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.

**Our Design Space**

Preliminary Ideas

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

**Spatial (VR App)**

**Miro (Desktop App)**

Frequency of Use

- Not Often
- Plan to Use More
- Very Often

**Diagramming Tool- Developed Features**

**Features** | **Purpose**
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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 ideas

**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.**

**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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