

Where the Heart Is

What Makes a Virtual Space Feel Like Home?

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Background

Some people struggle with a lack of space, lack of control, or lack of permanence where they live. Virtual reality could solve some of these issues, allowing users to augment their home with additional rooms, or providing a stable home to those without one. Previous research has identified factors that can make a place feel like home, but these have not been explored in VR. We seek to close this gap and fully investigate the potential of hybrid virtual-physical homes.

Methods

Our research has multiple components:

- Conducting **interviews** and **co-design experiments** to identify what makes a space feel like home, and what psychological needs people have for their homes
- Developing several **prototype virtual rooms** to try to bring these ideas into virtual reality
- Conducting **playtests** with these rooms to evaluate how effectively certain features evoke a sense of home

Ritual

If a virtual space is fairly predictable, this might make it easier to develop routines which increase attachment to the space.

Time

It could be useful to make virtual spaces change over time, like with shifting seasons or plant growth, so users can appreciate how much time they have spent there.

Comfort

If users are uncomfortable in a virtual space, physically, mentally, or socially, it could prevent that space from feeling like "home."

Personalization

Letting users make decisions about their virtual space and bring their own items into it might make it seem less generic and more like it belongs to them.

Memory

Virtual reality has the potential to give people access to spaces they can no longer visit, like a childhood home.

Continuity

If a virtual room has sights, sounds, and/or tactile feedback to connect the user back to reality, it might feel more like it's part of the user's home.

Privacy

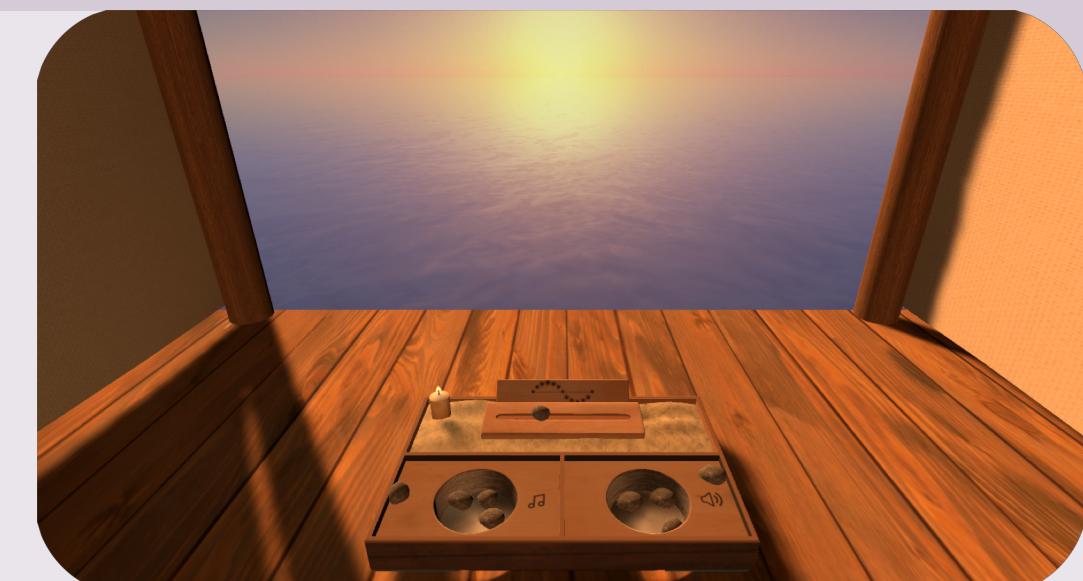
People might be more comfortable in virtual reality if they could trust that no one would enter their (virtual or physical) space without their consent.

Relationships

It will be important to make virtual rooms that can be occupied by multiple people, facilitating meaningful interactions with friends and family.

Meditation Room

Research Areas: Comfort, Ritual
Features: Ability to control settings like time of day and volume of sounds, Peaceful environment with ocean view



How much can users relax and feel present in the virtual space?

Greenhouse

Research Areas: Time, Personalization, Ritual, Interpersonal Relationships
Features: Neighbors send letters/gifts, Plants grow over multiple return visits, Use your hands (Leap Motion) to directly interact with your plants



How does investing time to shape a virtual space affect users' sense of ownership over it?

Hearth

Research Areas: Continuity, Comfort, Personalization, Privacy
Features: Virtual furniture aligned with real furniture, Personal photos and objects on the mantel, You can see the other people in the room



How does an improved understanding of one's physical environment affect one's ability to relax in the virtual space?

Future Research

This project is ongoing, and we are currently in the process of conducting interviews, co-design activities, and playtests related to our single-user virtual rooms. Throughout the next year, we plan to investigate questions of multi-user virtual spaces as well as interactions between the virtual and non-virtual worlds. We intend to continue this research for many years as VR technology improves, and we hope our results can inform the way virtual spaces are developed in the future.