

On Study of the Projection Mapping In Media Arts

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Abstract. As technology progresses, people will become familiar with the various techniques for video display of visual imagery. Lately a new trend of video mapping system is being used on objects, structures, buildings and displayed in public spaces to reach a wider audience. This study is focused on research on media arts using projection mapping techniques and introduction of the conceptual development and the technical aspects of video mapping for the project DYMANIC ROOM.

Keywords: Illusion, Media Arts, Projection Mapping, Joy Stick

1 Introduction

Video Mapping is one of the newest video projection techniques that are used to turn almost any surface into a dynamic video display. The aim of video mapping is to create a physical illusion of images by combining audio-visual elements. This technique is used by artists and advertisers alike who can add extra dimensions, optical illusions, and notions of movement onto previously static objects. Large companies such as Nokia, Samsung and BMW have since used video projections to create campaigns for their products in major cities across the world. Artists may use it as an avant garde form of expression as it is new technology that can turn their creative ideas into 3D projections, connecting with audiences in a new way. This way, artists can show their work in any location as anything and anywhere can be a canvas.

2 Related work

Yekpare was performed within the Istanbul 2010 European Capital of Culture events. It is a story teller to narrate 8500 years' story of Istanbul. Installation's objective is to display historical view of Istanbul by using symbolic and narrative images, through the creation of artistic and dramatic space. It aims to reach more viewers and touch their feeling, creating this emotional ambience dramatically.



Fig. 1. Yekpare performance image

Like digital creatures set loose from the world of the movie Tron, two wild animals light up the night with dazzling displays of color illuminating their surfaces. Created by Sober Industries and Studio Rewind, the large scale sculptures featured the unlikely pairing of an owl and a rhinoceros. The two were displayed and covered with mapped visuals that could be spectator controlled.



Fig. 2. Animal sculpture performance image

The Icebook is the world's first projection mapped pop-up book. When the lights go out and a projection is beamed onto the paper stage, a dark, atmospheric story unfolds about a man on a journey through the wilderness. The piece itself features an innovative mixture of theater, video projections and paper craft and produces a truly beautiful and enchanting piece of art.



Fig. 3. Icebook performance image

3 Interactive Artwork

3.1 Concept and functional

Digital art is affected by conceptual art that is an art movement, based on the “concept” or “idea”. Thus, the concept is the most important aspect for the composition of the artwork to attract viewers’ attention by combining the art and technology. The artwork titled dynamic room is a projection mapping, also known as video mapping and spatial augmented reality, project which is a projection technology used to turn objects, often irregularly shaped, into a display surface for video projection. As people select one in the showroom, the video is playing and mapping the object associated with.



Fig. 4. Dynamic Room scene images

3.2 Software & Hardware

Specialized software, MadMapper, is used to warp and mask the projected image to make it fit perfectly on irregularly shaped screens. The software can interact with a projector to fit any desired image onto the surface of that object. The important issue for an effective performance is to choose the objects to apply on artwork. In that, the artwork interacts with the audience. This interaction is provided by joy stick technique which is controlled by using VVVV program. Also, Final Cut Pro, Flash and After Effects software are used for making video related to objects.



Fig. 5. Handmade showroom and Joy stick images

4 Conclusion and future work

In this paper, we reviewed the media art pieces using projection mapping techniques and presented an art work, dynamic room. In future, it will be tried to add various interaction ways such as networking which let user control the contents in artwork and get the feedback from the audiences who have experienced the performance

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