3D Animation Silent Movie Entitled “The Seed” : Research for Level of Understanding Compare between Male and Female

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Abstract  The purpose of this research was to create 3D animation silent movie presented about story of one man who wants to save the world from dying by global warming. The process of creating this movie was divided in to 5 steps. First, set limitations and scope of the story. Second, design the structure and plotline of the story. Third, design characters and scene of the story. Fourth, create characters and scene movement into 3-Dimension using the computer graphics program into video format. And the last, evaluation of 3D animation silent movie as following: 1) Evaluate quality of movie by experts. 2) Evaluate satisfaction from viewers of the controlled population. 3) Interpret the level of Understanding Compare between Male and Female. The result of evaluations present a good outcome with an average of 3.55 from experts and the average from the sampling group was 4.02 which present a good result level and the level of understanding compare between male and female was no different. It can be concluded that research can be used as a media for attract audience attention because of the overall atmosphere of the scenes come out nearly realistic and also have an excitement and more interesting in 3D animation.

Keywords  Silent Movie, Animation, 3D, Media, Comparison of Understandings

1. Introduction

Advancements in information technology have been fast growing presently, and the introduction of 3D Animation has played a big role in today's daily lives of people including education sectors for example animations used in presentation. The use of 3D has entered especially into the entertainment sectors including television, 3D computer graphics or even movies. This technology has been widely accepted and become popular amongst the people today.

Story of space is about mysterious and difficult to understand about. Several movies have been brought the space which represents the image of something that hard to imagine. Such as “Space Odyssey 2001” is the movie which almost a silent movie but only music melodically but the story so incomprehensible. It has been interpreted in many ways as the audience to imagine.

And as we have known that the level of understanding of male and female were so different. So, 3D Animation movie was inspired to represent mysterious story which could makes research for level of understanding compare between male and female.

2. Research Objectives

To develop this 3D Animation silent movie entitled “The Seed” for evaluate the quality by 3 experts then determine by sampling group for satisfaction and determine the level of understanding about story comparison between Male and Female.

3. Population and Sampling Group

3.1. Experts

The study consisted of 3 experts. Each expert is specialized in their own area as follow: the contents about global warming, the 3D Animation skills and the video cutting/editing technique.

3.2. Scholars

The study consisted of 172 undergraduate students majoring in Applied Computer Sci-ence-Multimedia, Faculty of Industrial Education and Technology, King Mongkut’s University of Technology Thonburi. There were 86 male and 86 female students chosen through simple random sampling method.
4. Procedures for Creating 3D Animation Silent Movie

4.1. Study in Theories

4.1.1. Principle of Story-Making [1]
Drafts for the character screenplay would be written along with the stories. Details would be included in each event with time frame, location, characters and conversation. The angle, the color and the atmosphere could be set up to make them clear.

4.1.2. Principle of Cartoon Design [2]
This principle is aimed to develop a better approach which would be useful and also aesthetic. To do so, the purpose of the contents in the stories must be considered so that they could be presented to reach out to the target audience with a clear message.

4.1.3. Creation Procedure of 3D Computer Graphic for Animation [3]
First, 2D outlines were used as the template for the 3D computer graphic software and then they were adapted by including volume and dimension before being transferred for image processing in 3D system.

4.2. Pre-Production: Analysis of content

4.2.1. The Concept
The concept is to present the story that is quite complicated, so it would be enough to be understood and can interpret most correctly after watching 3D Animation silent movie.

4.2.2. Story
The story is about a one man who needs to save the world from dying after global warming attacking by go to planet NW9 as shown in figure 1, Then he starts to find some plants or seeds back to regenerate again for new life at the world.

4.2.3. The Scope
The presentation length would be around 3 minutes. The music would be added. The characters, scenes and the environments would be designed to be beautiful.

4.3. Production: Making Models and Textures

4.3.1. Sketch design
Firstly, spacecraft, space suits, characters and planets were designed and sketched on paper, then scanned and added more details and color in computer’s graphic application as shown in figure 2. Some of them have been taken to develop for a texture which will use in three-dimensional model.

4.3.2. The 3D Model
Three-dimensional models were built using the ratio of actual human anatomy reference for most realistic appropriate size to a spacecraft and buildings was made up to be natural look to the audience as shown in figure 3.

They were created and texture was specified according to the design. The resolution of the file needed to be set up so that the image file size was reasonable without jaggies as shown in figure 4. The principle is that the reality of the
texture will make the characters more real and more reliable.

4.3.3. The Movements

They were designed by placing focus on the sequence of the main story, control animation by vector line which handle most of body’s joint as shown in figure 5. The light was set up for the scene and the environment so that the characters could express their feelings as specified.

4.3.4. The Environment Sounds and Effects

It had to reflect the feelings of each scene. The audio files were recorded and stored in the WAV format for further process.

4.4. Post-Production: Render and Composition

4.4.1. Composition

It was done by putting all characters, scenes and environments together and then adding decorations and effects.

4.4.2. Animation

It was created by converting from AVI format without compression into MPEG format to reduce the size.

4.5. Evaluation

Evaluation by the experts in terms of its quality and evaluate satisfaction from sampling group.

4.6. Programs

1) Autodesk MAYA 2011 was used to create 3D Model of main characters and to render them as shown in figure 6.
2) Google SketchUp was used to create Model of houses, buildings and other objects as shown in figure 7.
3) Adobe Photoshop was used to create the interior decoration and the surface to be used with 3D Model.
4) Adobe Audition was used to record voices, narrations, sound effects and music.
5) Adobe Affect Effect was used to decorate, change color and tone as well as add various effects.
6) Adobe Premiere was used to cut and gather cartoon animation clips until completion as shown in figure 8.
are beautiful, Suitability of Texture in the model and the scene, Realistic of the character designs, Suitability of voice music and sound effects, 3D Animation silent movie is interesting. The media satisfaction was good level which means higher than the average score as show in table 2.

Table 1. The results from the quality assessment by experts

| Item to be assessed                        | Mean | SD  | Ideal/meaning |
|-------------------------------------------|------|-----|---------------|
| 1. Suitability of elements inside the media | 3.36 | 0.72| Moderate      |
| 2. Design                                 | 3.95 | 1.08| Good          |
| 3. Media effectiveness                    | 3.28 | 1.06| Moderate      |
| 4. Sounds                                 | 3.75 | 0.62| Good          |
| Total                                     | 3.55 | 0.62| Good          |

According to Table 1, the quality as assessed by the experts for 3D Animation Silent Movie Entitled “The Seed” was 3.55 on average, or at good level.

Table 2. The results from the satisfaction assessment by sampling

| Item to be assessed                        | Mean  | SD  | Ideal/meaning |
|-------------------------------------------|-------|-----|---------------|
| 1. Suitability of Perspective of the camera. | 4.19  | 0.66| Good          |
| 2. Suitability of elements inside the media | 4.03  | 0.72| Good          |
| 3. The clarity of the images and scenes.  | 4.11  | 0.70| Good          |
| 4. Suitability of the story.              | 3.80  | 0.72| Good          |
| 5. Realistic of the character designs.    | 3.96  | 0.69| Good          |
| 6. Models design and scenes are beautiful | 4.06  | 0.72| Good          |
| 7. Suitability of Texture in the model and the scene. | 4.12  | 0.66| Good          |
| 8. Realistic of the character designs.    | 3.97  | 0.75| Good          |
| 9. Suitability of voice, music and sound effects. | 3.99  | 0.74| Good          |
| 10. 3D Animation silent movie is interesting. | 3.93  | 0.75| Good          |
| Total                                     | 4.02  | 0.72| Good          |

According to Table 2, the satisfaction as assessed by the sampling for 3D Animation Silent Movie Entitled “The Seed” was 4.02 on average, or at good level.

6. Conclusions

The research on 3D Animation silent movie entitled “The Seed” could be concluded and discussed as follows:

1) According to the assessment by the experts, it was found that the media effectiveness was at good level. The media was realistic. It was suitable and unique and not so hard to understand. Therefore, the 3D Animation silent movie entitled “The Seed” was of high interest.

2) According to the evaluation by the sampling group about their satisfaction, it was found that the story was interesting and the meaning was conveyed very well. The music and sound effects are also consistent with the picture. The character also has a unique designed with a fabulous armor. And ambience of the scene was made out nicely realistic. The character models were beautifully designed with uniqueness.

3) According to the level of understanding compare of sampling group. After watch 3D Animation silent movie entitled “The Seed”, Male can understand about points of the story especially in the importance of trees and environment in 62% while female is 63% as shown in graph 1. About the overall story meaning, male understanding 64% while female is 63% as shown in graph 2 which mean that the level of understanding compare between male and female was no different.

7. Short Analysis of Technics for the Creation of 3D Animation

Creating 3d animation should start from good design. Determine the materials to be used in the texture as well as color. Because of initially well designed will be applied to mapping to screen of 3d application for creating model more simplified.

1) Creation 3d model should be use minimum number
of polygon as much as you can, but keep balance between quantity and quality to avoiding jagged appear.

2) Knowing how to use detailed and appropriated texture resolution is more important that will cover and make audience overlook the notches of the reference model.

3) To study the movement, “Just cloned the movement of living things” I said, the more you can emulated, the more naturally life you can make.

4) Place proper position of lights and build some conformable atmosphere make it more realistic. A good placing the light is make plot it as least as possible and let they doing their works, try to not put them too much because it will difficult to control the direction of the light source. Moreover, a model consists with a lot of many polygons itself which combined with unnecessary numerous amounts of lights just only harder and took a long time to rendering. Sometimes, it doesn’t make any difference from easily nor difficulty work. Just do it simply but always keep in your mind that you didn’t making it, you creating it.

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