

The use of virtual reality for capacity building through sensory experiences

Who are we?

My name is Gerald Farrugia, I am a Day Options manager at The Disability Trust. We are an organization that provides services to individuals with intellectual, physical and sensory disabilities throughout NSW, ACT & VIC.

We have been working alongside a local start up tech company called Devika to develop a virtual reality sensory experience.

The close relationship between Devika and The Disability Trust has been vital for the successful outcomes of this project. The Disability Trust has been providing feedback and insight to the sensory needs of participants and Devika has been turning our requests into reality.

The Project

This project started as a trial to gauge if individuals with intellectual disabilities would benefit from a virtual reality sensory experience. It was quickly identified that not only did the individuals enjoy it, there were lasting benefits.

The space has been designed to provide a safe, non-threatening environment, that is aimed at calming or stimulating the senses.

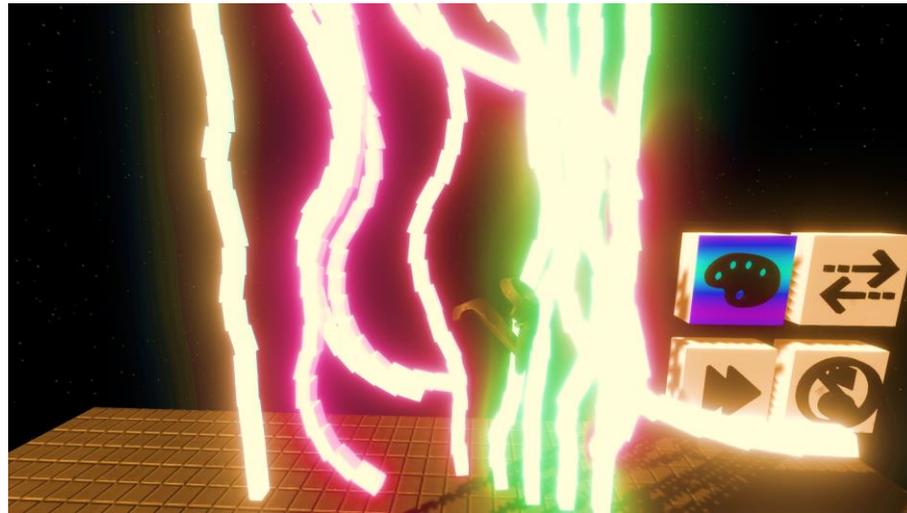
The project has been able to be expanded so individuals with various disabilities and support needs can benefit not only from a virtual reality sensory space but a whole range of virtual reality experiences.



Reported Benefits

The cost of a virtual reality sensory space is a fraction of a conventional sensory room, bringing the sensory space within reach of more people with sensory needs.

The most beneficial aspect of a virtual reality sensory space is that the equipment and sensory space are fully mobile and can be utilized across multiple environments thus benefitting a larger number of individuals.

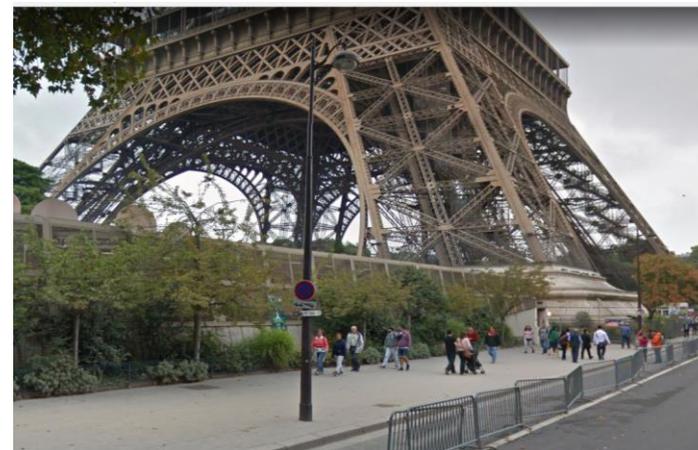


Building Capacity & Improved Outcomes

- Individuals are using the equipment as both a regulating tool and a recreational tool. We have found the greatest benefit is with individuals who experience heightened levels of anxiety.
- Participants experiencing dysregulation benefit from the sensory experience due to the calming nature of the virtual environment. Participants with heightened anxiety are provided with an opportunity to regulate prior to engaging in capacity building activities. Commencing the activity with reduced level of anxiety allows the participant to better focus on the task at hand resulting in improved outcomes.
- After several minutes utilizing the sensory space participants who are able to articulate how they feel report reduced levels of anxiety and improved focus which allows for better outcomes when completing activities.
- Participants unable to articulate their feelings using the equipment have been displaying reduced levels of anxiety allowing the participant to access activities and programs which align with their goals.

What Else?

Beyond the sensory space participants can access a range of capacity building activities in virtual reality, these include cooking activities, travel, sport & leisure activities. Again in a safe non threatening virtual environment. Participants can build capacity with these activities virtually before moving onto reality again allowing for better outcomes.



What we didn't expect to find

The Story of Carol & Jade

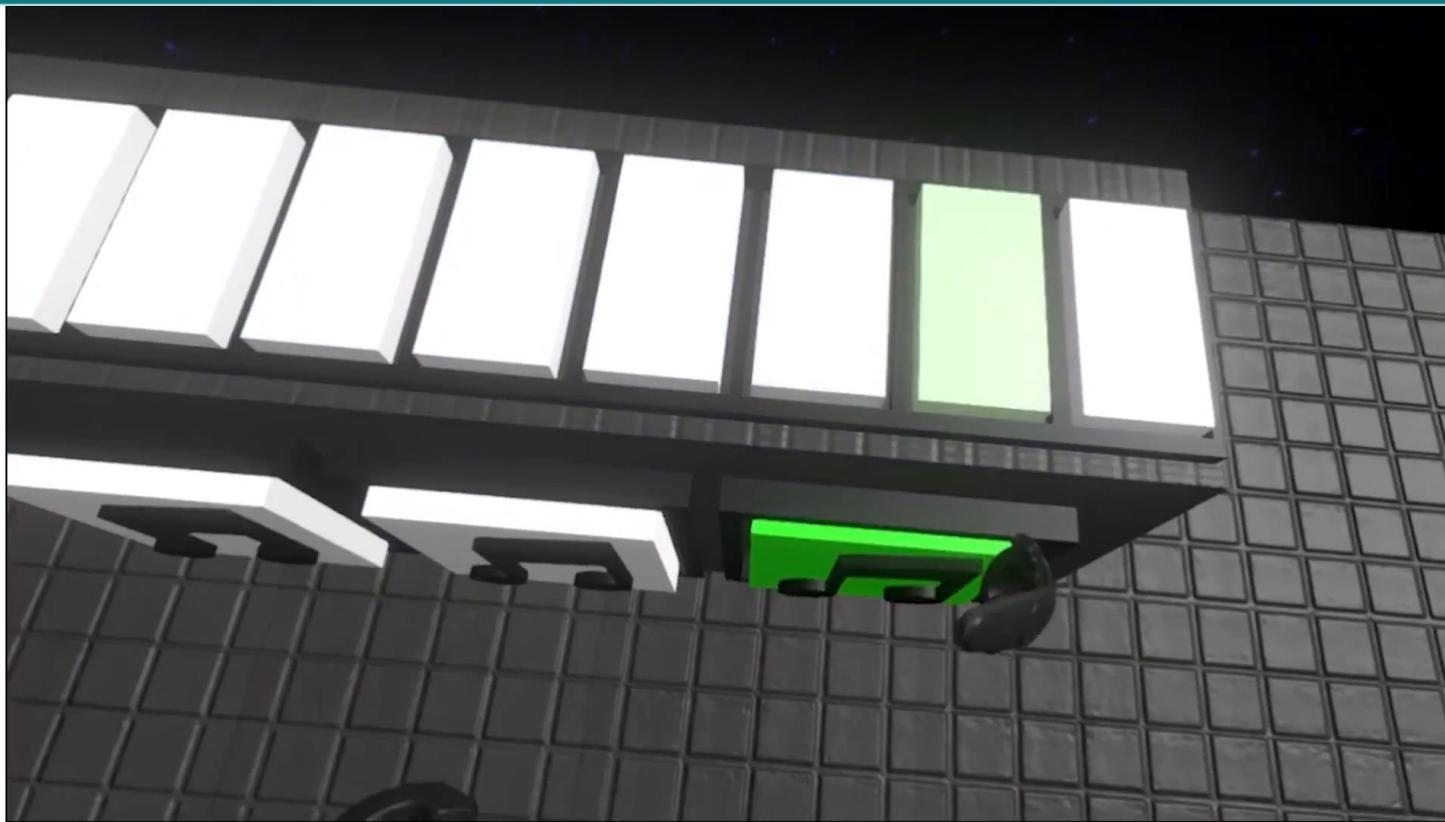
Carol & Jade are two quite different individuals, Carol is a lawyer and a stand up comedian. Jade is a final year social work student with a strong interest in heavy metal music. Carol and Jade have in common that they are both legally blind. Both ladies do have some however quite poor vision. When offered to use the virtual reality equipment both ladies were quite reluctant as they both felt that there would be no benefit for them. Once in the space both Carol & Jade quickly became overwhelmed by the experience. For the first time in both of their lives they were able to effectively interact with things around them, pressing buttons and seeing the reaction. Carol went onto explore the streets of Paris, somewhere she had travelled with her family but didn't really get to experience.

Jade loved being able to interact with the environment in a way she was not accustomed to.

More research is required to understand what is happening with individuals like Carol and Jade in the virtual space.

What do you experience?

Matthew



Data

- Approximately 80% of participants are willing to wear the headset, some of those participants struggled with it at first, those participants were supported with some alternatives before moving onto the actual headset.
- 85% of participants using the equipment either reported they felt calmer or showed via verbal and visual indicators they were calmer.
- Only a small number of participants reported that they felt uncomfortable using the equipment and didn't want to use it again.

Barriers

Some of the barriers we have come against include participants not willing try on the headset. We have worked with participants by offering them to start by wearing sunglasses, moving to work goggles and then finally the headset. There are still participants who are not willing to try on the equipment at all. This decision is respected by the facilitator.

Originally the equipment we purchased was fixed by a cord from a stationary computer to the headset which means the sensory experience was not portable. Software and hardware advances have now allowed the equipment to be fully mobile. This allows participants to benefit from the equipment at home, in the community, school etc.

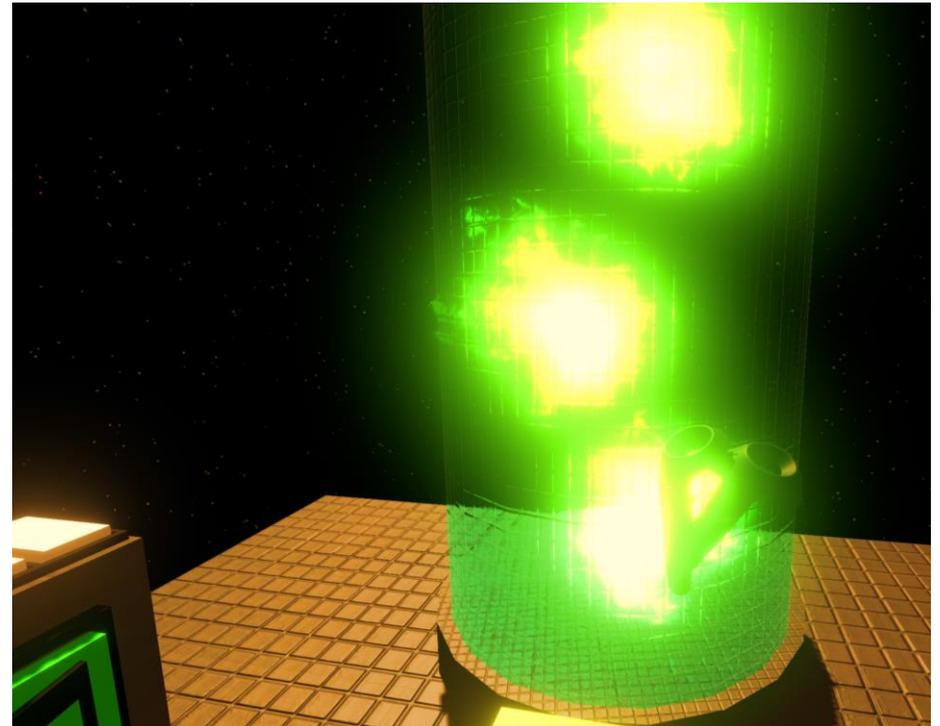
What do the users think of the experience?

Jade

I was in a very bright world with high contrast colors and I was able to interact with what was around me. It was so cool and I was able to see clearer.

Stephen

I felt really calm. It was really cool, I want to do it again.



Into the Future

Looking ahead we will be collecting data with the aid of monitoring equipment to measure, heart rate, oxygen saturation along with verbal and visual indicators of participant response.

In collaboration with Devika the data we are still collecting will be collated for formal validation.

Into the Future

[Evenness by Devika](#)



Final Comments

The Disability Trust values both innovation and collaboration, this has fostered the relationship with The Disability Trust and Devika. Our shared values have promoted these positive outcomes for participants accessing the virtual reality equipment.

I thank The Disability Trust, Devika, my colleagues and in particular my senior manager Mr. Ryan Kiddle for providing the resources and ongoing support for this project.



Questions

