

# New technics of selection, manipulation and placement of objects for editing in Virtual Reality

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OPEN INFORMATICS - COMPUTER GAMES AND GRAPHICS



# Inspiration

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# Analyse

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ShapesXR – 3D models, sounds, scenes creation in VR



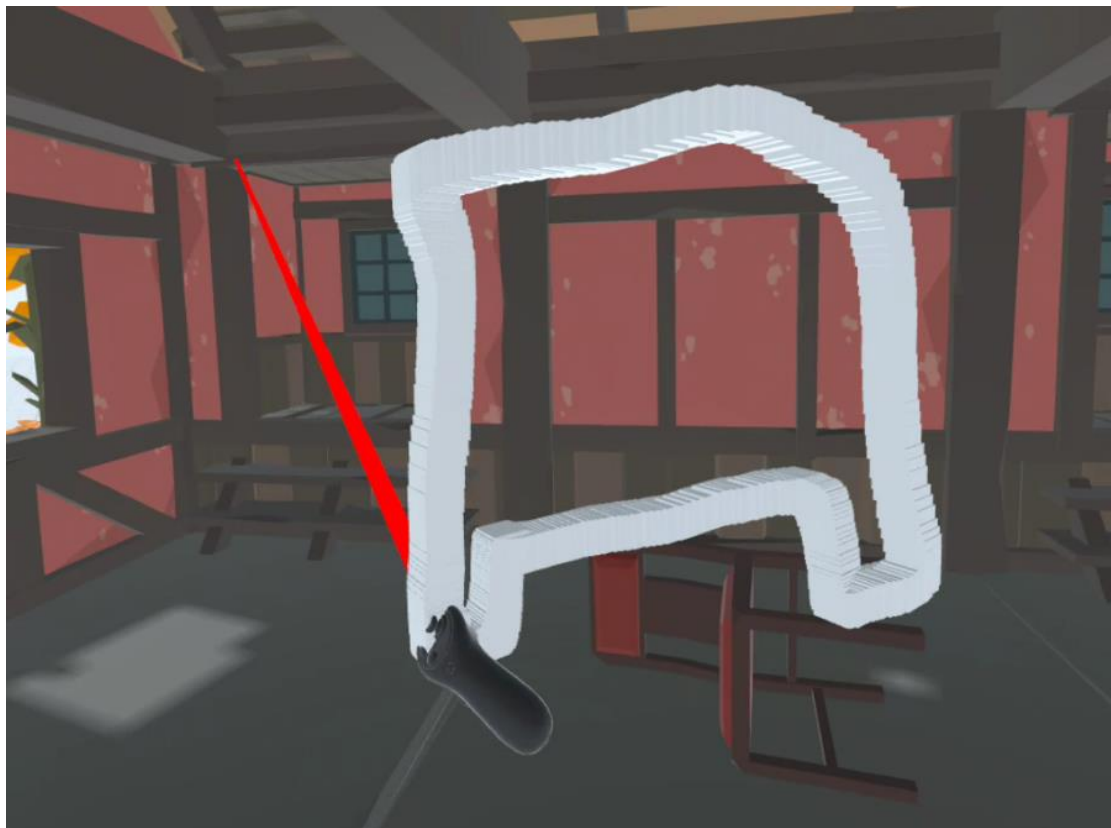
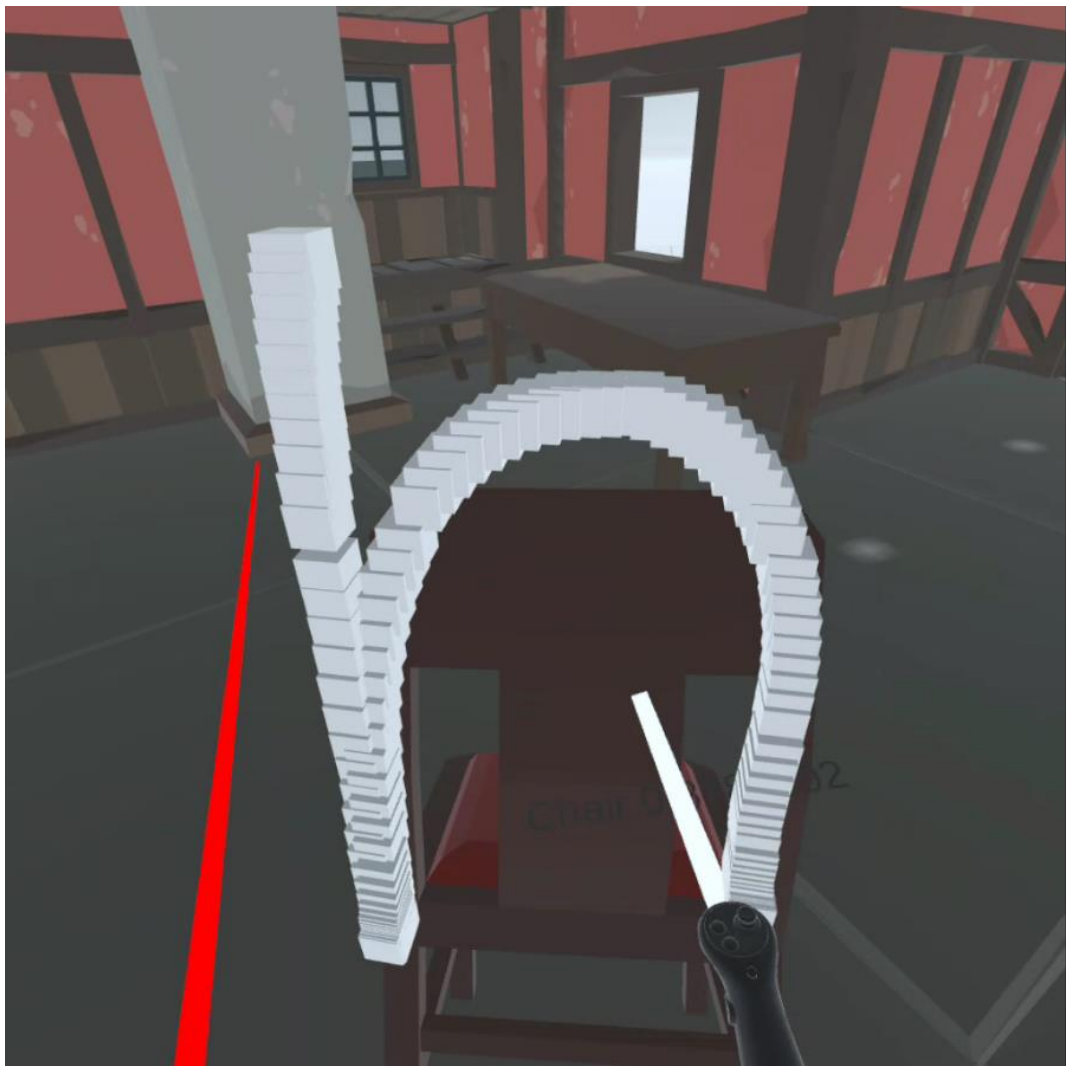
Object selection by drawing shapes:

- Only concepts were found

# Implementation

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- Standalone app for Oculus Quest
- Developed in Unity and uses Unity XR Interaction Toolkit
- PDollar for gesture recognition



# Testing

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- 5 people
- Testing was done individually
- Composing scene in Unity, then in VR project

# Testing Results

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- Scene creation in VR is better
- Ordinary object selection is preferable
- Different styles of handwriting are hard to recognise

# Conclusion

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- Shape recognition is not very practical in game development
- More suitable for games
- Making scenes in VR is more intuitive



# Future of the project

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- Adding more object manipulation features
- New ways of object selection(voice recognition, selection from list)
- Better save system and scene recreation in Unity

Thank you for attention

How would you use your implementation (one stroke drawing) to select a particle effect from the assets?

# Recognisable by people shapes

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Fire



Stars particle

# Particles, connected by line

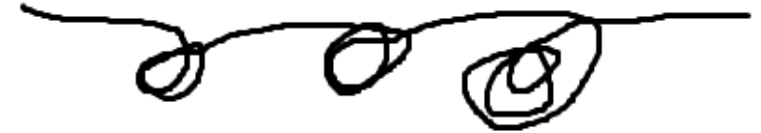
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Water drops



Line-shaped particles



Spiral-shaped particles

# Links

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<https://youtu.be/50ohFOo1wzM>

<https://imageio.forbes.com/specials-images/imageserve/618d340a310422cc6066afd9/Tavori-MR/960x0.jpg?format=jpg&width=960>