

The Study on the Graphic Design of Media art: Focusing on Projection Mapping

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Abstract. Media arts have brought propagation effects to the public in various forms of communication tools. Projection mapping technique among media arts comes with graphic design elements in video contents. Due to changing environment, utility of graphic elements is evolving as well.

Keywords: Media Arts, Graphic Design Elements, Projection Mapping

1 Introduction

Projection mapping is a combined term of projection which means 'projecting light' and mapping which means 'correspondence between object and image' in optimal system. In computer graphic, mapping means that two-dimensional image is mapped onto three-dimensional form of object [1]. Two-dimensional image generated by computer graphic can create more expanded sense of space than reality and a sense of reality in virtual space, provided that the image is projected to three-dimensional object through projector. Since projection mapping is based on two-dimensional characteristics, it contains graphic design elements. In this sense, this study investigates these graphic design elements and explores other potentials in projection mapping. Specifically, this study investigates one of projection mapping works, 'Louis Vuitton Presents Retracing the Trunk' with texture, color and scale among graphic design elements.

2 Graphic Design Elements expressed in Media Arts

2.1 Texture

Texture is a feel of a surface presented by a rough and raised part, or condition of textile. Texture is one of numerous graphic design elements. In graphic design, it is important to make shape and texture well-balanced and harmonized proportionately. Texture could transfer emotion for the sensation and the feeling felt via eye as well as

by hand. Texture also encompasses visual texture felt when watching video art. Visual texture has influences directly by how it looks like rather than how it feels like.

2.2 Color

Color is a physical phenomenon resulting from absorbing light and reflecting it. Every object existing in reality has color. The color is noticed by human eye when human being recognizes an object. Therefore the color is a critically important element in design. In addition, color has high symbolic potential power because it significantly affects psychology of human being [2]. Design can guide reader's vision and emotion by aligning and combining colors. Colors can bring a variety of emotions depending on how colors are aligned. Symbolic meaning residing in individual color has capability to deliver an atmosphere, describe truthness and summarize information. [3]

2.3 Scale

Scale is relative and plays a role in recognizing relationship mutually. In terms of relative size, relatively large-sized object gets highlighted so that it draws attraction of reader [4]. This element determines the degree of importance of information. Difference between scales often brings out a sense of motion and a tension. Scale and proportion also play a role of pattern in design. Larger one seems to be coming forward than smaller one, which indicates a perspective. Based on the perspective technique, space can be represented properly. Change in scale makes a change to impact of elements. [5]

3 Types of Graphic Design Elements of Projection mapping work

3.1 Louis Vuitton Presents Retracing the Trunk by Les Courtisans

As a technique of exhibition, projection mapping into an object is a highly popular method and its efficiency is outstandingly excellent. Image produced corresponding to a type and size of object can effectively deliver what an artist desires to express to the audience.

Louis Vuitton Trunk is a work done by Les Courtisans by means of projection mapping technique. The work aims to express history of Louis Vuitton Trunk. It presents how Louis Vuitton design has been transformed from end of 19th century to beginning of 21st century by using projection mapping technique projecting image onto a rectangular box.

3.1.1 Texture



Fig. 1. Projection mapping applying realistic graphic

<Figure 1> shows a case that projects image onto an object which looks like a bag of subsidiary of Louis Vuitton based on projection mapping. Realistic graphic gives visual pleasure to audience. In this work, audience feels like watching an optical illusion in which a bag is assembled in front of their eyes. Texture plays an important role in enlarging a sense of immersion into the video. The projection mapping delivers a feel of an object's surface by using three-dimensional tool.

3.1.2 Color



Fig. 2. Psychology and emphasis by color

The colors used in <Figure 2> are mainly brown and a combination of blue and orange. Though symbolism of color can be different depending on culture, interpretation of color is based on the most generic one. Brown means protection and thrift [6]. Orange indicates energy, activeness, strength and trust. Blue means quietness, transparency, gentleness and tranquillity [7]. These three colors are proportionally used in a bag so that a tourist bag having the colors can properly present a characteristics of tour like activeness as well as a sense of stable at the same time. Since each color reminds people of an emotion of what the color encompasses, brand image can be delivered briefly even without text.

3.1.3 Scale

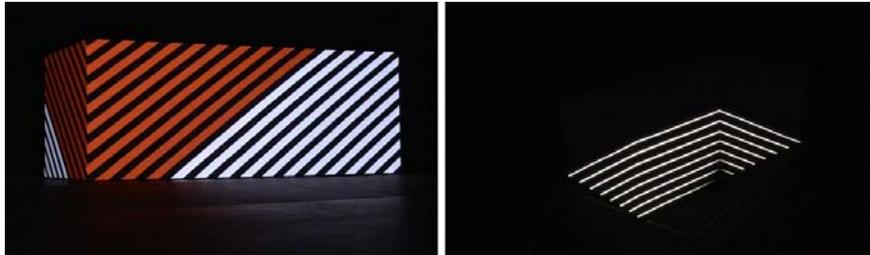


Fig. 3. Use of line in Projection Mapping

The way of using line can be various. Type of perspective expressed in <Figure 3> is an expression of space by means of overlapping. If A is positioned just in front of B forward, a part of B is not shown in the figure because the part of B is hidden by A. This overlapping makes audience feel the depth between A and B [8]. Perspective gives people an optical illusion in which there is a hole at the bottom. Graphic without hierarchy makes people feel a sense of boring and monotonous.

4 Conclusion and Further Study

In this study, a work done by projection mapping technique was investigated in conjunction with graphic design elements. Results from the investigation indicate that a use of texture gives effect of improving a sense of immersion to image because of its realism. Texture expressed in an image makes people feel more realistic quality of an object, especially when an image shows that a bag is assembled, disassembled and transformed into different color of bag. It allows people to feel more immersion into image. Color is used for purpose of delivering brand image in symbolic manner. Only with image and contrast of colors, desired message can be intuitively delivered without using text at all. Scale is used to avoid a visual boredom. Pattern shown in Louis Vuitton Trunk causes a visual interest by movement of lines and changes of area of surface even for a part that might be boring in an image.

The use of graphic design elements in a work based on projection mapping has advantage that it can bring a higher sense of immersion since it is performed using a building or an object by which its theme gets more emphasized than a simple image projected onto flat screen. For this reason, this technique can be useful for making image for promotion, which aims to stimulate the desire of consumer. Therefore, the use of graphic design elements implies that projection mapping has potential possibility for commercial purpose as well as artistic purpose. However, in order to utilize the graphic design elements more efficiently, further study is necessary in an area of graphic design elements focusing on how they transformed as time flows and the way of producing graphic design elements. Thus it is expected that future changes in environment will increase a degree of utility of graphic design elements in media arts and its utility will be diversified.

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