

Creation And Implementation Of Visual Effects To Increase Display Attraction in Podcast Video Production Using VMix

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ABSTRACT

Visual effects commonly referred to as VFX, is a computerized process in which images or object models are created and manipulated, involving integrating digital effects recordings and special effects from a computer to create a virtual environment. In this modern era, the digital industry is growing more rapidly because the increasingly diverse visual effects technology mainly influences it. Applying VFX to audio-video formatted podcasts can solve the podcast visual display problem. The visuals presented in the video podcast content are mostly monotonous (repeated displays), so they look dull. Besides that, the appearance of the video shown is less informative because it only observes the podcaster and the speaker who is talking without any visual aids. This study discusses the creation and implementation of VFX on podcasts. The VFX produced in this study includes one virtual set background and six visual effect templates. Based on the results of expert reviews, VFX is suitable to be implemented in podcasts and can add to the aesthetic value of a video podcast. The VFX can be used as a set of templates that can be used as needed in the editing or live stream process. In addition, although VFX cannot produce additional information value, VFX can make the delivery of information more comfortable for the audience.

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1. INTRODUCTION

The digital media industry has experienced rapid progress in the last two decades. People find it easier to get information, news, and even new valuable insights to support their lives. This is due to the many new media that have sprung up. Media information is all forms of intermediaries used by humans to spread ideas so that the ideas reach the recipient [1] [2].

A podcast is an alternative medium for conveying information amidst the booming development of information media. A podcast is a content media that has received much public attention because it seems more flexible and intense than radio broadcasts. The term podcast was first proposed by a journalist for The Guardian, Ben Hammersley, in 2004 [3]. The word podcast itself has an abbreviated meaning: play on demand and broadcast.

Indonesia is a relatively new country in podcast consumption. However, citing Global Web Index (GWI) data, the percentage of Indonesian podcast listeners is the second largest in the world as of the third quarter of 2021. Podcast listeners in Indonesia reach 35.6% of total internet users aged 16-64 years. Indonesia only lost to Brazil, whose percentage reached 37% [4].

The rapid development of the podcast market opens the potential for podcast development. Starting as a distribution of audio files in digital formats, podcasts are now developing into video-audio formats. The development of podcasts into video formats allows a variety of innovations to support the podcast itself. On the other hand, most of the visuals presented in the podcast video content are still monotonous (repeated display), so they look dull. Besides that, the appearance of the video shown is less informative because it only observes the podcaster and the speaker who is talking without any visual aids [5] [6].

One of the innovations that can be made to deal with problems in visual podcasts is the application of visual effects (VFX). Visual effects or commonly referred to as VFX is a computerized process in which images or object models are manipulated which involves the integration of digital effects recordings and special effects from a computer to create a virtual environment. Innovations that can be made include providing element effects, chroma-keying, hologram effects, and other visual effects on the podcast's screen display [7-9].

This research will discuss the creation and implementation of visual effects on podcasts. An expert review is needed to support the validation of the VFX produced in this study. The experts who reviewed this research are information media and visual effects activists. The points that will be reviewed are the suitable level, aesthetic level, and delivery information level. These three points are the main points that support the visual appearance of a video. It is hoped that the results of this research can become an innovation that will be applied to improve the quality of video podcasts with more modern and exciting variations.

2. RESEARCH METHOD

There are two stages of applying VFX to the audio-visual format podcast. The first stage is creating VFX material with designs customized to the demands or tastes of the podcast market. The second stage is applying the VFX material in the podcast production process using the vMix software. The outputs from the production and application processes are then assessed by experts engaged in podcast production to find out how the designed VFX performs in communication and entertainment aspects. This aspect, in detail, include the suitable level of VFX for a podcast, the effect of VFX on the information delivery, and the aesthetic level of the VFX implementation [10] [11].

VFX creation begins with the planning stage. This stage includes market research and a basic sketch. Market research is one of the earliest stages because podcast consumer needs are the most considerable input of a podcast visual effects design. This is because visual effects are one of the components of podcasts that must be able to fulfill the wishes of podcast enthusiasts' desires. The results of this research are then translated into an initial sketch design. This sketch design is the basis for making digital designs.

This study's visual effects were made digitally using a pen tablet and digital design software such as Adobe Illustrator, Paint Tool Sai, and Paint 3D. This digital creation is based on the results of the final sketch design approved for use in the podcast [8]. From the results of the design sketches and the existing visual effects groupings, the total visual effects created in the final project are one virtual set background and six visual effect templates.

Furthermore, the results of digitizing the design will be saved in JPG or PNG image format and imported into Adobe After effects cc 2018 software to make visual effects and animation elements. As for making 3D background assets for virtual sets, the Blender software can be used.

The final stage in creating a VFX is the rendering process. The design processed in the digitization stage through Adobe After Effects or Blender software (final visual effect) will be exported into MOV, PNG, MOGRT, JSON, AEP, MP4, or GIF extension format.

An explanation of the stages of making each VFX component can be seen in the following description.

2.1. Virtual Set Background

Virtual set background created using 3D Blender software with several available references. The first thing to make is a base design of the virtual set. Meanwhile, the critical part of making virtual sets is the texturing stage which can make the virtual set shapes more accurate and precise with objects. The virtual set created has a letter U design to make it easier to arrange the speaker's position. In addition, the letter U design also creates an intimate impression between the two people who talk in the podcast. The results of the

virtual set background design can be shown in Figure 1. This main virtual set is made with selected colors designed to look like a room with a technological yet relaxed feel.

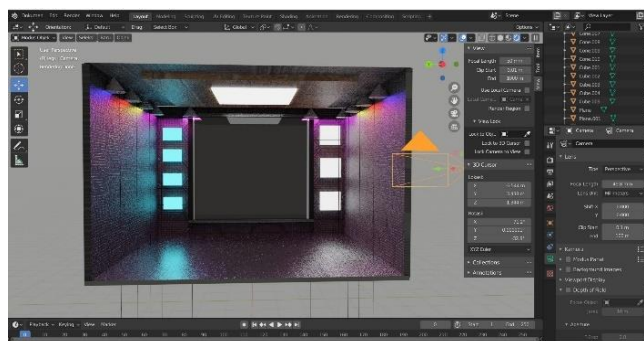


Figure 1. Display Of Creating A Virtual Set Background

2.2. The Effect

The text effect is a visual effect used for podcast intros and outros. The text effect is also a type of overlay. The primary purpose of this visual effect is to attract the audience's interest in the early seconds of the podcast, which is a crucial point. In addition, this effect also provides excellent branding at the time of the video closing.



Figure 2. Creating A Text Effect Logo

The results of this text effect can be seen in Figure 2. This text effect logo uses the neon effect, wave warp, scale, and opacity: 75% technique. In addition to these elements, the text effect is also given a sound effect with the nuances of young people so that it has unique value when the intro is running.

2.3. Monitor Hologram Effect

Monitor Hologram effect is one component of visual effects design. This central visual effect screen includes a display connected to an NDI source to display another

monitor screen coated with a hologram effect. The design process, shown in Figure 3, was carried out by taking three main techniques / three main effects: a combination of the Glow effect, 50% Opacity, and optical flares with a flickering speed of 100 and amount of 25.

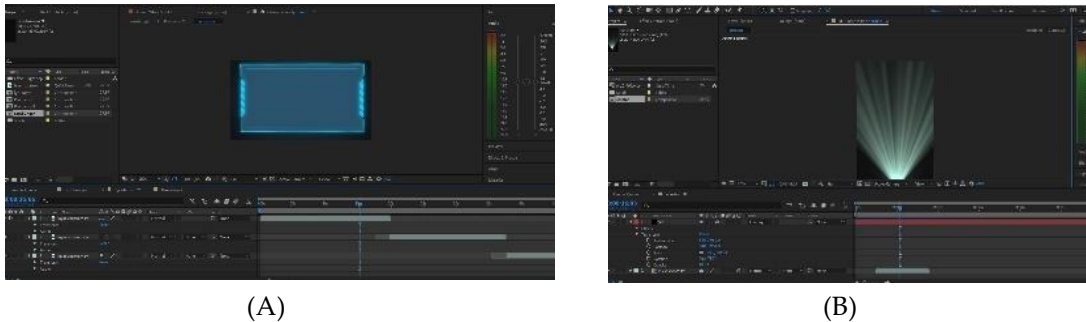


Figure 3. Creating A Monitor Hologram Effect (A) And Optical Flare (B)

2.4. Neon Hologram

Neon Hologram is the second screen for the source used for one shot. Neon holograms were created to give a light effect on the background of a podcast set. The process of making this neon hologram effect is done by taking the primary technique of a combination of the Glow effect and 50% Opacity. The result of this neon hologram editing can be seen in Figure 4.

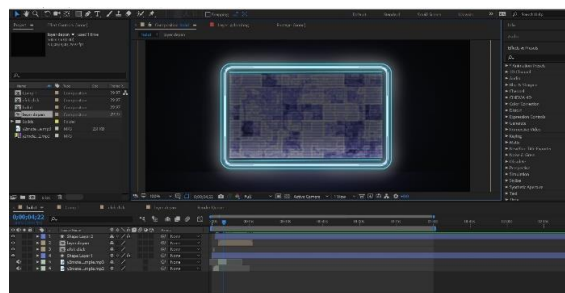


Figure 4. Editing A Neon Hologram Effect

2.5. Transition Effect

The transition effect (Figure 5) is a scene displacement where there is a description of the ongoing theme in the transition.

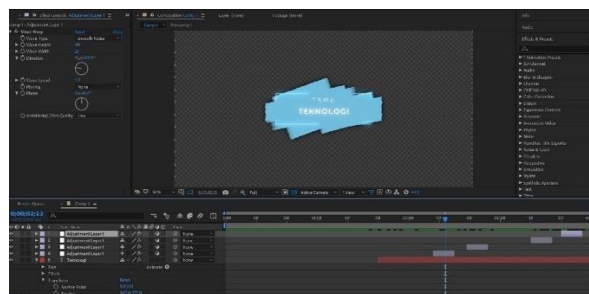


Figure 5. Editing A Transition Effect

This visual effect component is essential for limiting and grouping themes or sub-themes in complex podcast conversations so podcast viewers can efficiently recapitulate the content of the discussed themes. This transition effect is made by applying three main effects. Namely, a combination of glitch, glow, and wave warp with a smooth noise type and direction of 280% for the level of noise movement.

2.6. Brush Effect

The brush Effect is a motion graphics effect that forms color strokes. The brush effect element will be filled with sentences that define a discussion of the important points of the podcast theme. The process of making a brush effect is to take the primary technique of combining masking and anchor points. And to make the movement smoother, add a graph editor setting on the timeline. The result of this brush effect editing process can be seen in Figure 6.

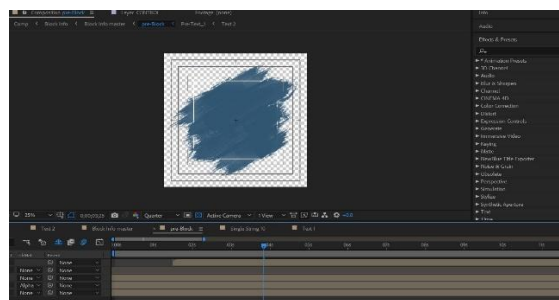


Figure 6. Editing A Brush Effect

2.7. Overlay for Content

Overlay for content is a frame-by-frame visual effect that forms the overlay movement for a pop-up comedy. Inside, the content overlay is also equipped with appropriate sound effects. This is intended to add a fresh impression to a discussion so that the podcast remains interesting.

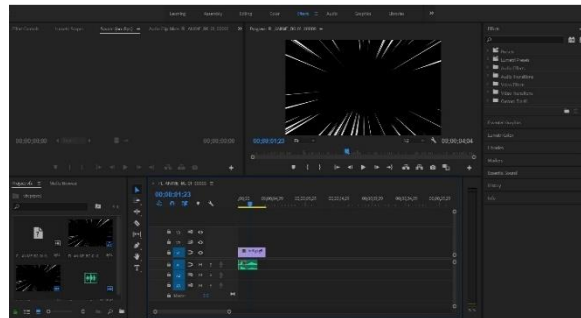


Figure 7. Editing An Overlay For Content

This overlay for content was created using the frame-by-frame technique combined with Adobe Photoshop to be exported into a GIF format. This GIF format is inputted into Adobe Premiere Pro for editing and adding sound effects. The result of this effect editing process can be seen in Figure 7.

2.8. VFX Application on Podcast

The concept applied to this virtual set is a 3D asset background design previously created using Blender software. Virtual set backgrounds use the chroma-key technique, also known as the green screen. The virtual set design will later be linked to the chroma key in the live streaming software media that support it along with the use of visual effects. The set-up greenscreen can be seen in Figure 8. Several procedures are needed in the video capture process to apply this VFX perfectly. This procedure includes camera layout, lightning, and greenscreen background size.



Figure 8. The Greenscreen Set-Up

A discussion of each of these procedures can be seen in the following description.

2.9. Camera Layout

Camera layout is vital in the process of capturing video podcasts with VFX. This is because shooting at a certain angle and distance will affect the editing process and the application of VFX. Camera layout includes camera layout and camera height settings [8-10]. The camera layout is divided into one main camera setup and two one-shoot cameras, as shown in Figure 9. The primary camera is 6 meters from the background/green screen. This can adjust the lens owned by the camera device. Meanwhile, the second and third cameras (one shoot) have 4 meters from the background/green screen.

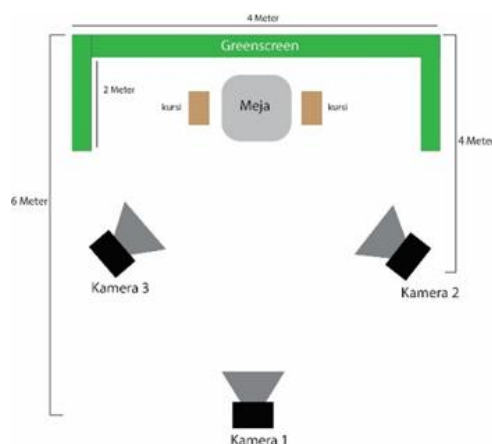


Figure 9. Camera Layout

The position of camera two and camera three facing each talent side to side towards the camera. The provision for camera two is a camera that focuses on recording podcasters, while camera three focuses on recording sources.



Figure 10. Camera Set-Up And Angle

Figure 10 shows a virtual set setup with a greenscreen view from the front. In terms of the camera height used in the production of video podcasts in this final project, it is approximately 1 meter or equal to the talent eye (Eye Level). In addition, determining the camera height also adjusts the greenscreen background used so that later there will be no leakage in the background during the recording process.

2.10. Lightning Layout

During the shooting process, the lightning placement really supports the video podcast's final quality. When shooting, the basic provision of lightning must emit light that is not too contrasty and must be spread out [8-10]. As for the layout, the main lighting is located behind the primary camera, and secondary lighting is located behind the second and third cameras, as shown in Figure 11.

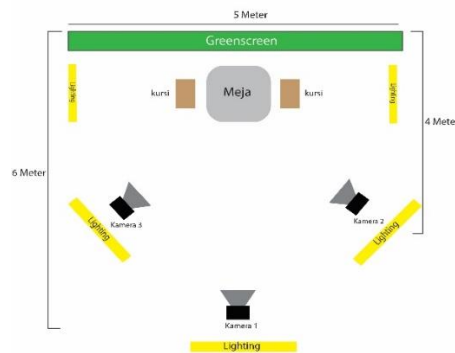


Figure 11. Lightning Layout

The function of this secondary lighting is to give light to talents whose sitting position is sideways or facing the direction of cameras 2 and 3. Meanwhile, the lighting on the right and left sides of talents is additional lighting that serves to beautify/give value to the virtual set later. On the other hand, the different lighting beside this talent also helps to cover the shadows that enter due to the lighting beam from the front side.

2.11. Green-Screen Layout

The recommended background-size to maximize the chroma-key is a green screen with a length of 5 meters and a height of 6 meters, as shown in Figure 12. The greenscreen will be better if the size exceeds the provisions because it will make it easier for camera operators to adjust the displacement and distance to the green screen. Greenscreen height is divided into three meters for the background and three meters for the base.



Figure 12. Greenscreen Size And Position

The virtual set background size previously made using a 3D blender has a width of 1920 pixels and a height of 1080 pixels. This resolution must be adjusted to the format specified in the recording software. This is done so that the chroma-key editing process can easily synchronize.

3. RESULTS AND DISCUSSION

This research mainly discusses the results of the application of VFX on podcasts, expert reviews, and analysis of the implementation of VFX on vMix software. Tests were carried out on experts who have been around for a long time and have names in the field of visual effects. The results of this review then become an input for the VFX results that have been made to be developed again in the future.

3.1. VFX Results Implementation on vMix Software

The results of the visual effects that have been created will be tested in the Vmix software. In general, vMix is a vision mixer software available for Windows operating systems. Like most mixing software, it allows users to switch inputs, mix audio, record output, and live stream camera, video, audio, and more files in resolutions up to 4K. The software can also cater to image enlargement (IMAG) and projection needs in many ways, with a wide range of output options and configurable external displays. The process of implementing VFX on vMix can be seen in Figure 13.



Figure 13. Video Editing With Vmix Software

In testing this VFX implementation, the visual effects formats are created into MOV, PNG, and MP4 extension formats. So, to determine whether these formats can be loaded in broadcast software, a trial is carried out to partially fulfill the objectives of making visual effects that can be implemented for the public. The results of the implementation of visual effects can be seen in Figure 14.

In testing the visual effects in this vMix software, there are no problems in its operation. All VFX formats can be implemented smoothly on vMix software. However, vMix is a paid software. Thus, the implementation of VFX using this software cannot be done by the general public.



Figure 14. After Editing Result

3.2. Expert Review

An Expert Review is conducted to ensure and review the materials and innovations of VFX made in this research. At this stage, experts advise and review visual effect material that can emphasize podcast video content. The person who reviewed this final project is

Ibrahim Jo (filmmaker and Visual effects on the Youtube channel "ArtodiPro") and Saifi Hidayatullah (tik-tok content creator who focuses on visual effects).

3.2.1. Suitable Level

VFX is commonly implemented in making videos, be it films, educational videos, and various other videos. Implementing VFX on podcasts is challenging because podcast content is more focused on discussion content than visual appearance. However, an excellent visual appearance is needed in an audio-video podcast to maintain audience interest. The audience's interest will directly determine the amount of watch-time a video podcast has.

Thus, the experts who assessed the results of VFX agreed that implementing VFX on podcasts was the right thing. Moreover, when the VFX concept is made into a set of templates that can be used as needed in the editing process or live-stream. The experts also considered that this VFX must be developed so podcasters could easily reach and use it.

3.2.2. Aesthetic Level

Based on the review results, the VFX that has been made is able to raise the aesthetic level of a video podcast. Apart from making videos more aesthetically pleasing, this VFX also enhances the interaction process between the viewer and the video itself. Podcasts basically have a long duration. VFX is designed to be an essential part of overcoming the low attention time that audiences may have so that the audience will still feel interested in continuing to watch the video until it is finished.

Even so, experts agree that the VFX produced can still be developed to be better in appearance. From a visual aesthetic point of view, the lightning for making and recording VFX can still be improved. Background imbalance problems arising during the recording and editing must also be corrected to produce high-quality videos.

3.2.3. Information Delivery Level

One of the uses of podcasts is to convey information. The public widely uses podcasts to listen to news, knowledge and share knowledge that can be played repeatedly. Implementing VFX is expected to support the process of delivering this information.

However, based on the review results, the experts considered that VFX could not make a podcast more informative. However, this VFX can make it easier to convey information by highlighting themes, illustrating information, and making the information contained in podcasts not monotonous. This VFX can make information delivery more comfortable for the audience to digest.

4. CONCLUSION

After creating and testing the implementation of VFX on a podcast which consists of one virtual set background and six visual effect templates, the following conclusions are drawn:

- 1) There are no issues with the operation of the vMix program when testing the visual effects. On the vMix program, any VFX formats (MOV, PNG, and MP4) may be smoothly implemented. But vMix is a paid piece of software. As a result, the general public cannot use this software to implement VFX.
- 2) Based on the results of expert reviews, VFX is suitable to be implemented in podcasts and can add to the aesthetic value of a video podcast. In addition, although VFX cannot produce additional information value, VFX can make the delivery of information more comfortable for the audience to digest.

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FUTURE WORK

There are several lack for this VFX, one of it is the imbalance background video which still need to be improve into high quality video. Beside that it still can be developed with another kind of VFX templates. The This VFX still need to be improved so that the podcasters can easily reach and use it.

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