Project 62

Exploring Embodiment in Immersive XR

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Dancing in/Dancing with the Digital

Key goals:

- Investigate dancers' sense of embodiment in virtual spaces as a choreographic/creative catalyst for a work of art

- To connect observations of embodiment with cognitive psychological theories

- To increase understanding of human movement and perception in XR technologies

Challenges of XR and Dance

- Dancers often need to be unencumbered (think bulky VR headsets)

- Audiences rely on seeing the human form move through space

- How can you feel embodied in a space that isn't real?

Embodied cognition theory feedback loop
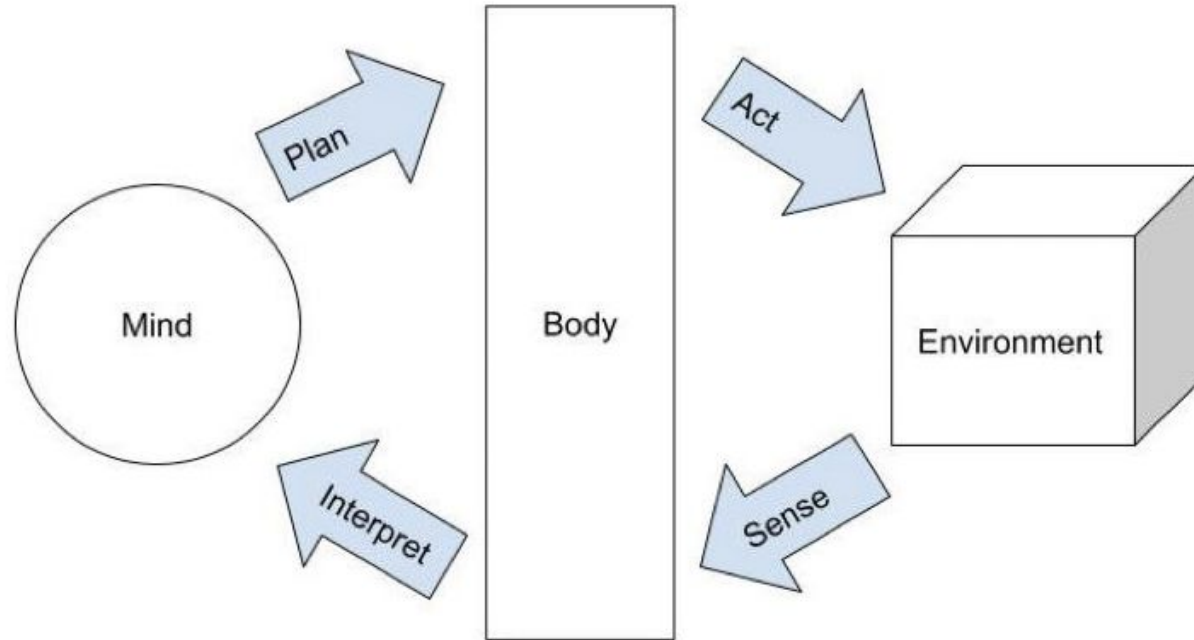
Some avatars in Choreomorphy (El Raheb et al):

...The different avatars created for the dance practitioners a creative, immersive experience **which stimulated their movement improvisation.**

Most of the participants explained that this marginal perception of the avatar as their own self was **a motivation to new movement** patterns.

Extensions generated with neural networks (Bisig et al)
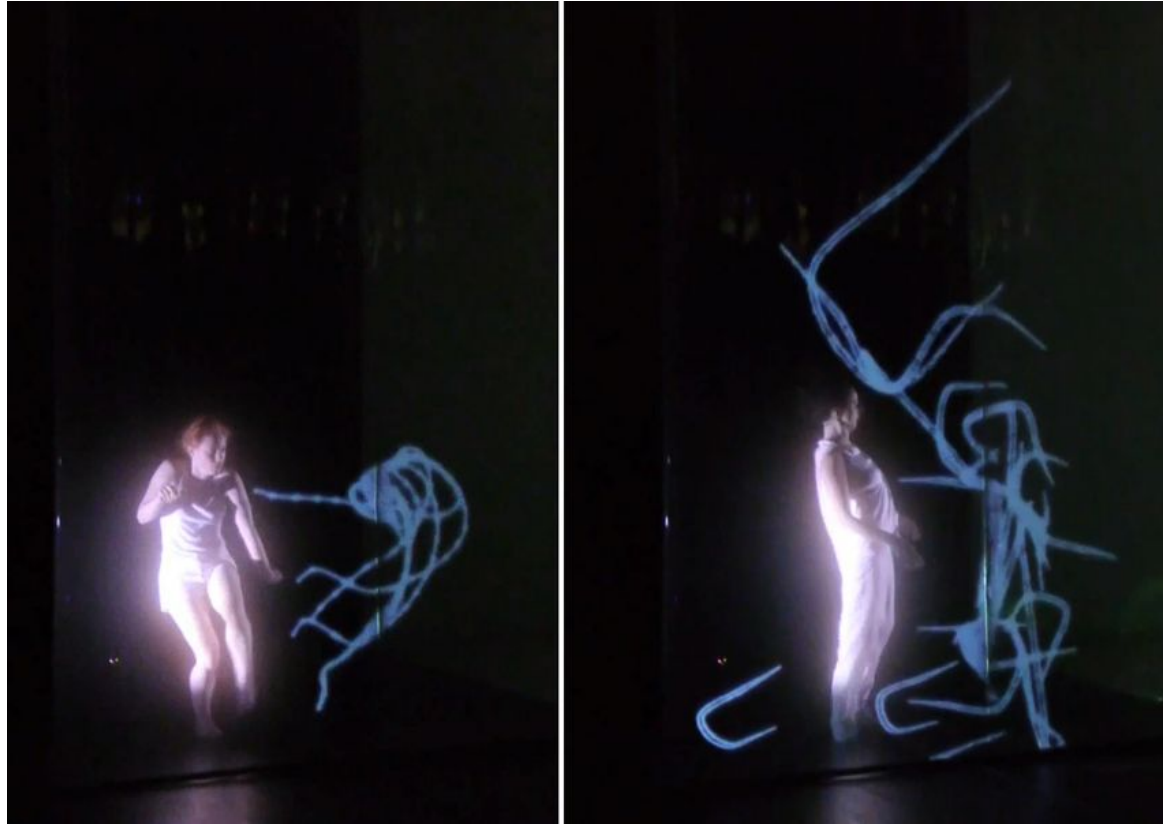
"The state of an embodied connection with the auditory environment provided a new way for improvisational dancers to perceive their movement qualities and time."

"They could tell through the sound how long they had been in stillness or in a repetitive cycle, and made **compositional choices to maintain, evolve, or dissolve an idea**."

# Existing Applications of XR in Dance

- As a dance or education tool:

    - Tone Study

    - Analysing Movements

- For performance and audience experience:

    - AR Augmentation through IPads

    - Representations of audience, e.g fireflies lighting performance.

Next Steps:

- There is a lot to explore

- Workshops with dancers

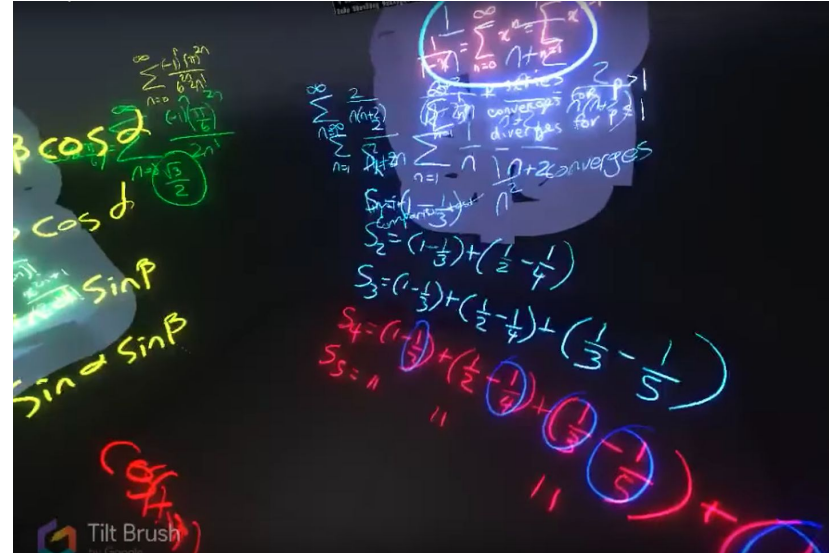- How do they interact with XR technology?

Workshop 1

- Tilt Brush

- BeatSaber

- OhShape

- Real Life Materials/Props
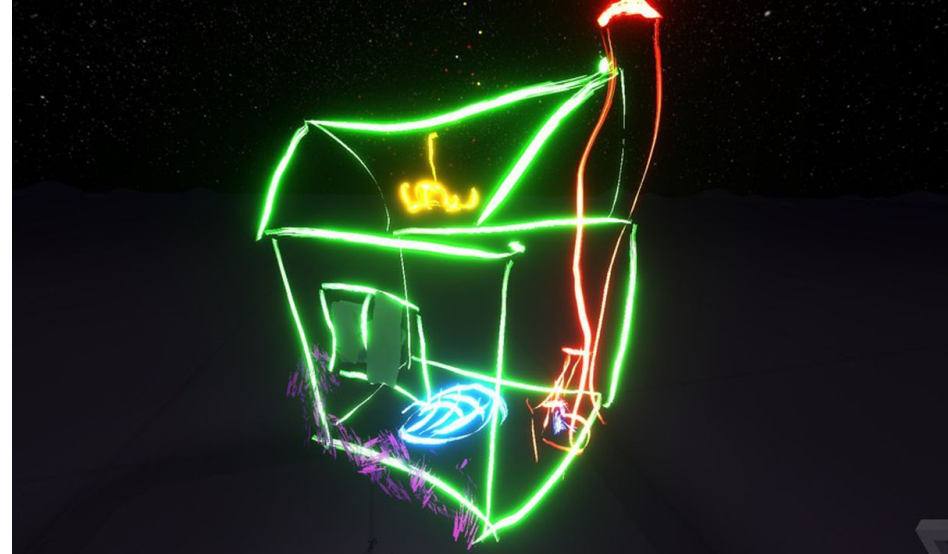
What We Observed

- Open-ended

- Full Body Gestures

- Collaboration

  - Dancers and Non-Dancers

  - Dancers and Future Dancers

  - Synchronous and Asynchronous

Next Steps: More Workshops

- Movement tracing with Mocap

- More collaboration

- Exploring audience perspectives

Thank you for listening!