Commercial Application of Digital Media Arts in Urban Environment

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Abstract: This paper analyzes the current status, of commercial application of digital media arts. Marketing campaigns that introduce new as outdoor signage is tremendous as the usage of traditional media and tactics of communication. As more desire to differentiate the digital platforms, the more innovative way has been essential to create digital contents. Digital arts can be applied in innovative communication way with brand-new audiences.

Keywords: Digital Art, Projection mapping, Commercial application, Marketing campaign

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1. What Is Projection Mapping?

Projection, a method used to play videos, allows users to view a relatively wide screen; it is therefore a useful vehicle for providing content to a large audience in specific circumstances, for example, when showing movies or creating access to lectures. One of the main problems with this method is that it requires a wide, dark space in which to project images onto a screen. For this reason, its use has not been widespread. Since the mid-2000s, however, the obstacles of facing projection have been overcome and the use of video projection, which has no substantial form, has increased. Furthermore, when a type of technology called mapping— used to overlap the original texture and properties of an object's surface with other images and materials—is combined with projection, it creates a new field called projection mapping [1].

Projection mapping is a compound combining the meaning of "projection" which means "project" or "throw light," and "mapping", which, in computer graphics means reality by laying a two-dimensional image over a virtual three-dimensional surface. Projection mapping can involve digital lighting produced in a media façade style, making buildings deliver or promote messages by applying light to the surface. It is worth noting that the artistic and commercial use of projection mapping continues to increase.

2. Case Studies of Projection Mapping

A. Examples of projection mapping applied to a flat surface including building structures.

Projection mapping technology has recently attracted attention; particularly in the construction field. Mapping a projection over the surface of a building has become very popular and commercially effective [2]. It allows events to adopt the media façade style without having to use an outside lighting system such as a light-emitting diode (LED) [this effect is shown in Fig. 1.] [3]. Through the use of the outer surface of the building as a screen, a nighttime projection catches the attention of people moving around the area and is thus commercially effective.

Fig.1. Projection onto a building

B. Examples of projection mapping applied to three-dimensional objects

Projection mapping can also be applied to specific objects in three-dimension. This is achieved by projecting videos or images onto the texture a surface texture [2], adding colors and material properties, that give it an altogether different appearance [as shown in Fig. 2] [4]. This method can be divided into two styles: changing the properties of familiar man-made or natural objects by projecting onto them textures or videos, that convey their creators' aims and providing an audience with an unprecedented visual and synesthetic experiences by combining projection mapping with special objects created for the purpose of display.

Fig.2. Mercedes-Benz S-Class W222 – Russian Premiere, 2013, Sila Sveta

C. Examples of projection mapping for spatial purposes including set design and the performing arts

Projection mapping can be used to create a sequence of backgrounds or special effects for theatre performances or concerts. In the performing arts, projection mapping can expand the traditional space beyond its restricted spatial limit [as shown in Fig. 3] [5]. It is now possible to present more visually accurate backgrounds through the use of computer graphics, something that was once impossible, given the challenges of creating installation in a limited space. Virtual reality can also be made visible. In addition, the speed at which projection mapping moves can change the audience's perception of the stage, from a static to a dynamic space, as in a films.

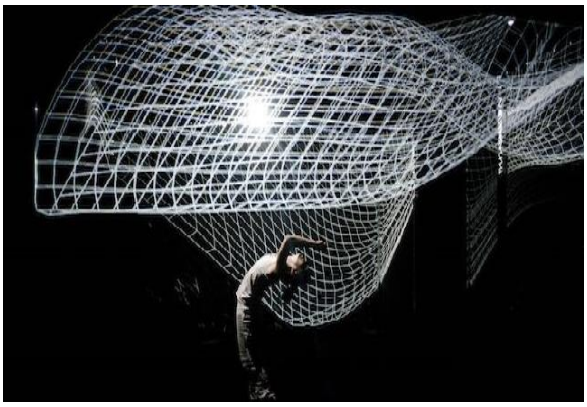

Fig. 3. Hakanai, 2014 – a digital solo performance from Adrien M / Claire B of the Creators Project

3. Cases to Improve Marketing and Public Interest

A. Beamvertising

The word "beamvertizing" was coined to describe building projection, as an aspect of the cultural art genres that originated from North America and then Europe; has now established itself as an advertising technique. The two words "beam", meaning light, and "advertising" are combined to describe an advertising technique that uses a beam projector [as show Fig. 4] [6]. With this technique, it is possible to move a beam projector and to adopt various projection methods that extend beyond the spatial limit of projection mapping, creating an incredibly powerful effect.

Beamvertizing, on the outer surface of a building much larger spectacle than ordinary forms of advertising can achieve, generating a higher level of momentary attention. Furthermore, advertising images, once limited to a set frame, are now presented on a different stage; the outer surface of a building. The audience therefore experiences the imprinted images in a mysterious way. Beamvertizing is also effective at generating buzz and viral marketing, since it tends to go viral and make waves online. However, beamvertizing has a temporary effect; this technique works best when the goal is to achieve a short-term promotional impact.

Fig. 4. Façade promotional campaign

B. Cases of projection mapping used to create public art

Bringing these media into the sphere of public art offers new experiences and paves the way for participatory public art. In particular, project mapping has enlarged the scale of artworks and allowed many viewers to simultaneously appreciate them [see Fig.5] [7]. In addition, it has extended the realm of expression by incorporating various objects that suit the environment into the media.

Fig. 5. <Visions of America: Ameriques> (2014)

4. Conclusion: The Commercial Applications of Projection Mapping

A. The combination of artificial intelligence and projection mapping

AI technology is rapidly improving. It is now possible to combine projection mapping technology, especially in commercial applications, with AI, neuro-science, human cognitive science, and other fields [8]. Human emotion and cognition can be analyzed using photography or videos; this is often done when creating beamvertizing images. The technology has already acquired the ability to recognize the customer's age or gender and can scan his or her lifestyles and fashion preferences.

If machines can successfully recognize audience profiles, they can create tailored public artworks or promotional images by reflecting what the particular audiences want to see. This type of interactive communication will be a very effective way to lead audiences (customers) into a marketing campaign.

B. Advanced AI technology

Technologies that recognize and scan targets have advanced over the years, to the point where a customer gender and age can be recognized through his or her silhouette size or internal heat distribution.

Sending marketing messages to public is not nearly efficient as sending the targeted messages to particular individuals or groups. Sending the right message to the right customer makes advertising contents very effective. Being able to efficiently locate targets through physical, technological, or biological means will open new prospects in the fields of art, marketing and audience communication.

C. Future opportunities to use projection mapping for commercial applications

As brands are constantly seeking new ways to create marketing promotion, store displays and outdoor signage, projection mapping presents significant opportunities for enhancing commercial methods. As previously mentioned, a potential customer's gender, age, life-style and taste can be reflected through messages and images. Information and campaign messages for fashion goods, cosmetics, and restaurants can target the audiences viewing signage or screens and respond to their specific needs. The "screen" can be a car, a building or a large sign. Lotte C2 is an example of a very high-tech video on a skyscraper in Seoul. Seoul is one of the world's most innovative cities, filled with high-tech buildings; it is easy to imagine it filled with cutting-edge artistic images projected onto entire buildings for artistic effect. The suggestion would be to design a project to create a harmonized network of digital arts installations, spreading out over an entire city on buildings, signage, and temples. It is believed that the digital arts, in various formats, can be used to create different forms of art, as well as to deliver commercial messages.

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Biographies

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