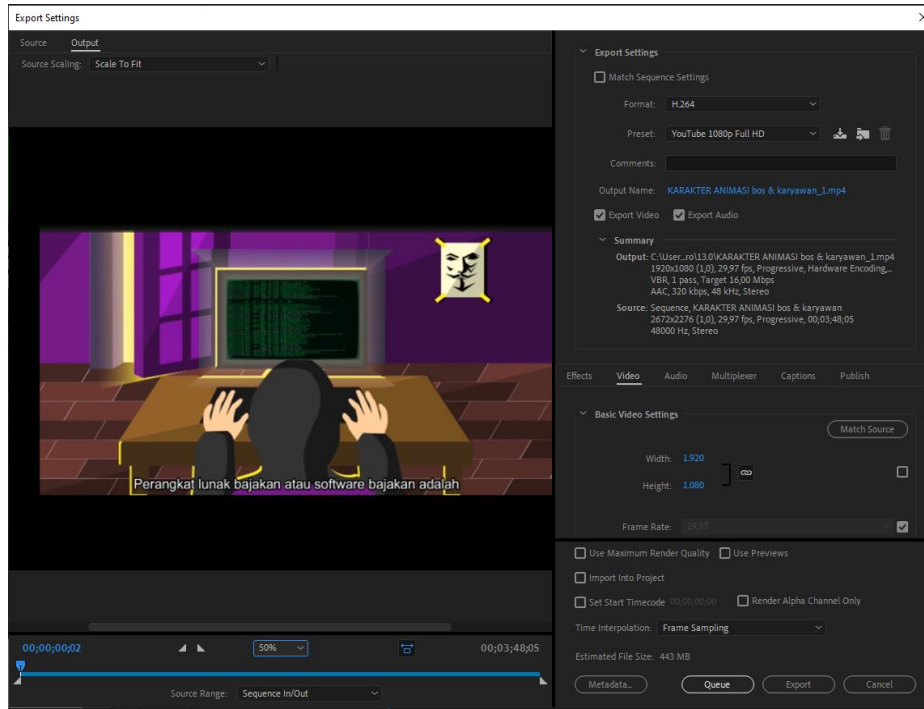


Figure 6. Rendering Process Results

After all the processes are complete, the next step is testing to analyze the final results. This testing is done to prove that the results of the 2D video design are as expected. The results of the Alpha test state that the entire content has been stated in accordance with the planned design concept. Then the next distribution. The video that has been rendered production will be distributed into broadcast media and online streaming such as YouTube media and the like.

CONCLUTIONS

This study aims to increase public understanding and awareness of the dangers of pirated software through the use of educational videos with a 2D animation approach and motion graphic techniques. Based on pre-production, production, and post-production methods, this study creates animated videos. In the pre-production stage, ideas, scripts, and storyboards are prepared with a synopsis explaining the negative impacts of using pirated software, the causes of its widespread use, and solutions to overcome it. The scenario and plot are described through a storyboard, which includes an opening, program title, scenes depicting the cracking process, the use of pirated software, and ending with an educational resolution. The production stage involves character creation, animation, and sound recording processes. Characters such as crackers, employees, and bosses are created using CorelDraw, and their animations are created using Adobe Animate. The sound recording process is done using Adobe Audition to create a narrative that supports the animation. In the post-production stage, editing and rendering are carried out. Editing involves arranging and combining text, images, audio, and video to compile information in

an animated video. This process ensures harmony between the elements that have been created. After the editing process is complete, the video is rendered into an H.264 file as the final result. Overall, this study shows that 2D animated videos with motion graphic techniques can be used to convey complex messages about the dangers of pirated software in an interesting and easy-to-understand way.

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