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KC3289

Contextual Analysis

Virtual Space

Assignment 2

Year 2

Semester 2

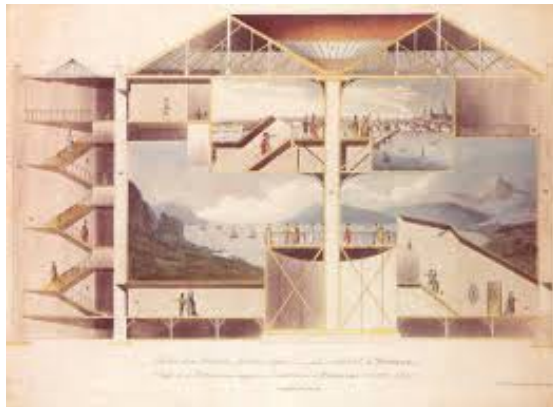
BA Digital Art

Word Count: 1500

Virtual Space Contextual Analysis

Virtual reality is the first step in a grand adventure into the landscape of the imagination. (Biocca, Kim and Levy, 1995, p.6)

Historically virtual reality began with brushstrokes on canvas displayed in a cylindrical platform. Robert Barker patented this technique in 1787. These 360 degrees panoramic paintings were viewed from the centre immersing the viewer in the image. These *Cycloramas* gained popularity in the nineteenth century and the senses would be further enhanced with the addition of sound and a narrator (erudite 2016). I was motivated by the idea of a narrator to create a story based virtual reality scenario.



Cyclorama

Further developments in technology and with more visionary creators the *Sensorama* was invented by Morton Heilig in 1957. This machine used our different senses to create an immersive illusion of reality. One experience, which felt like reality was riding a motorcycle where the user could feel the wind in his hair, hear sound effects and have body tilting movements (Mattes

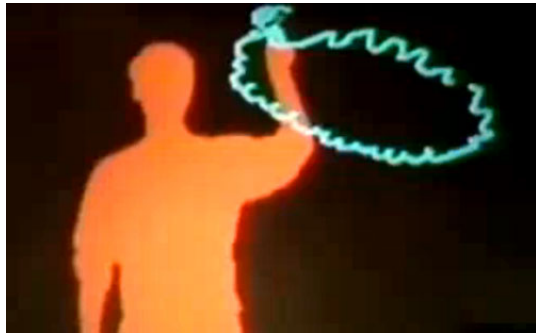
2013). Providing an environment realistic to the story using the human senses would create a vibrant environment for my user.



Sensorama

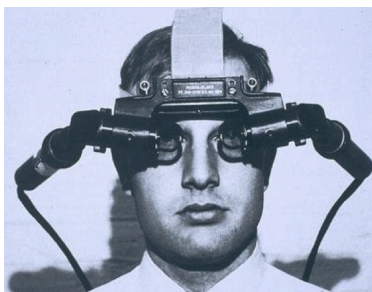
Myron Krueger, an American computer artist understood that the development of computer technology would provide the potential for more complex uses of these systems 'virtual reality arrives at a moment when computer technology in general is moving from automating the paradigms of the past, to creating new ones for the future' (Hale and Stanney, 2015, p.1172). He also controversially believed that art and technology worked in partnership and consequently created several responsive environments where 'real time interaction between men and machines' occurred (Krueger, 1977). My project also relies on this theory of art and technology combining to create a world where children benefit from an 'enabling' environment thereby supporting children's learning and development (Early years matters, 2016).

Krueger believed that responsive environments would benefit education by allowing children's experience of a space where anything was possible and would enrich their lives by experiencing realities they might not otherwise have. This innovative way for using technology for children is where my inspiration came from to use fairy tales as a virtual reality experience.



Responsive Environment

The first head mounted display was invented in 1968 by Ivan Sutherland, The sword of Damocles. Different designers made various advancements over the years and finally devices, which allowed the viewer to immerse themselves in a space where there was no clear line between reality and simulated reality, were invented. These headsets eg Oculus Rift, Samsung Gear Vr are very expensive but with Google's invention of the Google cardboard in 2014 virtual reality suddenly became more accessible. Virtual reality was now being used in many applications including military, health and education. The latest VR headsets were geared more towards adults but VR can advance the way children learn. Mattel in partnership with Google bought out a cheaper and sturdier headset, View-Master Virtual Reality Viewer,



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which gave an immersive experience for children in different worlds and settings and enabled them to learn through technology (techcrun,2016). 'Tell me and I will forget; show me and I may remember; involve me and I will understand,' Confucius 450BC (University of Leicester, 2013). Confucius, a Chinese philosopher would never have understood the meaning of virtual reality but his words ring true in the modern age. Research has shown, students remember 20% of what they hear, 30% of what they see and up to 90% of what they do or simulate (Unimersiv 2015). Albert Einstein believed reading children fairytales would make them more intelligent (Library of Congress, 2013). What better, simulated environment for children to occupy. Developing the imagination and stimulating the brain provides a platform for future learning. Fairy tales have been around for generations and continuing this tradition by modernizing the way they are told for today's generation will ensure they are preserved forever. Fairy tales are universal and many have been adjusted according to a country's own customs and traditions but even then the narrative does not change, neither do the moral lessons many depict.

Early years education creates the foundations for all future learning. Today's children are also known as *digital natives* for the ease in which they learn how to use technology. Already virtual reality is being used in education for example teaching them about the solar system or going on virtual expeditions. Virtual reality has also been used for various health treatments for children by helping them overcome disabilities and giving them social skills and confidence. VR is used as a learning tool for autistic children. Children with cerebral palsy have also shown improvement in their exercise routine through

using virtual reality. It is also useful for diversion methods during painful medical procedures (Virtual Reality Site, 2015). My idea for a fairy tale virtual reality artefact could work along side these as a simple entertainment tool to keep children occupied or to provide a comforting experience, as fairy tales are a childhood comfort blanket (Zipes, 2006, p.2).

My artefact will allow children to immerse themselves, use their imaginations, become part of the story, understand the language used, use this knowledge to further their literacy skills and consequently their intellectual capabilities and above all escape to another world where there is no fear of the dangers of the 'real' world. Virtual reality allows for online play in a safe environment. There will be no danger for the child to potentially meet undesirable people. Millions of children are registered and globally use virtual sites, for example *Moshi Monsters* and *Club Penguin*. Here they accept friend requests from other members within the world but have no knowledge of who that avatar is in real life.



There are many e-books and apps on tablets but they do not immerse the child into the story as virtual reality allows. The physical requirement to touch, swipe or tap to follow the story and interact with images also deviate the child's attention from the text. Interactive E-Hon works by changing the text

into a storybook style using animation and dialogue. The interactive visual images with the verbal information, helps in better understanding of the story and allows for a greater attention span from the child but again does not provide an immersive space (Springer Link, 2011).

Expensive headsets are not suitable for children but the much cheaper options of Google cardboard or Mattels Virtual headsets mean they are more accessible to younger people as long as they have access to a smartphone. 65% of 8-11 year old own a smartphone and 75% of under 8s have access to a smartphone (BT.Com, 2015), consequently allowing accessibility for my artefact. Next to combat other problems that may cause issues. Motion sickness is a problem in virtual reality. The more expensive headsets have managed to combat this issue to some extent. For the cheaper headsets and especially in designing the application for children it is important to look at how to solve this issue. One option is to have the movement of the images flow mainly in the direction the viewer is looking at. Without the side to side actions the simulator sickness will be reduced. Creating less complex textures on the images and reducing player motion can avoid vection, where your brain is being tricked into movement. Reducing the jumps and turns will also help with motion sickness. It is important to provide subtle clues to the child to show him where to focus in the environment so the narrative unfolds as intended. This can be done through images, dialogue and sound. These little adjustments will ensure the child has a pleasurable and enjoyable experience.

Some further negativity around virtual reality is how some people might confuse the simulated world with the real one or how people might feel isolated whilst exploring the virtual space. My simulation is story based and therefore has a beginning, middle and end. There will be no issues with children confusing the two worlds because these are fairy tales that they have heard many times and are entering the virtual space only to experience the story in a novel way. Characters they meet and visuals they see will provide entertainment just as watching television, movies or playing games. Isolation will not be an issue as the story is familiar and time spent in the virtual world will be limited. There is a legal minefield for virtual reality with copyright issues and will only get more complex as the virtual worlds grow in popularity and the technology improves. At present there are no legal issues for children using VR except for individual companies having age limits for their headsets. It is hard to ignore virtual reality for children when two of the biggest brands, therefore McDonalds and Coca Cola have also embraced this concept encouraging youngsters to create VR headsets from their cardboard packaging (Wired, 2016). It seems virtual reality is a trend that will be more successful this time round than the last time in the 1990s when the internet and too much hype decreased its popularity.



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