Performative-R: A New Way Of Storytelling

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1 WHAT IS PERFORMATIVE-R

Virtual reality is known for being a solitary and isolating experience, with one person in a headset at one time. Satore Studio have broken this concept, exploring how this technology can be integrated into live performance and theatre, creating a new supercharged audience experience.

Satore Studio are experts in storytelling within live entertainment and immersive experiences, collaborating with sister company Satore Tech, and a_Bahn to create a new compelling experience, merging several different realities – coined as Performative-R. The concept comes from the exploration of storytelling through the creation of several realities, living together, using multi-disciplinary artistic technological media. This opportunity explores how VR can be expanded into a communal experience, with one person as a director, guiding the character and narrative for an audience, giving them the perspective of the interactor.

To keep audiences thriving within live performances and avoid a decline within the industry, it is imperative to explore how initiatives in VR technology can bring solutions to these threats. As consumption and customer experience trends rise increasingly over the past decade [Gherini 2018], it is evident people want more for their money, hence the need to create a new and exciting genre that combines VR, cinema and live performance together in one space. This genre is not limited to theatre but can be expanded, tested and explored within other commercial markets for example; training, retail, opera, ballet, concerts, art galleries & museums, leisure and other obscure commercial enterprises. Performative-R allows people to be immersed into environments that bring realities and specific scenarios closer to audiences. Satore are excited to hear the industry's reaction and welcome speculative, new applications of this genre.

2 CASE STUDY – COSMOS WITHIN US

To understand how this 'new genre' works, the immersive VR production, *Cosmos Within Us* is introduced – using a performance art twist and storytelling power, the piece transforms the mixed reality realm. *Cosmos Within Us* is a performance that happens

Figure 1: Cosmos Within Us at NY Live Arts, 2019.

in real time, driven entirely by an interactor wearing a headset, driving the VR show. Exploring the emotion of loss; loosing childhood innocence, a loved one or memories, loss is a universal and inevitable feeling that everyone will experience at some point in their lives. The narrative revolves around the main character Aiken, a 60-year-old man suffering from Alzheimer's disease, whose mind the headset wearer (interactor) and audience are drawn inside. Throughout, the audience experiences Aiken's struggles with his deteriorating mind, against time and against final loss of his past.

Like many traditional film narratives, the interactor and audience go through a series of emotions. As he tries to remember his past memories, he re-lives meaningful family moments, on holiday and playing with his little sister, Lily. This shifts, as his fond childhood memories feel tainted, re-living a deep sense of tragedy he wishes he could forget. At the very heart, *Cosmos Within Us* uses technology to evoke empathy and understanding towards those affected by Alzheimer's. VR was a chosen platform, as a non-linear narrative was needed to achieve this compassion, adapting it to each individual experiencing it. With a combination of elements, including mixed reality innovation, live digital animation, smell, taste, touch and a 360-degree audio experience with live performers including musicians, dancers, voiceover artist and conductor, allows it to happen in real time.
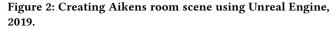
Experienced by a single headset wearer, the story plays out as the interactor explores the virtual world around them, whilst being presented to an audience like a traditional film via large projection, whilst simultaneously enjoying a behind the scenes view of the live performers (including the interactor) on stage, as each element brings the story to life.

3 CREATING A VIRTUAL WORLD

During development, it was important to consider how the experience would be adapted to each individual. The obvious choice was

Figure 2: Creating Aikens room scene using Unreal Engine, 2019.

a real time engine against pre-rendered content to ensure virtual elements could be modified during the live performance. During protyping and proof of concept, several different real time 3D applications were used, however none offered quick prototyping and impressive graphics. Unreal engine provided graphical fidelity and a guaranteed platform for development.

Additional tools include, UE4's new particle engine 'Niagara', used as it allowed CSV files from Houdini to work directly in the engine. The Houdini Niagara Plugin was instrumental in allowing real time volumetric rendering in UE4. In addition, OSC integration with the UE4 enabled the crew to communicate over the network alongside the Unity Audio engine.

Unity was the chosen environment by MagicBeans; their Audio-Engine incorporated a large amount of custom code for acoustic modelling that was impractical to port to Unreal for this project. Effective seamless integration with Unreal was achieved using an OSC based protocol to exchange control data – acknowledging connections between music therapy and improvements in dementia sufferers. A 360-degree audio system was created to fully immersive the participant, altering sounds within the binaural headphones and loudspeakers according to the movement and position of the interactor. Sound was spatialised and layered, working with psychoacoustics and personalising musical elements. From the outset, a five-metre square space was required, dictating the VR headset needed – HTC Vive Pro with wireless adaptor allows the interactor to freely move without the chance of them being removed from the immersion.

To create a multi-sensory experience, the team considered how smell, taste and touch mixed with visuals and sound would affect the interactor. Combined with scientific findings, the piece explores what stirs and stimulates the human mind. A study conducted by Stockholm University, revealed that smell has the strongest and most direct connection to memory [Olofsson 2017] Olfactory designer Nicola Pozzani placed scents throughout the experience, driving the story and 'triggering' the characters memories and those of the experiencer. Scents are placed in the performance by scented paper placed under the interactor and audience members noses by shadow dancers, this was the preferred method over the release of smells, as scent molecules last several hours, enabling the scent to be contained until needed. Integrating shadow dancers into the piece meant they were responsible for manipulating the participants sense of taste and touch. Providing biscuits, using fans

and guiding the interactor to sit and navigate the space. Other elements were included through the development process such as lighting, set design and live performance to enhance the immersive experience.

4 AUDIENCE

An audience was at the heart of the piece, with the performance as the main factor. Real time direction allows musicians, voiceover and other technical elements to be created based on the interactor's movements. Dancers provide an improvised performance creating movement, reacting to the interactor's discovery and providing senses throughout.

Through concept and format development, *Cosmos Within Us* has gained momentum and attention, resulting in the scale of the experience growing in size. Initially starting with 4 audience members at its debut at the 2019 Venice Film Festival, within a month the performance grew to an audience of 10 at Raindance Film Festival. There were then 3 sell-out shows at the Eye Filmmuseum, Amsterdam in front of 115, before heading to New York for a show boasting a screen as large as the stage for a crowd of 150. To accommodate changes and adapting the show, lighting rigs and Panasonic PTZ cameras have been introduced to feed into a Blackmagic ATEM 2 Production Studio so the audience can see the interactors reactions. *Cosmos Within Us* won recognition with a Spirit of Raindance award and a nomination for Producers Guild of America.

5 FUTURE LINE OF DEVELOPMENT

The most important discoveries were the use of multiple realities, the ability to use the creation of the piece as part of the performance and show the audience how elements work together to create a feeling. Techniques were discovered during the process, for example new workflows from Houdini into Unreal, how the Art Department worked in order to create different spaces and the importance of directing the piece to block scenes, giving the interactor subtle direction. Also, how voice, music and pre-recorded sounds and ADRs were used in a sound engine and how these could be triggered and played, using different software's (Ableton/Pro Tools). Developments within Performative-R are currently in progress, incorporating other realities such as AR and experimenting with technological innovations allowing exploration into new narratives for cultural and entertainment purposes.

REFERENCES

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