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Sprint 4 Artifact

This week's focus was on the research and implementation of hand tracking compared to controller tracking.

After extensive research on hand tracking and an implementation for it in the scope of Boeing's specifications, I stumbled upon a total of

1 way to maneuver the world efficiently

2 ways to interact with objects

3 Unity packages that contain methods of implementation for the above.

Of the three packages, only one of them is up-to-date as of 2021 and has working tutorials and guides on installation. When I attempted to install the package and import it into an existing project, I was met with over a dozen error messages, the inability to build the project, and a list of dependencies I would not to install on the side.

I spent 6+ hours this week testing hand tracking implementation and interactions on a single project which I have confirmed works with controllers. There is no reasonable method of implementation for hand tracking that allows for the freedom of movement and freedom of interaction that is necessary for this kind of project.

I have realized that the technology behind hand tracking implementation in VR is still extremely new, having only been introduced as a form of tracking in the most recent VR hardware release of the Oculus Quest 2 in October of 2020. There has not been sufficient time for VR developers and software developers to create working scripts and implementations ready for the public that is bug-free or stable enough to use in our implementation.

Therefore, my conclusion is that controllers are the best method of interaction for our project. They provide a reliable method of tracking that is universal across all VR hardware types and not limited to the hand tracking of the Quest 2. Controllers also have interaction methods easily set up with the basic Oculus Integration package and dozens of third-party packages that are installed with ease and extend the functionality of your character in the world exponentially. Hand tracking is simply not feasible currently and requires an effort comparable to a separate project to implement.

 We do not currently have the time, resources, or man power to effectively implement hand tracking in a VR project that checks all the requirement boxes for what needs to be created.