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"Endorsement with Virtual Reality "

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ABSTRACT

Virtual reality is an automation which is often regarded as a natural extension to 3D computer graphics with advanced input and output devices. The integration of this new technology with software systems for engineering, design, and manufacturing will provide a new boost to the field of computer-aided engineering. One aspect of design and manufacturing which may be significantly affected by virtual reality is design for Endorsement. This paper presents a research effort aimed at creating a virtual reality design environment website. Today, marketers benefit greatly from using virtual reality in advertising. The first and the most important advantage of VR ads is that they help to create a certain emotional connection with customers. Virtual reality ads are so interactive and realistic that consumers feel like they're playing an engaging video game. This builds an emotional connection, increasing brand awareness and encouraging users to enjoy this hi tech.

Keywords: Virtual Reality, Augmented reality, VR photography, 360 Video.

I. INTRODUCTION

This special issue is dedicated to highlighting recent advances in VR software and technology for Endorsement or Advertisement purpose.

The article "Endorsement with Virtual Reality" presents a novel method that focuses on Virtual Reality techniques that are becoming more widespread and Endorsement is one of the fields which can benefit from their use. Virtual Reality (VR) is on the verge of becoming commodity hardware available to the average user and feasible to use as a tool for 3D work. Some VR include front-facing cameras, enabling Augmented Reality (AR) functionality. Apart from avoiding collisions with the environment, interaction with virtual objects may also be affected by seeing the real environment. However, whether these effects are positive or negative has not yet been studied extensively. Although virtual reality (VR) has a huge success in increasing the quality of scientific visualization applications, there is a considerable lag in the development of VR applications in the case of information visualization. Some researchers claim that 2D representation are enough for data analysis; however, in the case of multi-dimensional datasets, other researchers indicate that studying

multiple dimensions simultaneously is advantageous [1], [2], [3].Virtual reality interfaces have been used successfully for many years in the field of scientific visualization, with hundreds of both commercial and academic software systems created in the field of astronomy, physics, chemistry, biology, medicine, and engineering. Virtual and augmented reality could change the world. Through full immersion, users can live out stories they've only ever dreamed of, be transported to an exotic place without leaving their house and interact with products as if they were viewing them in actual reality. The technology seems like the next step in media progression – it started with print then moved from photo to video, and full immersion would complete the circle of escapism and experience that media companies have strived to create for decades.

II. HISTORY OF VR

Virtual reality has beginnings that preceded the time that the concept was coined and formalised. In this detailed history of virtual reality we look at how technology has evolved and how key pioneers have paved the path for virtual reality as we know it today.

1) Panoramic paintings

If we focus more strictly on the scope of virtual reality as a means of creating the illusion that we are present somewhere we are not, then the earliest attempt at virtual reality is surely the 360-degree murals (or panoramic paintings) from the nineteenth century. These paintings were intended to fill the viewer's entire field of vision, making them feel present at some 1950- Morton Heilig

In the mid 1950s cinematographer Morton Heilig developed the Sensorama (patented 1962) which was an arcade-style theatre cabinet that would stimulate all the senses, not just sight and sound. It featured stereo speakers, a stereoscopic 3D display, fans, smell generators and a vibrating chair. The Sensorama was intended to fully immerse the individual in the film.

Figure 2. Sensorama

Virtual reality in 21st centuary

The first fifteen years of the 21st century has seen major, rapid advancement in the development of virtual reality. Computer automation, especially small and powerful mobile technologies, exploded while prices are constantly driven down. The rise of smartphones with high-density displays and 3D graphics capabilities has enabled a generation of lightweight and practical virtual reality devices. The video game industry has continued to drive the development of consumer virtual reality unabated. Depth sensing cameras sensor suites, motion controllers and natural human interfaces are already a part of daily human computing tasks.

Recently companies like Google have released interim virtual reality products such as the Google Cardboard, a DIY headset that uses a smartphone to

drive it. Companies like Samsung have taken this concept further with products such as the Galaxy Gear, which is mass produced and contains "smart" features such as gesture control.

Developer versions of final consumer products have also been available for a few years, so there has been a steady stream of software projects creating content for the immanent market entrance of modern virtual reality.

III. METHODOLOGY

360 Degree Video

360-degree video is typically recorded using either a special rig of multiple cameras, or using a dedicated camera that contains multiple camera lenses embedded into the device, and filming overlapping angles simultaneously. Through a method known as video stitching, this separate footage is merged together into one spherical video piece, and the color and contrast of each shot is calibrated to be consistent with the others.

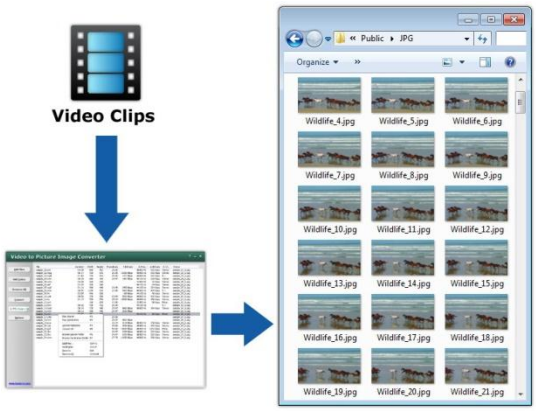

Figure 1. Convertion of frames to 360 degree video.

This process is done either by the camera itself, or using specialized video editing software that can analyze common visuals and audio to synchronize and link the different camera feeds together. Generally, the only area that cannot be viewed is the view toward the camera support.

VR photography can also be used for displaying objects in 360 (360 photography, commonly referred to as 360 Object VR, 360 product photography, 360 product images and 360 product views). These are created by capturing a series of images as the object rotates over a 360 rotation (camera stays in a fixed position). The output will be a series of individual images (typically JPG format) that can then be composed into an interactive 360 view using HTML5, JavaScript and Flash.

360 Video to VR Video

VR photography, or virtual reality photography, is the interactive viewing of wide-angle panoramic photographs, generally encompassing a 360-degree circle or a spherical view (hence also known as 360-degree [interactive] photo and photo sphere). VR photography is the art of capturing or creating a complete scene as a single image, as viewed when rotating about a single central position. Normally created by stitching together a number of photographs taken in a multi-row 360-degree rotation or using an omnidirectional cameras, the complete virtual reality image can also be a totally computer-generated effect, or a composite of photography and computer generated objects. The history of VR photography is human-computer interaction in which a real or imaginary environment is simulated and users interact with and manipulate that world.

How Virtual Reality video conversion works

1. Install the desired video converter
2. Then you add the video files you want to convert. Most converters detect video files of almost all

formats.

3. Once you're done adding the video files, the next step takes you to the conversion format page: simply put, select 3D Video format/modes or the device for which you want the video to be converted. In our case, 3D SBS video is highly recommended for perfectly playing on Gear VR, Oculus Rift, VR One, Google Cardboard, etc.

Now, just proceed and let the conversion happen. Once done, you can use the file in VR headset with VR player on your smartphone. This is the top method of converting to/from Virtual Reality Videos.

IV. TYPES OF VR

Although it is difficult to all VR systems, most configurations fall into three main categories and each category can be ranked by the sense of immersion, or degree of presence it provides. Immersion or presence can be regarded as how powerfully the attention of the user is focused on the task in hand. Immersion presence is generally believed to be the product of several parameters including level of interactivity, image complexity, stereoscopic view, field of regard and the update rate of the display. For example, providing a stereoscopic rather than monoscopic view of the virtual environment will increase the sense of immersion experienced by the user. It must be stressed that no one parameter is effective in isolation and the level of immersion achieved is due to the complex interaction of the many factors involved.

As will be shown in this report, the type of VR system being used an important consideration when one investigates the genesis of sickness symptoms and the type of symptoms that may develop.

Non-Immersive (Desktop) Systems

Non-immersive systems, as the name suggests, are the least immersive implementation of VR techniques. Using the desktop system, the virtual environment is viewed through a portal or window by utilising a standard high resolution monitor. Interaction with the virtual environment can occur by conventional means such as keyboards, mice and trackballs or may be enhanced by using 3D interaction devices such as a SpaceBallä; or DataGlov .

Semi-Immersive Projection Systems

Semi-immersive systems are a relatively new implementation of VR technology and borrow considerably from technologies developed in the flight simulation field.

A semi-immersive system will comprise of a relatively high performance graphics computing system which can be coupled with either:

- ✓ A large screen monitor
- ✓ A large screen projector system
- ✓ Multiple television projection systems

congestion. The other lanes have their green signals as per their decreasing priorities.

7) This process repeats and the duration of green signal given to each lane keeps adjusting itself after every rotation of the camera.

Fully Immersive Head-Mounted Display Systems

The most direct experience of virtual environments is provided by fully immersive VR systems. These systems are probably the most widely known VR implementation where the user either wears an HMD or uses some form of head-coupled display such as a Binocular Omni-Orientation Monitor or BOOM (Bolas, 1994).

Figure 3. Image courtesy

Jumping forward slightly to 1989, the term Virtual Reality enters our everyday vernacular, thanks to computer philosophy. Even then, the concept of VR remained the same: computer technology is used to create a virtual environment that can be explored and manipulated by individuals.

V. CONCLUSION

This project presents an article on Virtual reality that could change the world. Through full immersion, users can live out stories they've only ever dreamed of, be transported to an exotic place without leaving their house and interact with products as if they were viewing them in actual reality.This kind of changing technology has resulted in different companies offering education to brands on how to use VR and responsive storytelling to better a company's overall brand

1. Participants were likely to spend more time in VR environment compared to online catalog. However, the time extend was not significant.
2. From the results, we found that people remembered and recalled more items in the virtual reality environment.
3. People interests seem to have accelerated more in VR than from the online catalog. It seems that virtual reality can create positive memories and people are more enjoyable in the VR environment.
4. Finally we find that people can interact with items and environment easily and they enjoy the process of interaction. We think that VR is more useful and more usable compared to computers. It is effective and friendly for users to operate and help them focus on their target.

It is reasonable to say that Virtual reality as a marketing tool is able to increase customers' interest compared to the online catalog.

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