

Holoman



Fig 1 - Holojam avatar.

Summary

The purpose of this experiment is to test the basic features of the Holojam System that includes the Optitrack Rigid Body tracking, the Holojam Server and the Holojam Client running Unity on a GearVR.

Setup

The basic features of the Holojam SDK consist of the elements to create a VR Player using Optitrack markers for the head, hands and ankles of a real player. See Fig 2.



Fig 2 - Optitrack Markers.



Fig 3 - Motive Rigid Body Tracking System and Holojam Server.

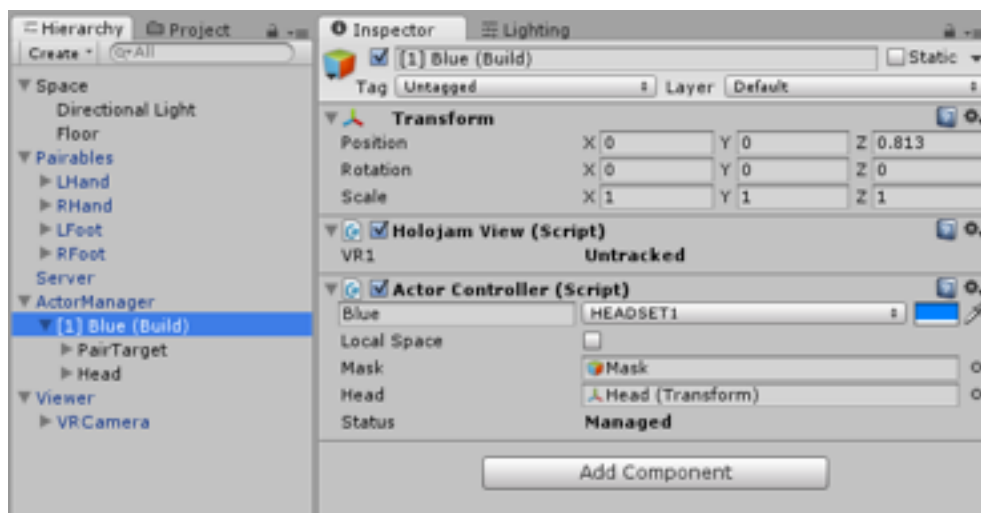


Fig 4 - Actor Manager.



Fig 5 - Player with Markers.

Execution

The virtual player is create from tracked reference markers on the player using inverse kinematics. The Actor Manager reconstructs the full body of the Actor from pairables elements corresponding to hands, feet an head. See Fig 6 and Fig 7.

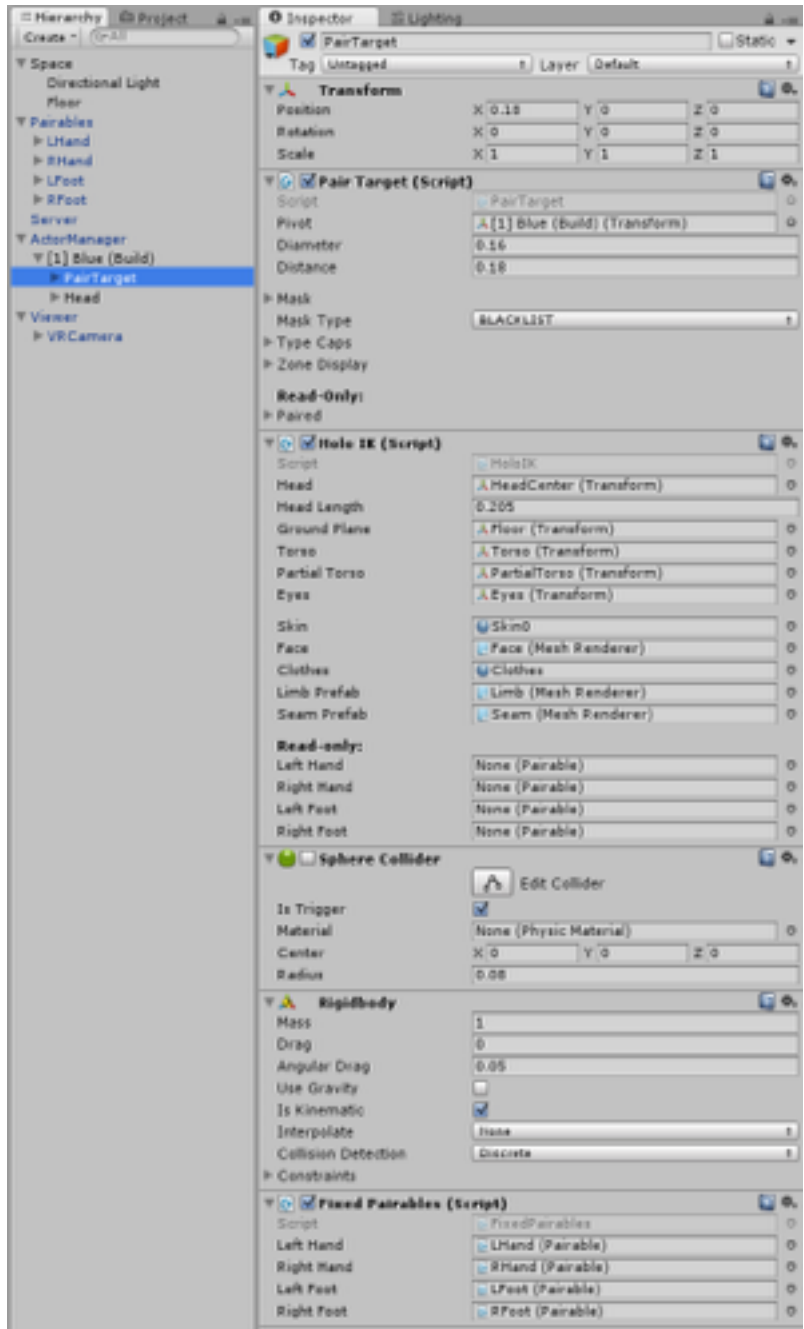


Fig 6 - Pair Target Inspector.



Fig 7 - Head, Hands and Feet before pairing.

In order for the body to be created, it is necessary to “pair” the elements for the Actor. This operation can be done in two ways. Manual pairing, in which the player puts hand and foot markers near the head marker; or fixed pairing which automatically detects the markers and creates the full body when they are present in the scene. See Fig 7.



Fig 8 - Holojam avatar after pairing.

Holobounds

The physical available space is mapped to the virtual space through the holobounds. This feature provides the player with a feedback of the space limits by showing a virtual grid when a wall is near. See Fig 9.

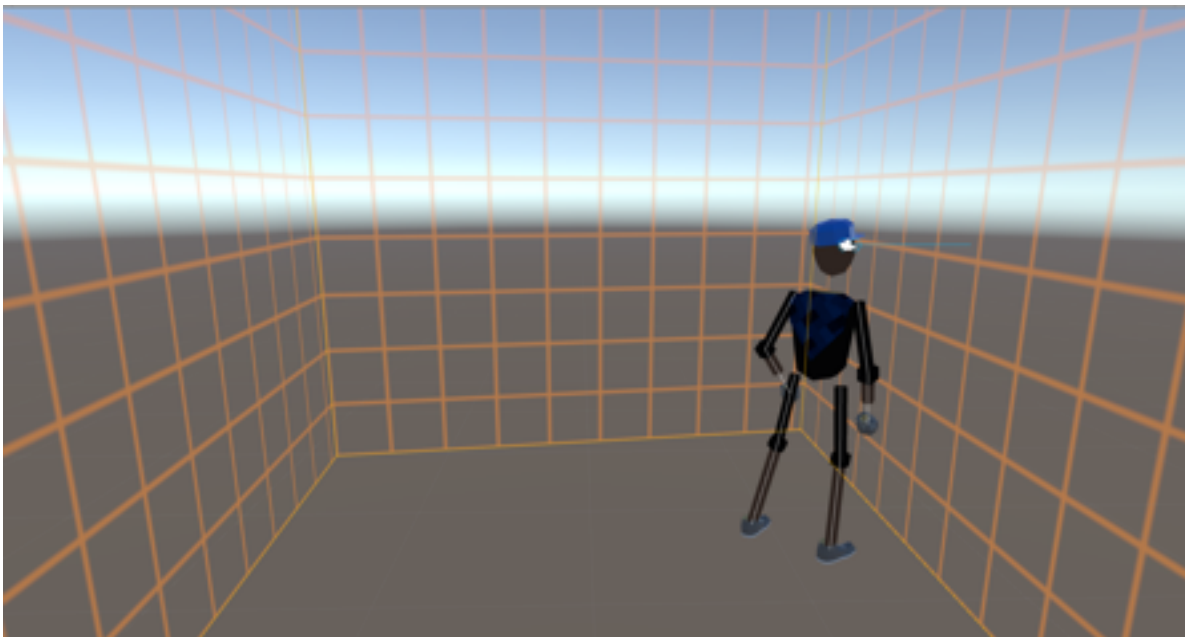
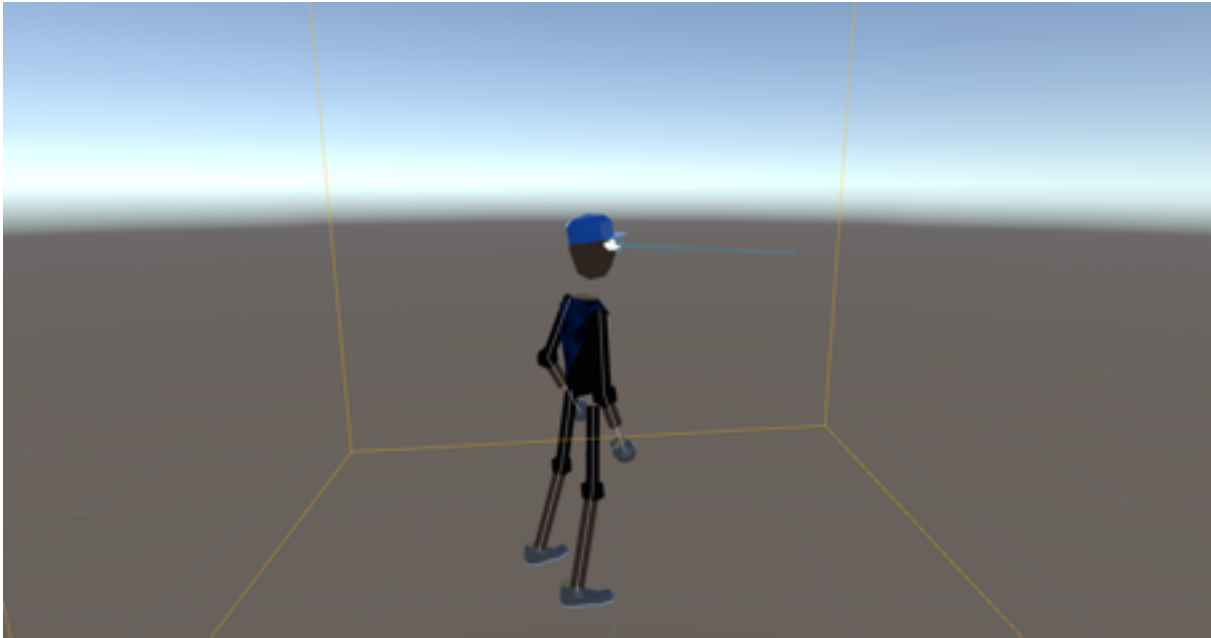


Fig 9 - Holobounds