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# Visualization of an Animated Documentary with a Hybrid Animation Techniques

“Broken Faith” a Hybrid Animation short film by Christine M. Lukmanto



## Abstract

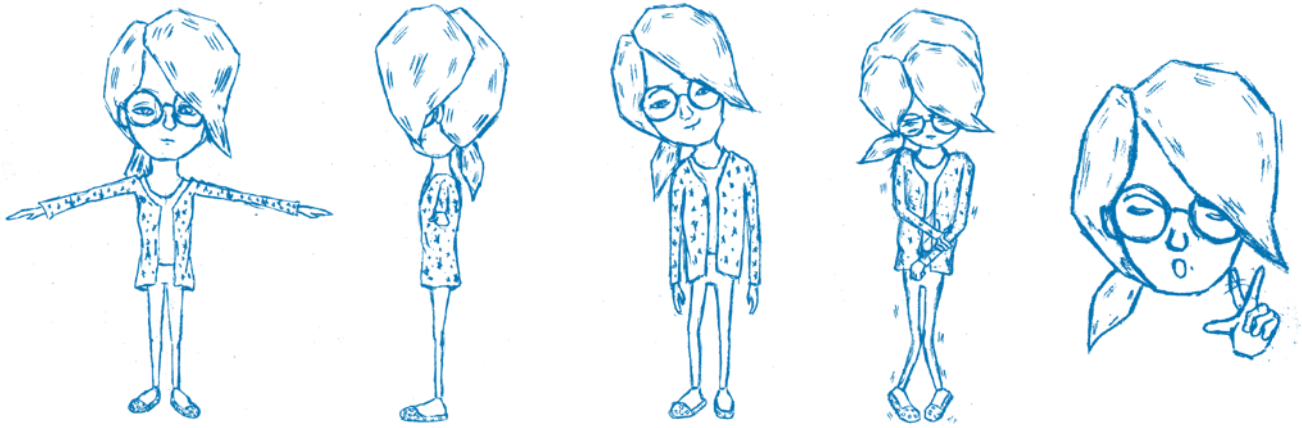
The research discussion is on how to create a documentary animation with a 3D character form and 2D environment form in a short hybrid animated film with titled Broken Faith. In this animation project “Broken Faith”, the filmmaker re-creates the emotional experience of being haunted by the fear of losing sight. In Broken Faith, it set out to challenge the usual animation process by working in a hybrid style that utilized 2D backgrounds with 3D characters. A hybrid concept is chosen as visual style in order to represent the feeling of the toughness of the world through art lines and the stiffness of the character of a low polygon modeling. This concept benefits the filmmaker to minimize the production time and to optimize the visual that suited to the concept. The aim at this immersive film is to create an experience that allows the audience to engage in the world of limited sight.

**Keywords:** hybrid animation techniques, 2D and 3D animation, animated documentary

## 1 Introduction

In the recent years, the fast growing technology has become remarkable in animation world; it proved by a very noticeable visual in 3D and CGI movies. The variety medias of animation film are no longer in one independent medium of a stop-motion, 2D animation and 3D animation. Nowadays, filmmakers tend to stretch the boundaries by combining the techniques to create a unique visual and an absolute experience to the audience. [6] Dreamworks Feature Animation has been working on developing new 2D features of 3D programs. [2]

The researcher decided to use hybrid animation based on the phenomenon by using 2D and 3D media to visualize the story to the audiences. 2D Animation is a technique of animation using hand drawing. The art lines are to convey the feeling better as it communicates with different kind of strokes such as horizontal, vertical, diagonal, straight, curved, thick and thin. Whereas, a low 3D polygonal would give a different feeling toward the movie, the edge of the polygon shows how rough, edgy and stiff the character is. These are the based reasons for the researcher in using the hybrid animation technique.



**Figure 1.** Character design for Broken Faith

Broken Faith is a documentary film, which is inspired by the personal experience of suffering from Recurrent Corneal Erosion and the hardship of navigating through the world with impaired vision. It would be a two-minute short 3D animated movie. The originality of the film is combining the informational and physiological of terror in losing sight to a hybrid documentary animation. Figure 1 displays the 2D character design done digitally. The design acts as a guide to the low 3D polygonal modeling.

## 2 Purpose Research

The aim at this film research is to let the audiences come to understand of having impaired vision, the fear and pain of its experiences will be designed and visualized with a hybrid animation utilizing 2D and 3D medium. The participants are expected to feel both informational and physiological of its terror and response to the situation physically and physiologically.

## 3 Literature Review

Good artists improve themselves on storytelling and in visual art. Most of the storyteller would tell story based on their personal experiences or someone's experiences in a particular event. The purpose of documentary considers as educational film for the audiences. [4] This film can also provide an opportunity to use new techniques in creating an animated feature. [1]

Animated Documentary is important to animation scholarship and film studies scholarship. Honess Roe argues that this is a great technique to inspire the audiences and to give more room

for innovative ideas. As it is a fundamentally experimental, this constantly challenging the perception of the definition of animation and documentary. [3] According to him, the fundamental of animated documentaries are experimental and innovative. Early animated film "The Sinking of Lusitania" by Winsor McCay in 1918 is one example of animated documentary. [5]

A hybrid film by combining 2D and 3D animation media has been utilized by a lot of animation studio such as Disney, Pixar and other animation studios. Disney firstly used this technique in their film "The Great Mouse Detective" and later in their featured film "The Black Cauldron". [6] Some reasons for a filmmaker to decide mediums for the film are the visual target, line mileage, complexity, team skills, production schedule, physical assets and budgets. [6]

## 4 Personal Documentary Experiences

The creator bases the story for Broken Faith on a personal experience. In September 2014, she suffered from Cornea Uclear, which is an open sore in the outer layer of cornea. It started with eyesores at the time of awakening, redness and an extreme watering. Broken Faith is an animated documentary based on a particular day where the character found herself lost in her home and having to go to the eye hospital with her.

In 2015, she found out that she suffered from Recurrent Corneal Erosion, a disorder of the cornea due to a history of previous injury. The cause of the injury was unknown but it leads to an extreme pain, watering and sensitiveness to the light which results in a distress opening her eyes. In order to ease the pain, she managed to walk to eyes hospital where the doctor decided to do a surgery to cut the broken cornea.

## 5 Broken Faith

In Broken Faith, the story begins on that day when the character wakes up with eye pain and how she tries to put the eye drops. The awakening is the most painful time as the eyes are dried and the cornea skins stick to the eyelid. She also remembers the trip to the hospital where she starts to act like a blind people. The experiences of how scary it is will be reflected one the visual of the movie; as she hears the sounds of the vehicles, the peoples and the winds but not knowing where it is. With a first person point of view angle for some scenes, it relies on the visual for the audience to feel her experience.

## 6 Metode

In order to maximize the utilize the 2D art lines and low 3D polygonal, the fear and pain of its experiences will be designed and visualized with a hybrid animation using 2D and 3D media by using Adobe Photoshop, 3Ds Max and 3Ds Maya. Broken faith would be targeting the audience around 20s to 30s, as usually around this age, people would struggle to find themselves, their faith.

The researcher tries to create a movie with some aspects of reality to engage the audiences across two mediums with a hybrid concept. In this case, it was for a visual target. The filmmaker believes 2D and 3D visual as the best visual style as it considered showing emotions better which would be helpful in the making of the video. It represents the feeling of the toughness of the world through art lines in 2D and the stiffness of the character through a 3D low polygon modeling.

## 7 2D background

In Broken Faith, the main environment for the character would be in her room. This room is designed as a small studio apartment, which combines bedroom, kitchen and dining room into single room. It is small that it does not have living room. The kitchen and dining room are located between bedroom and bathroom. A small bedroom is located next to the kitchen that really close to the bed (Figure 2)



**Figure 2.** A Sketch of a bedroom for Broken Faith

There are two other environment sets in Broken Faith. Both the streets and hospital are very significant in visualizing the emotional experience of losing sight; as the character goes to the doctor with eye pain. Many passengers walk pass through the street where she wonders around with her limited sight until she actually arrived in the hospital. The set of the hospital with eye-test equipment will be shown for the moment where she has a small operation getting her eye skin removed.

The process in the making of a hybrid animation for Broken faith will be supported by Adobe Photoshop as a strategy to achieve the 2D medium in designing and visualizing a small studio, street and hospital.



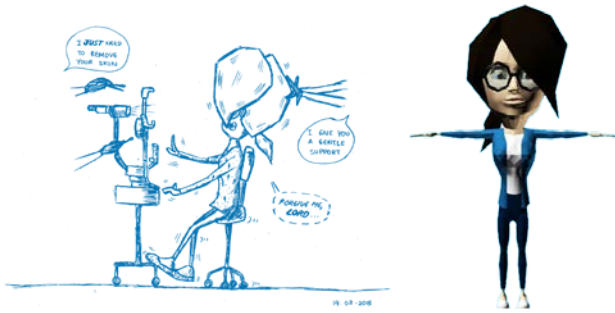
**Figure 3.** 2D background and 3D objects in Broken Faith screenshot

## 8 3D Character

The design of the character is based on the visual of the researcher who experienced a personal incident, suffering from eye injury. Its design is expected to be unique by visualizing some special aspects on her to create a character that has personalities and physiological traits. The design takes the three dimensional characters; physiology, sociology and psychology into a consideration. Within the process of design, data of her appearance perception from her close relations has been collected her through interviews. Some of them would describe the person as:

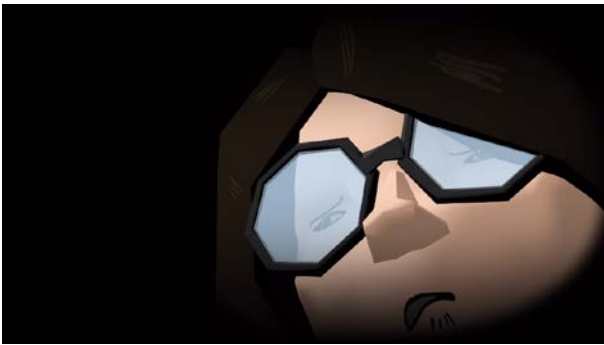
- 'A tiny Chinese girl with small eyes and she wears glasses.'
- 'Small structured, fashionable with kind of tomboy edge to the outfit which is pretty rad and pretty.'
- 'A boutique girl with black thick hair. She wears a pair of black framed glasses.'

Through these aspects, the creator affirms it as references to its character design. A 3D low polygon modeling represents the stiffness of the character.



**Figure 4.** 2D sketches of a character and a 3D T-pose

However, there are still 2D aspects in texture; one of the remarkable aspect is combining 2D facial expression textures with 3D model for the morphing. Figure 5 illustrates how it looks like in Broken Faith film.



**Figure 5.** Close up of a character in Broken Faith screenshot

## 9 Bedroom Visualization

The setting time is the early morning where the windows closed and covered with blinds, thus not so much light in the room. Due to her eye pain, she is a bit sensitive to lights. The color displayed for the bedroom with dark blue with white stokes, the only 3D objects in the movie would only be the character and her accessories. The researcher tries to make a contrast between character and environment but still in the same tone.

Most of the angle camera that is used for this environment is first person perspective, which means that we see the world through a character's eyes. The purpose using this angle is to bring the best experience for the audience to feel what she sees. The camera is blurry because it represents how she sees the world with blurry eyes and watering eyes. It creates physical nuances to participant responses toward the fear and distress.



**Figure 6.** Bedroom scene in Broken Faith screenshot

## 10 Street Visualization

The street is significant in showing where the fear starts to build up more as the character struggles navigating the street to the hospital. It shows the experiences of hearing the sounds of the vehicles, the peoples and the winds with impaired vision. The character wonders around the street with her limited sight until she actually arrived at the hospital.

In order to tell the different time and place, the filmmaker utilizes a different color, which is green. The passengers are drawn with a white transparent as if they are just spirits. In terms of the shape, the filmmaker sets out cubism as its visual art style; matching it with the 3D low poly character.



**Figure 7.** Navigating the street in Broken Faith screenshot

## 11 Hospital Visualization

The hospital is where the character has a small operation by taking the outer skin of the cornea. The whole hospital area does not appear in the movie, it is only shown with a symbolic by using hospital color and eye hospital property and equipment. The eye checkroom normally has the eye-test poster sticking on the wall and they have tool for the eyes examination. The design has been demonstrated in Figure 8.



Figure 8. Hospital scene in Broken Faith screenshot

## 12 Eye Pain Experiences

Visualization in the broken faith is very crucial during the times when the camera is located in the eye of the character. This is called first person perspective angle of camera in order to let the audience see what the characters see, to improve the experiments of having impaired vision.

The blur effects and the chromatic aberration effects give a better experience for audience in immersing in the character's world. The blur effects are there to show how blurry she sees. In order to let the audiences, feel that her eyes are not focused due to incorrect lenses, the filmmaker try to use colored fringes which shows the refraction of different wavelengths of electromagnetic.



Figure 9. First person perspective in Broken Faith screenshot

The usage of overlay with layers is to emphasize how the character struggle through her journey, making the visual uncomfortable for the audience. In this particular scene, the overlay between the face of the character and the incident of her trauma gives information to the audience what the character sees in their head. This technique can be effective to show a show in between two different actions in one period or even in between two different periods. These differences are shown in Figure 10 and Figure 11.



Figure 10. Overlaying between two shots in a current time in Broken Faith screenshot

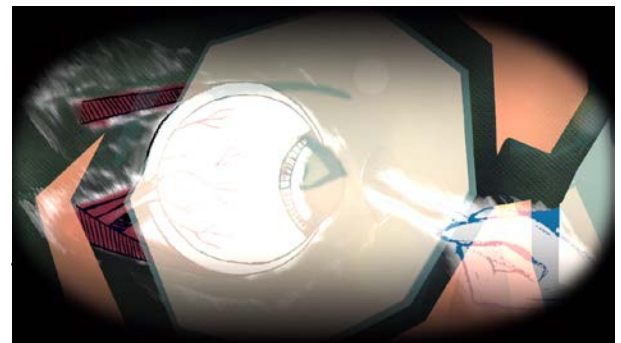


Figure 11. Overlaying between two shots in a current time in Broken Faith screenshot

## 13 Conclusion

It has been a pleasure for researcher to be focusing on the experiences of someone that is burdened with the fact that she is having eye infection and she is haunted of the terror of losing sights. This documented animation has helped the author to express her emotion throughout the film. By using 2D character and 3D environment, it is easier to get the sense of how edgy and sentimental the experience is. However, having a 2D expressions of 3D model was a bit challenging on technical sense. Although it was manageable using material with some texture in 3Ds Max.

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