

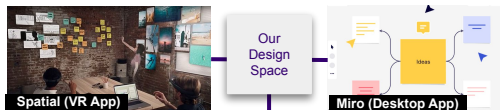
Collaborating Through Virtual Reality

- Virtual Reality (VR) is establishing its presence in the workplace by providing new experiences, where users can step into inspiring landscapes and utilize creative tools to enhance remote collaboration.
- Moonbeam challenged us to explore how to support ideation in VR in a way which takes advantage of the 3D medium, leading us to seek:

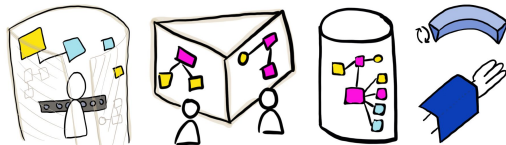
How might we support remote collaboration through diagramming within VR?

Background Research

- Our competitive analysis of collaborative VR applications showed a **lack of being able to create diagrams.**



Preliminary Ideas



Frequency of Use

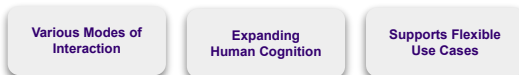


Not Often Plan to Use More Very Often

- Our interviews **confirmed that a diagramming tool would be an important aspect of remote collaboration.**

Design Considerations

- We determined that our core functionalities should include:



- The mockup of our tool shows the simple interface and various interactions.

High Fidelity Mockup



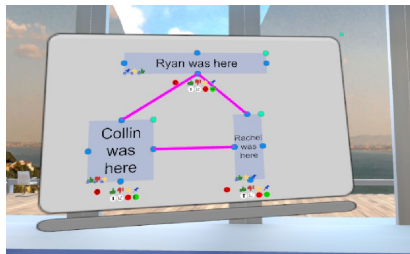
Implementation and Final Design

Used Unity's API to create our tool on the Oculus Quest 2

Created C# scripts to allow actions on any item it is attached to

Attached scripts on 3D objects to test functionality

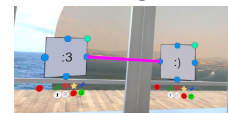
Applied UI designs to finalize the product.



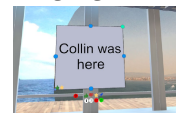
Diagramming Tool- Developed Features

Features	Purpose
Edit color/size/font button	Flexible editing capabilities to apply to the blocks for organization and differentiating ideas
Easy way to connect diagram blocks	Conventional way to allow for users to connect ideas simply by pressing on anchor points
Casting 3D objects to 2D planes	By being able to cast objects from 3D to 2D it makes it easier for the user to attach the objects on a board in a more organized way
Delete Button	Allows for easily made mistakes to be removed with a click of a button
Interactive responding through icons	Uses a counter which will keep track of different reactions on each post, helping users in group settings to easily interact with each other's idea s

Connecting Ideas



Editing Diagram Blocks



Future Work and Acknowledgments

Next steps for our project would be to continue developing features. The features we implemented were from a prioritized list, organized by tiers. Further implementation would involve developing Tiers 2 through 4.

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