A Storytelling Virtual Reality Approach for Interactive Film "Cahaya Cinta Perlahan Menyilaukan"

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Abstract. Virtual Reality (VR) technology has the potential to revolutionize education by offering unique, engaging and immersive learning experiences. "Cahaya Cinta Perlahan Menyilaukan" (You're the light of my life) is a Virtual Reality based Interactive Film. This project offers alternative way of learning vocational skills. The story in Interactive Film "Cahaya Cinta Perlahan Menyilaukan" is set at university, where the freshmen students who want to become a gaffer assistant for final-year students. This project has two episodes and each episode have three different levels of storytelling. The backstory structure for storytelling in VR is based on interactive film. The audience will learn about lighting through fascinating ways of storytelling in VR based interactive film. This study will dissect scenarios from each level of storytelling.

Keywords: Storytelling, Virtual Reality, Interactive Film

1 Introduction

The journey of film from theatre to digital cinema is part of the short history of cinema. However, cinema is part of moving images and digital moving images are also expanding into interactive images. Therefore, interactive digital cinema was born in various forms [10]. Such as, extended reality, augmented reality, virtual reality and other forms of interactive digital cinema. In this research, researchers produce interactive films with virtual reality.

Virtual Reality (VR) has the potential to revolutionize education by offering unique, engaging and immersive learning experiences. It provides a dynamic platform for interactive and experiential learning, catering to different learning styles and promoting collaboration among student. [2] As technology continues to advance, the possibilities for educational applications of VR are expanding, making it an exciting tool for the future of education. 360 video has the potential to bring a widely used tool for VR content production [2]. This enrichment enhances the overall experience of 360 degree videos and opens up possibilities for educational content. This paper approaches the VR treatment, nodes represent story-relevant situations, and edges represent user interactions or self-triggered transitions. The authoring system also includes functionalities

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such as storyboarding and event scripting [2]. Through the Virtual Reality (VR) storytelling the audience can become the main character and feels as if, they were involved and take action during the film [1]

Cahaya Cinta Perlahan Menyilaukan (CCPM) is a Virtual Reality based Interactive Film. This film was developed in order to bring an alternative way of learning vocational skills, especially in a film production environment. This film was produced by the Film and Animation Department at Multimedia Nusantara University with fully supported equipment grant from the Ministry of Economic Coordination and Germany based developing organization "GIZ". The content developed in this film is based on SKKNI no. 154 tahun 2020 about National Competency as a Lighting Operator in Film Production industry.

Basic Lighting is essential for film students, but not all student have the access to learned about lighting properly. Lighting plays a fundamental role in creating the atmosphere and aesthetic of a film. By understanding basic lighting techniques, film students can effectively communicate their intended messages. Beside that, lighting is an essential component of the cinematic language. Different lighting setups, such as high key or low key lighting can evoke specific emotions or set the tone of a scene[4]. Last, working with lighting requires problem-solving skills, adaptability and safety procedure. Film students must learn how to troubleshoot lighting issues, learn about electrical safety, equipment handling, and the importance following industry standards.

2 Storytelling Treatment in Virtual Reality

2.1 Implementing Storytelling for Virtual Reality

According to Bucher [3], storytelling in VR heavily relied on the traditional structure of storytelling. He mentioned in his book that it's essential to develop a story using interactive three-act structure, interactive five-act structure, and interactive beat-based structures to talk about the journeys of characters. But one interesting structure of storytelling is the back story structure. This structure offers an experience of the preparation for character journeys instead of journeys of character.

Berger [6] defines that there are many ways to enjoy the narrative offered in VR experience but not many accesses to enjoy the narrative presented for various reasons. Therefore, it is mandatory to conceptualized the narrative at a stage including various inputs from other departments working together in the VR creation project. It is highly recommended to create a detailed narrative.

This research uses backstory structure by Bucher [3], helps users familiarize themselves with the controllers or gear, either outside or within the virtual environment with a simple structure with three elements. First, the explanation element introduces words, text, graphics, icons, or other intuitive suggestions, how the user interacts with the virtual world that they are about to enter and make decisions. The definition of these elements may be defined explicitly or instead implicitly implied through a variety of means, such as the first act or set-up in dramatic structure.

Second, Options offering allows the user to choose the options that are mentioned in the explanation. Users have time to compare the choices and change their mind several times before choosing the options. This concept is the transition scene between the first and second acts in dramatic structure. The last is practice that allows the user to experience the choices that they made. In this phase, the user is allowed to return to the offering options in order to select another choice.

Based on the storytelling in VR from [3], the implementation of VR Storytelling Treatment into VR Project titled Cahaya Cinta Perlahan Menyilaukan below:

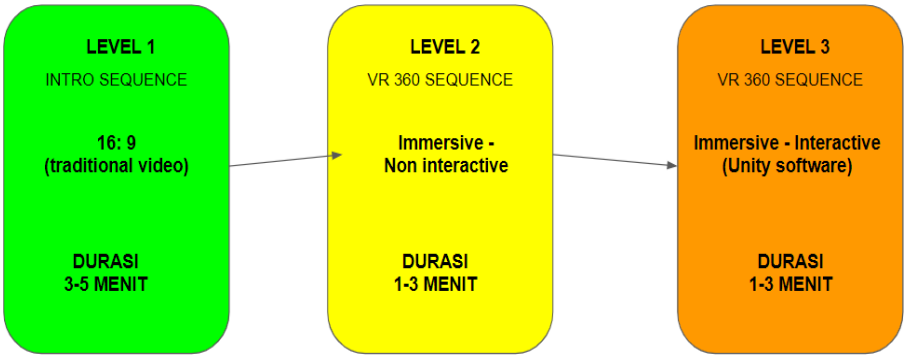

Fig. 1. Three level of Cahaya Cinta Perlahan Menyilaukan VR Storytelling Concept

Before entrance level 1, the layer of explanation of Cahaya Cinta perlahan Menyilaukan is introduced to the audience through words, text, graphics and icons. Word and text include the information about the story world in Cahaya Cinta perlahan Menyilaukan. The graphics illustrate the title and the icon as the button to enter the program. This moment gives the user the opportunity to familiarise with the program and VR tools. Then, in level 1 is the first act that sets up for dramatic structure to know the character's journey. Characters in Cahaya Cinta Perlahan Menyilaukan are realistic characters that have more impact to the user to emphasise the story of character's.

After the user knows the story of character's, they will move to the next level. This transition of level concept is the way to guide the user to a new phase. In Level 2, the audience gets information about the tools in lighting for their knowledge before going to the next step. The user will have options offering and practice in level 3. Level 3 offers the audience use of information that has been known from level 2 to answer the questions. Users will have time to choose the right answers based on their knowledge and would have advantage to choose other options.

2.2 Script Breakdown for Interactive Film Cahaya Cinta Perlahan Menyilaukan

Interactive film "Cahaya Cinta Perlahan Menyilaukan" take a set at university. The synopsis for this film is about the drama between Leica (18 years old), Sony (22 years

old) and Alexa (20 years old). Through Fuji as narrator, audience get to know Leica (18 years old), a freshmen students who has a crush on his senior, Sony (22 years old). Previously, Sony opened a recruitment for gaffer assistant for Alexa's film assignment. Alexa is a Sony girlfriend and also a director of photography for the film project. Leica applied to be a gaffer's assistant using Fuji's portfolio.

During this film, at first level or stages the audience will be introduced to the problems of this film. At the first level, the film design to shoot and use screen ratio 16:9. The audience has a perspective as the third person or as an all-knowing person. Audience will see Leica push the trolley through the campus lobby, then get a call from Sony to pick up the lighting equipments at Lumi's Studio. The scenario in both episode at first level designed for character introductions and job roles from each character for lighting department. Through Fuji's narration as the narrator, the audience will be guided to become a third-person perspective. As Bucher said previously, storytelling in Virtual Reality offer an experience of the preparation for character journeys [3].

2 I/E. LOBI - PAGI

Kampus masih sepi. Suara langkah kaki LEICA (19) yang terburu-buru MENGGEMA di tengah lobi kampus bersautan dengan SUARA TELEPON. Memang agak kontras melihat Leica dengan dandanan *edgy* khas gadis jaksel mendorong-dorong troli. Airpods menempel di telinganya.

FUJI (V.O.)
(seperti narator atau announcer bicara ke penonton)
Ini kisah tentang Leica. Mahasiswa baru di jurusan film. Leica lagi naksir berat sama kakak tingkatnya. Namanya Sony. Kemarin Sony posting info kalau dia lagi butuh tim lighting. Saking pengennya deket sama Sony, Leica ngaku-ngaku paham lighting. Showreel gue dia pake buat apply.

Leica melihat *smart watch*-nya, muncul tulisan "Kak Sony calling..."

Fig. 2. Script Level 1 Interactive Film Cahaya Cinta Perlahan Menyilaukan

Through level two the audience perspective will change to first-person. The audiences point of view from third-person perspective changes to perspective of Leica. The audience will be immersive into the film and through the characters point of view[3]. The audience will see the situation at Lumi's studio. Leica will find description of each lighting equipment and had to pick up some type of lamp to use on the Alexa's shooting set. In Virtual Reality spatial immersion refers to the feeling of being actually there, physically [8]. When this happens, the brain recognizes the virtual world as if it were the real one.

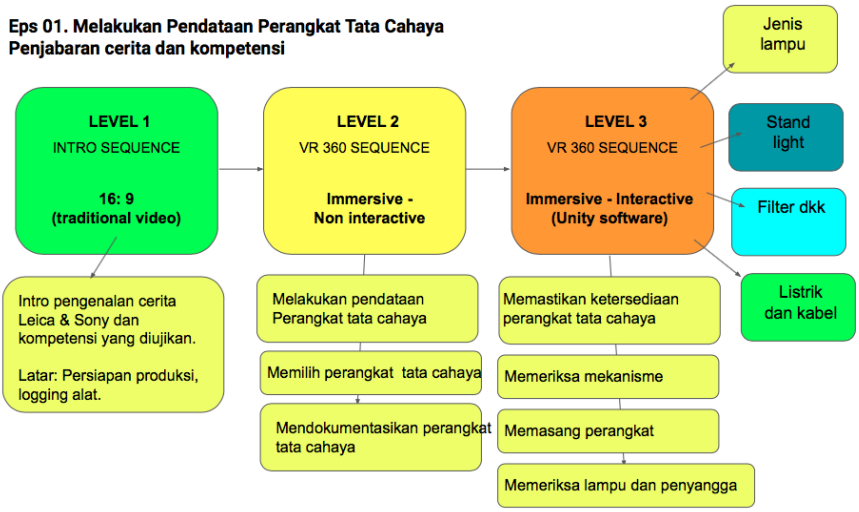

Fig. 3. Three level mapping script of Cahaya Cinta Perlahan Menyilaukan Script for Episode 1

Through level three, the storytelling is not only immersive but also interactive. The audience will face problems and must answer questions according to the lighting competency standards. Each episode at level three, has 3 questions that must be answered by the audience. After they choose the right answer, there will be 16:9 videos explaining basic lighting techniques and safety procedures. Level three, design just like games, when the audience has the control through VR to choose the answer[3].

3 Project Overview

This project was part of the TVET program initiated by the Ministry of Economic Coordination in collaboration with the Germany based organization called "GIZ". The purpose of the program is to develop content material in order to improve vocational skills through the use of Virtual Reality medium. The Film and Animation Department at Multimedia Nusantara University was selected among nine other institutions to receive a full production equipment grant. As part of the grant, there is a mandatory request to develop one content based on topic and speciality from each institution. Hence, the film department decided to develop a VR based interactive film about basic lighting.

Interactive film Cahaya Cinta Perlahan Menyilaukan (CCPM) tells a story through the narration of Fuji (20), who is introduced to Leica (19), a freshman who's crushing over Sony (21) a final year film student. Recently, Sony is looking for a gaffer assistant to help him in an assignment, where Sony himself will be the gaffer. Leica, who didn't want to miss this opportunity applied and claimed that she's used to handling lighting equipment during her high school years, despite in truth she didn't have any speck of

knowledge regarding cameras. Thank heavens that Fuji was kind enough to let her use his portfolio as her own.

This interactive film is divided into 2 episodes and each episode has three levels of storytelling. At the first stage audience will be watches an ordinary film with 16:9 screen through VR. At this stage the audience is introduced to the story and characters as well as the conflict of the story. Then, at the second level the audience enters the shooting set with a 360-degree view, observing lighting equipment and supports. There are various equipment of lighting and seems so real and close. Whenever the audience points to the lightings there will be pop up information about the description and technical aspects. At the third level or the last stage, the audience faces a problem and chooses one of three answer options. There's a pop-up quiz that have to be answered. If the answered wrong, the audience will be notified of the correct answer. If they choose the right answer, then the video will be pop up and explain the use of the lighting.

These three levels were intentionally developed so the audience can understand each level of storytelling as well as technical aspects of the lighting. An integrated internal story player enables logical traversal of the story. These interactive elements at the level two and three allow the audience to experience the shooting sets. It also encourages critical thinking, problem solving and decision-making skills.

4 Research Methods

The research methods for a storytelling VR approach for interactive Film "Cahaya Cinta Perlahan Menyilaukan" involved qualitative research methods. Before creating the VR storytelling experience, researchers collect various forms of data based on [7] observation, documents and audiovisual information. Documents retrieved are literature sources such as journals and books that have information about storytelling, virtual reality and interactive films.

Observation in this research, The director makes direct observations on the story concept that has been prepared through the script to determine the visualisation in the interactive film Cahaya Cinta Perlahan Menyilaukan. To fulfil the needs of this observation, the director looks for audiovisual data that can be a reference for this research. The audiovisuals used are related to 360 videos, and virtual reality featuring interactive films. Then, researchers gather all the data as the guidance to the next step for creating the virtual storytelling experience.

5 Conclusion

Storytelling in Virtual Reality offers a captivating and immersive experience for participants. The ability for participants to have one on one moments and influence the

narratives creates a sense of agency and personalization. When creating VR experiences, it is important to consider key elements such as the three-act structure and actual characters. While, the traditional three-act structure can be applied in VR storytelling, it should be modified to allow for interactivity and user-driven choices. In this case, we developed the story using backstory structure by Butcher [3].

Fig. 4. Level 1, a 16:9 Chapter Inside A 360-Degree Environment

As we mentioned above, we developed the story in our interactive film "CCPM" into three different levels. The first level is the "explanation" of the background story and character introduction, a brief explanation of the character's problem also introduced as a transition to the next level. In the level two, we started to "offer some options" to the user by giving them a look of the lighting equipments inside a 360-degree environment. Before moving on to the third level, we put a cliff-hanger problem to the user so they could get more engagement into the story. In the level three, we applied the "practice" concept as we enter the interactivity using game experience. We translated this level as a phase that allow the user to return to the offering options, so they learn what we offer in terms of the content material, which is basic lighting equipment.

Fig. 5. Level 3, A Quiz/Game Chapter with Three Different Options to Choose for Practical Reason

This film has two episodes, each episode tells a story with different characters and job responsibilities. The first episode tells a story about Leica, who happened to be a gaffer assistant (best boy electrician) and failed to perform her tasks. The second episode tells a story about Sony, who supposed to be a Gaffer. However, due to the lack of his ability in basic lighting he also failed to performed his job. In terms of storytelling, there is no different from the two episodes.

Storytelling in Virtual Reality hasn't much difference with storytelling in conventional filmmaking. We are still using three act structure to engage with the audience or in terms of VR is the user. We tried our best to understand the VR capability and its expansion to the immersion, presence and different sets of perspective. Even in level 1 we still put the story in a framed cut to cut shot sized format to give the user the sense of watching a film instead of suddenly immersed in a 360 degree experience. Hence, in level two we introduce the possibility of 360-degree experience by giving the user a first person Point of View of the characters.

With the hope that the user will be more engaged with the story and its content material. In the level three, it's more of the practical experience and a recall to what's actually the user learn from the previous level? Adding additional layers of experience can deepen immersion and engage the audience on a deeper level. This can involve incorporating elements such as interactive elements, explanation elements or multi-sensory feedback. The explanation element introduces audience to the interaction techniques and decision making process within the virtual world.

Overall, VR Storytelling is a powerful tool that can expand audience experience into virtual reality. This medium allowing audiences to shape the narrative and have immersive, impactful experiences. VR for educational purposes pushes the boundaries of VR technology and can enhance the potential of VR as a storytelling medium.

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