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디지털 미디어예술에서의 삼학

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요 약

인간은 오랫동안 이미지를 만들어왔습니다. 황토, 숯, 적철광을 염료로 사용한 구석기 시대의 동굴벽화로부터 마야 같은 3D툴을 이용한 현 시대의 디지털 영상까지 오랜 역사만큼 다양한 방법으로 만들어졌습니다. 그리고 그 사회를 구분하는 것은 인간과 기술의 발달입니다. 기술, 인간, 예술 이 세 가지를 알아야 시대성을 가진 이미지를 만들 수 있습니다. 그래서 중세에 수도사들이 학생들에게 가르쳤던 트리비움(Trivium) 삼학을 가져와 디지털 시대의 삼학이라고 주제를 정했습니다. 본 논문은 기술, 인간, 예술을 실제 애니메이션에 적용해보면서 이론적 논의 가치를 확인해 보도록 하겠습니다.

키워드 : 디지털 영상, 기술, 인간, 예술, 시대성, 에니메이션

The Trivium of the Digital Media Art

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Abstract

Mankind has long made images. From cave paintings in the Old Stone Age when the dye was red clay, charcoal, or red iron ore to the modern digital images on the bases of 3D tools like Maya, images have been made through various methods. The basis of society's classification is the development of human beings and technologies. When we are familiar with three elements－technology, human, and art－we are able to create an image suitable for the trend of the times. As a consequence, we brought the trivium that had been taught by the monks in the Middle Age to set our subject to the trivium of the digital age. In this paper, we are going to put technology, human, and art into actual animation to check its theoretical discussion value.

Keywords : digital imaging, technology, human beings, art, trend of the times, animation

1. Introduction

An image can convey the thoughts of its maker while also embodying the state of technology of the time. Artists often apply the latest technologies to create images that reflect current viewpoints and technical trends. To begin with, we are going to associate the past image with the trend of the times and apply the pattern to the present age to figure out what kind of image the present age is seeking.

The first images created by humans are thought to be mural paintings. The mural paintings of Lascaux Cave (BC 15,000 to BC 13,000) in the southern part of France are credited with triggering the primitive image era. At that time, our ancestors supposed that "the more mural paintings we draw, the more likely we can have the animal alive." The

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paintings functioned not for visual pleasure but as magical and incantatory elements and means to achieve wealth. Man has evolved to call these images art. Drawings and paintings are now largely enjoyed as a form of expression in the western culture. Before the Middle Age, people placed high values on drawings that exactly reproduced a scene (regeneration). Such appreciation for the replication of nature in the form of images regressed duringthe Middle Age when Christianity was the dominant religion. It was believed that God said, "All is not as it seems." During the Renaissance movement, however, development of perspective and chiaroscuro, as well as a focus, on human form and anatomy reignited interest for realism in fine art and "regeneration" retook its position as the main topic of the art world.

The invention of photography at the turn of the 19th century changed the art world. Paintings were not as accurate as photos in terms of shape or color regeneration and as such, painting were deprived of their identity of "regeneration". This shock made the art world turn its back from realism. Painters started to deconstruct what they saw. The world dismantled into basic shapes (Cubism), liberating colors (fauvism), and even distorting the space instead. It was through deconstructionism that fine art regained its identity. [1]

Photography began stretching its hand to impact people's daily lives. At first, they innovated the art itself, saying nothing of the landscape or portrait which had been traditionally performed by the art. As photography techniques improved, "aura" in art slowly collapsed. Aura refers to the atmosphere emanated by an original artwork that confers its uniqueness in time and space, often associated with religious images and objects. The ease of reproducing images en mass via photography democratized fine art, especially religious objects and images. The camera, the next runner of the painting, got down to recreating all the existing contents by way of a new medium, called the movie. All contents including the Bible, novel, ghost story, cartoon, folktale, fable, and play were recreated as a movie, a vehicle which reached its heyday in the 20th century. [2]

Photography and film went through another transformation when digitalization techniques were developed at the turn of the 21st century. Although analog film can capture near perfect "regenerations" they are hard to handle. Digital photography and film can be artificial manipulated. In fact, the period has come when we are able to express all the images in our imagination through digital film.

Images evolve with advancements in technology. In the primitive times, a magician drew mural paintings; in the Middle Age, a painter drew paintings; and in the Industrial Revolution period, a photographer shot photos. Who, then, will make images in the digital age? That person is a programmer. He or she is not confined to simply program computer languages but can merge technology with art through creating digital images. Technology, art and human are termed the Trivium of the Digital Age. [3]

In the Middle Age, trivium referred to subjects in medieval universities: dialetic, grammar, and rhetoric. Marshall McLuhan, a media philosopher, said that the trivium is a subject that changes at every age which represents it. The goals of this study is to determineif technology, art, and human represents the current society. If so, can one create images which make people feel good.

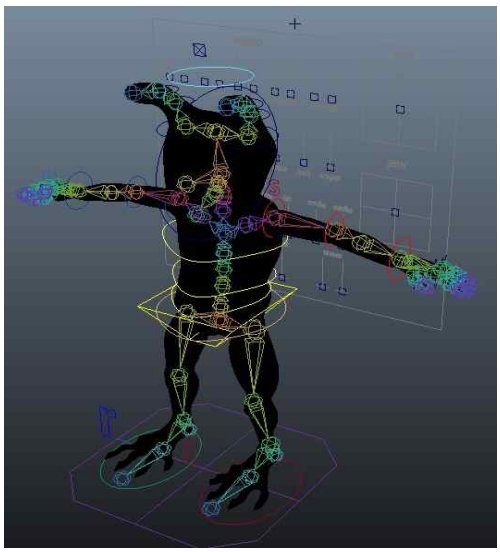
2. Discussion

2.1 Technology

The core technologies in the digital age are

the pixel and vector. A man must use pixels and vectors to express what he imagines in an image. Glue and scissors were used for editing analog objects. They were extremely coarse units when compared with the extremely exquisite particles called atoms, microunits used in the analog period. As a result, the viewer notices the manipulation techniques while watching the screen, thereby destroying the continuity of the object viewed. On the contrary, the image in the digital age is the pixel. The pixel allows a man to express whatever he imagines. Therefore, he must be familiar with the smallest digital units in order to program contents.

As a way of using the pixel, we used the software MAYA, a 3D tool. Using MAYA, we modeled and rigged Alien Pupu whom we imagined.

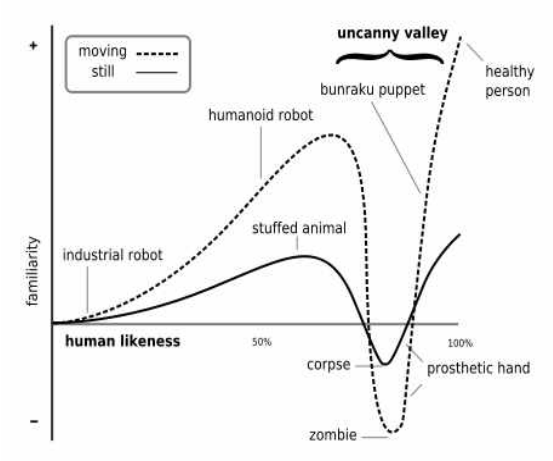


(Figure 1) Rigged Character

The alien in Figure 1 is Pupu, a rigged character. Pupu moves in combination with its skeleton but rigging is necessary to give shape to the movement, while the controllers at each part are used for animation production. Prior to skeleton fabrication, we analyzedthe shape, structure, and specific movement of the character to determine how the skeleton will be structured and how it may be controlled. We motion tested our design to compose a precise skeleton, along with rigging and controlling on the basis of a more realistic movement analysis, in order to express the desired movement. First, we made joints and bones using the minimum unit of the skeleton. Second, we bound them so that the skeleton can transform the object. We put the character object and the skeleton together using smooth binding and we modified the weight using a paint skin weight tool so that the object can be naturally transformed. Here, the Smooth Bind function was adopted to allow smooth transformation of the object by the skeleton. Blend Shape was applied to the characterso that personality and emotion can be naturally expressed and transmitted. Meanwhile, Graphical User Interface (GUI) was composed for look control. GUI improves convenience and enables a delicate look to be displayed. Finally, the main controller was made to control the movement, rotation, and size of the character.

2.2 Human Being

Humans are able to pass judgment quickly. As such, if a product is to appeal to people it must elicit a good feeling in a short amount of time. Accordingly, we must figure out what characteristics people unconsciously like or hate and apply the characteristics to the image as early as possible. In addition, we did not want to simply rely on intuition but aimed to study how well the personal mind and intellectual system can be handled.



(Figure 2) Uncanny Valley

Robot engineer, Mori Masahiro, believes that robots should be made in human form to elicit joy/happiness/a smile in the simplest manner. People tend to feel a sense of kinship and comfort toward an object if they feel that it is similar to them. However, when the object becomes too similar to them, the degree of good feeling dramatically drops to a point called the Uncanny Valley. Of course, the degree of good feeling again surges past the Uncanny Valley but such point is difficult to achieve using robotics (?). Judging from this, it may be effective to perform a design on the 1st peak just before the Uncanny Valley. This concept may be applied to animation. We created a model on the 1st peak rather than the 2nd peak past the Uncanny Valley. [4]

2.3 Sympathy: Theoretical Discussion and Application

Social interactions and the ability to sympathize are important human characteristics. People often seek to confirm the good feelings of others. Furthermore, they are able to enhance good feelings by receiving the same information and sympathizing with each other. A good example of this is during the incident called "Truce on Christmas Eve" which occurred at the beginning of World War I on December 24, 1914 in Flanders, France. German and British established unofficial truce to collect and bury those killed in action. A number of soldier on opposite sides of the conflict walked toward each other, shook hands, shared cigarettes and biscuits, and laughed at the absurd war. This incident teaches us about the power of sympathy. Tens of thousands of people put away their nation, ideology, or class and made peace during the terrible war out of sympathy even though the peace was sustained for only a couple of hours.

3. Art

Technology has its limit, including the limit of the pixel. Other factors contribute to these limitations including the limits of the technique of our team members, our 3D modeling devices, and our storytelling. Art can overcoming such limits. Early fine arts had been monopolized by noblemen. However, after the Industrial Revolution technological advances allowed replication and duplication of fine arts and images which allowed popularization of art. Considering such, technology makes art plentiful while art mitigates the limit of technology.

4. Conclusion

The pixel is important for it is the basic unit that allows artists to create an image. Its flexibility enables us to venture into new artistic realms. Although modern techniques allow artists to create near perfect replica images, the new technologies also enableartists to bring their imaginations to life through image manipulation. Because digital images can be rapidly replicated and sold to the masses, it is important to understand how the public recognizes and understands

superficiality and apply that knowledgeto the image. Finally, we must make use of design to engage the customer on an emotional level. In conclusion, images of the future cannot simply refer to the art or the technology but must refer to a combination of technology, humanity, and art to be an appealing and desired product.

(Figure 3) Disappearing Pupu

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