NANYANG TECHNOLOGICAL UNIVERSITY
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School of Computer Science and Engineering
College of Engineering

VR Arena-Scale Co-Location System

For Multiplayer In Physical Space

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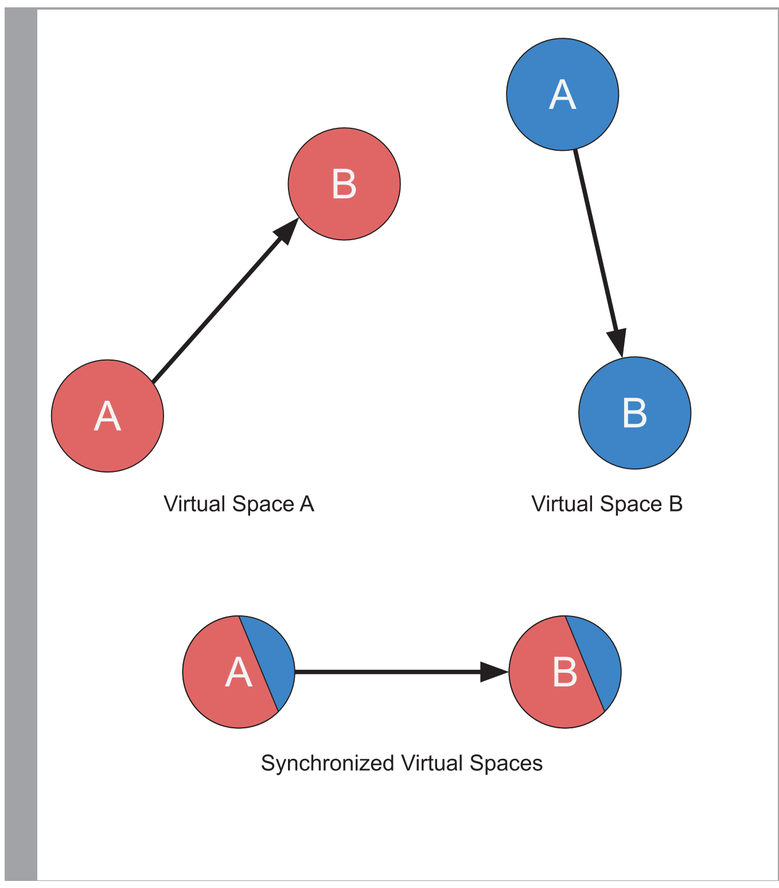

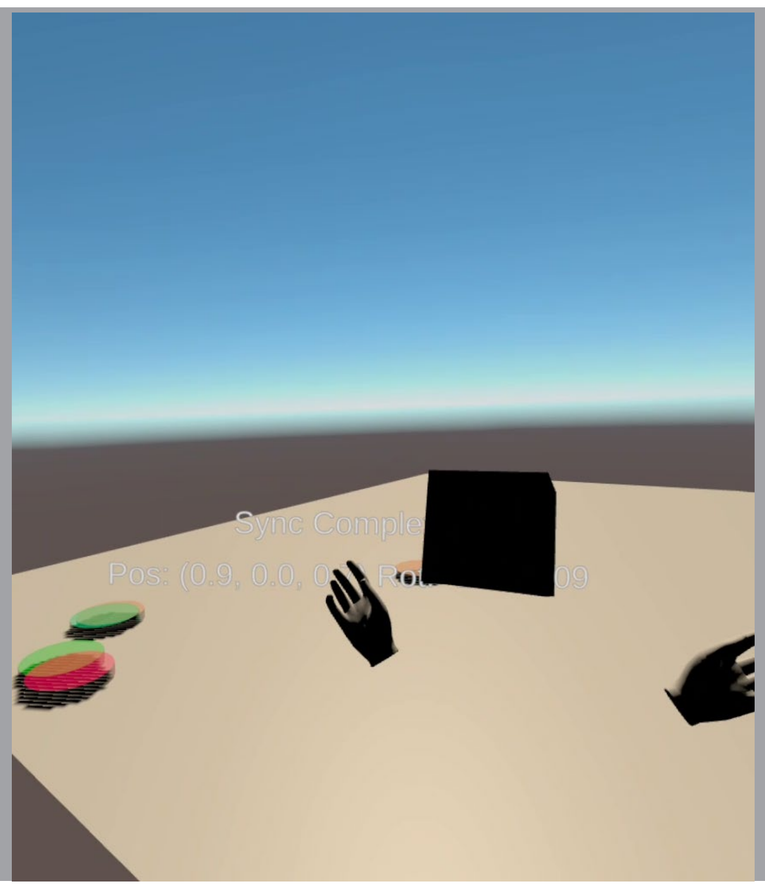

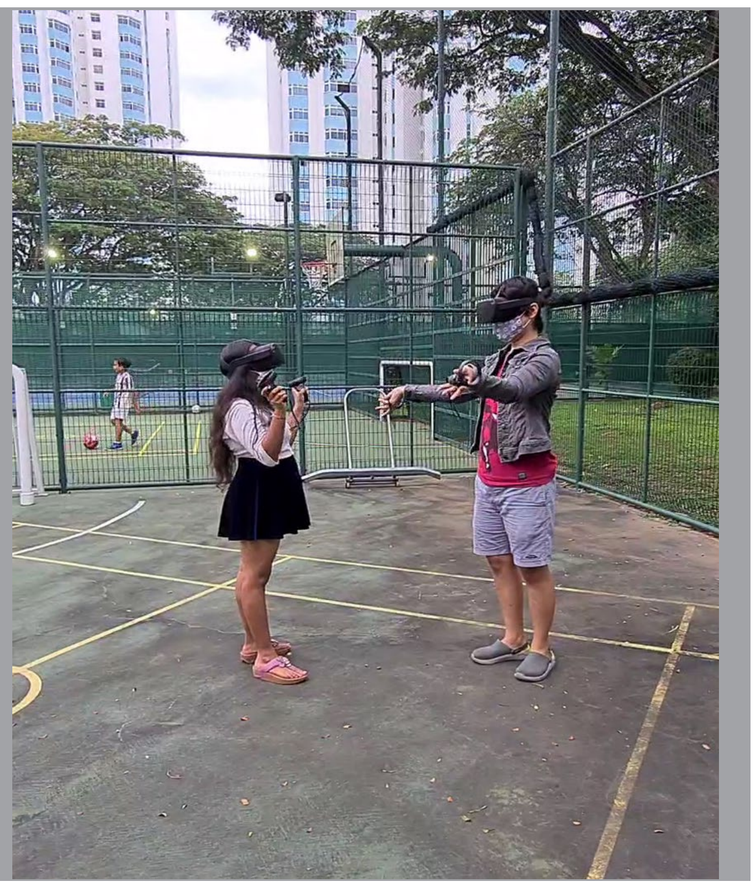

Project Objectives:

This prototype demonstrates a simple and easy to set up co-location system for on-site multiplayer games for the Oculus Quest and any other future stand-alone Virtual Reality Headsets. The system syncs virtual spaces together by directing players to stand on the same spots as all other players. 2 shared points enable the system to sync in translation and rotation, while 3 or more allows for the correction of player inaccuracies in matching physical spaces. No physical markers nor additional hardware besides a wireless local area network (WLAN) are required.

Error Correction Functions

Mean Distance

Median Distance

Mean Square Distance

Worst Distance

Toy Demo of Space Sync