

The Lifeworld of Writers: Virtual Reality Experiment for Library Visitors

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Abstract:

This paper experimentally investigated virtual reality as a new technology in library to promote greater empathy with a well-known author Jane Austen. The aim of this research is using innovative technologies to reshape the traditional libraries, to do so users experienced Jane's life and inspirations using virtual reality and immersive environments by visiting her house, walking in her backyard and interacting with important stages of her professional life, the aim of this project was to reintroduce Jane Austen's books to public and encourage them to read her publications, virtual reality was used as an effective tool to fulfil this need and the outcome was impressive, the level of visitors engagement was much higher than expectations and another library invited us to run the same project in their venue to motivate public audience to read more.

Keywords: innovative technologies, virtual reality, immersive experience

Introduction

Jane Austen was an English novelist known primarily for her six major novels, which interpret, critique and comment upon the British landed gentry at the end of the 18th century. Her works critique the novels of sensibility of the second half of the 18th century and are part of the transition to 19th-century literary realism. With the publications of *Sense and Sensibility* (1811), *Pride and Prejudice* (1813), *Mansfield Park* (1814) and *Emma* (1816), she achieved success as a published writer. She wrote two additional novels, *Northanger Abbey* and *Persuasion*, both published posthumously in 1818.

Monash University (Melbourne Australia) in collaboration with Library at the Dock (Docklands, Melbourne, Australia) commemorate Jane Austen's 200th anniversary by a very successful exhibition called "By A Lady". The reason behind choosing the title of the exhibition was Jane Austen's six novels were published anonymously and brought her moderate success and little fame during her lifetime.

The main goal of this exhibition was to reconcile people with the works of the greatest woman English writer and to explore her life, era and books. To achieve this goal innovative multimedia technologies was chosen to be used to reconnect audience with author. Interactive and immersive visualization was used to transport the visitor back to the history, culture, geography and lifestyle of the late 18th and early 19th century to create critical empathic experiences of the author's era.

Visitors could walk into Jane Austen's house while Jane was writing her novels they could also walk with her around the Hampshire which was fascinating for most of the participants.

Jane Austen's VR project

Virtual reality – the computer-generated simulation of images or whole environments that can be experienced using special electronic equipment – is progressing in several ways, including traditional virtual reality that creates environments, allowing people to be “present” in an alternative environment. Virtual reality technologies have been developed over several decades, including advances and contributions by researchers working in academia, aerospace, and the military, all trying to create alternative realities and experiences through digital technology. What has set recent developments apart are advances in computing power, more accurate motion sensors, and displays that have better resolution.

Libraries have long served as points for the public's first exposure to new technologies, and they could again play that role with virtual reality. The most common way to discover the perspectives of others is by learning about them through books, films, plays, photos, and other artworks and information sources. Although the approach of learning is ‘indirect’ in that we may never meet the individuals we hope to empathise with, VR is a powerful way of opening up our minds to unknown and distant lives (Krznicaric).

One of the significant aspects of this project was to make the visitor feel intimate with the author and the world around her. In a simple word to feel empathy and embodiment which is accessible via virtual reality.

In virtual reality user has 360 Degree view that makes it easier to tell complex stories. Users feel the presence in VR and see themselves in a scene and respond to the story with strong emotions, feel closer to the characters and by seeing themselves in the same space can feel the situation better (Shin). Likewise, in Schutte and Stilianovic research ‘Facilitating empathy through virtual reality’ they have come to the conclusion that the level of engagement and empathy through virtual reality experiment is higher than presenting the same content in a non-virtual reality format. Engagement and empathy have a direct connection, increase in engagement leads to increase in empathy (Stilianović). In fact, the higher level of empathy has been the result of the impact of immersive technologies on sense of presence. The research also investigated factors such as wider view, motion tracking and fast frame rate in immersive technologies lead to greater engagement. Since increased engagement in using virtual reality expands the empathy, it can reinforce the idea that engagement is the foundation of experiencing empathy and encourages the idea of using virtual reality can create relationships between individuals who have never been in contact with each other.

Content creation

For the content creation of this project, the team started with a content strategy to engage users to feel connected with the author and make each user feel like they're back to late 18th century. Accordingly, in the content strategy team considered a journey for users and divided that into three different stages (awareness stage was used to reintroduce Jane Austen and her works, consideration stage clearly showed her lifestyle and her surrounding world and decision stage encouraged audience to read more of her masterpieces) and created content for each stage of user's journey to ensure every individual experiences the immersive environment feels they are receiving relevant information.

Therefore, content creation was done noticeably in detail, from the civil architecture to dressing fashion, all have been created based on the most valuable resources from Emeritus Professor Chris Browne's personal collection, complemented by other works from the Regency period in England from the Monash Rare Books Collection.

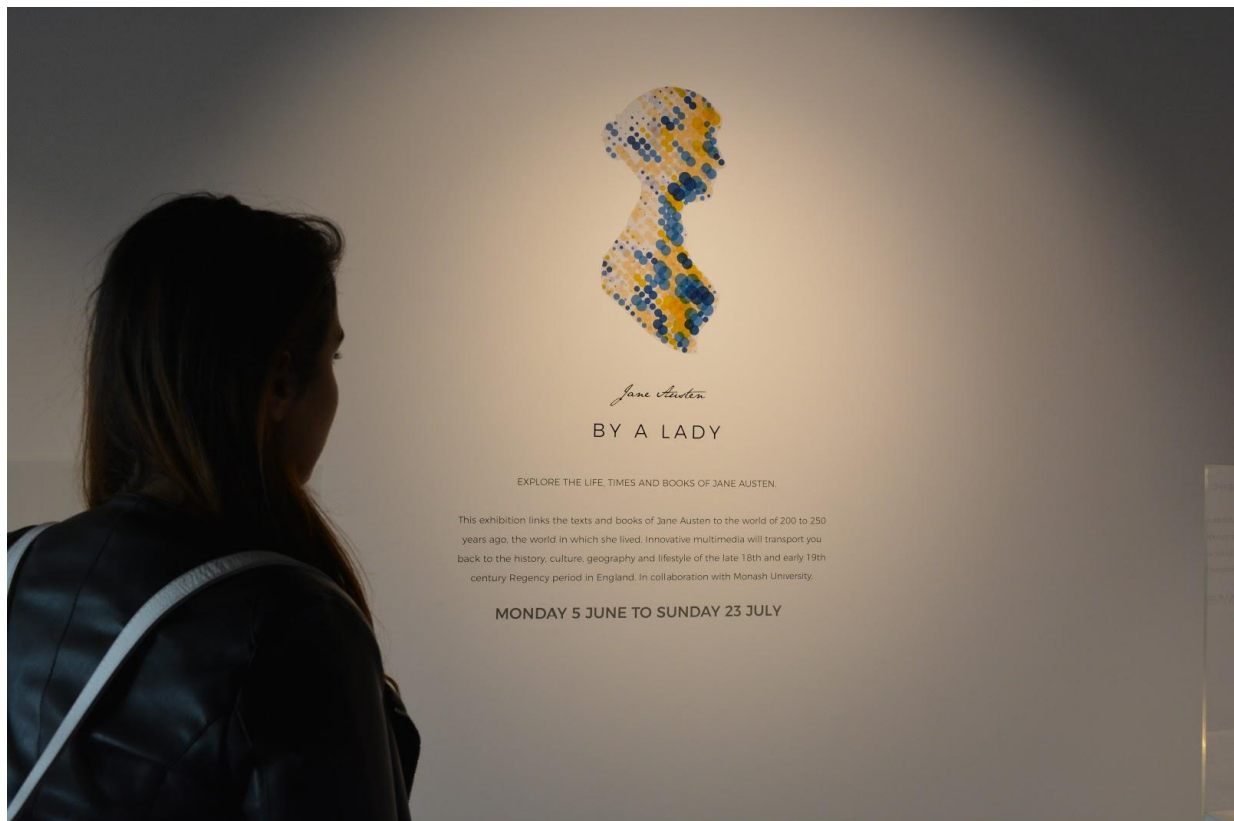
Techniques and Technologies

There are numbers of techniques and technologies used in this practice for development in using VR to transport library visitors back to the authors era:

- Oculus headset with 1080 x 1200 resolution at 90Hz, with lenses to produce a wide field of view. there were multiple facial interfaces so that the device could be positioned at different distances from the user's eyes.
- Headphones were integrated, which provided real-time 3D audio effects.
- Constellation, the headset's positional tracking system, used to track the position of the user's head, using the external infrared tracking sensors that optically track specially designed VR devices like Rift.
- A computer system to have Oculus PC runtime and the drivers installed in order to use the Rift. The runtime service implements a number of processing techniques intended to minimize latency and in addition improved the smoothness of VR applications even if a weaker hardware were to be used.
- Maya 3D modelling software was used for 3D character and environment design as well as 3D animation. Beside multiple design techniques were used in this project to achieve and communicate both tangible and intangible cultural materials.
- To build the immersive environment and deploy project for the Virtual Reality platform, rendering graphics, collision detection and memory management Unreal game engine was used. Also this game engine is used to create simulations and interactions to illustrate past

This is notable that location of VR station was carefully selected, in choosing the perfect spot; the space, exhibition venue, the number of library visitors as well as work health and safety issues were considered to give users the best experience they can have by trialing it in a safe and secured dedicated environment.

Exhibition





Conclusion

With the growth of technology and the modernization of human life, the use of modern technologies in libraries is inevitable. Library at the Dock, through the use of new technology of virtual reality and three dimensional visualisation took its visitors to the 18th century to experience the past in a new way by benefiting from 360 degree view, increased the sense of empathy between writers and users.

This research might further investigate the use of virtual reality in library as a point of interest for audience to experience that environment themselves first hand, since some authors get inspiration by their surrounded world. also can be useful for others who are interested in writing books to experience the world and mood of their favourite writers that might have significant impact on their job, on the other hand, this practice could be a way to reconcile the people's interest to those writers who used to have the best-selling books in past but are not currently on demand.

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