Setting up Optitrack camera system + make it work with the ROS2 Humble distro (By Yali Tochterman and Yizhak Sepiashvilli)

You can use RDP to connect from a different PC to the PC that is connected with USB to the cameras. If you'd rather work with the windows computer that the optitrack cameras are connected to by connecting it to a screen, rather than using RDP , make sure you log into the Student account and connect to controllabs via wifi. Open up "Motive" and from there you can start the camera calibration process.

Camera Calib.:
- Go To "New Calibration"
- click on clear mask
- click on Mask
- click on Continue

What you're going to do next is grab the magic stick and swing it back and forth, up and down etc. where the cameras can see it, You should make sure that the each individual camera managed to see enough of the stick in different positions. We'd recommend you give this process of swinging the stick a good 5-7 minutes at least, while covering every possible angle of each camera.
After the above click on "Start calculating".

After that, go to "Set Ground Plane" and make sure to place the Magic Triangle on the table in one of the corners where all the cameras can see it. After that, continue and click on "Export Calibration".

Adding a new type of rigid body for the cameras to recognize: (Adding an "Asset"):

First of all actually create the type of rigid body you'd want the cameras to recognize. Make sure you can see it from the Motive app on the PC, mark all of the object you want to track , and on the right, move from "Devices" to "Assets". Press: "new rigid body" and then in the perspective window select all points of the body using the mouse -> name the body and press the create button.

Now, if you want to use ROS2 Humble with the camera system, follow along these steps:

- Go to Edit
- Setting
- Streaming -> Enable

On your linux PC with ROS2 Humble: Go to ros2_optitrack directory, go to the install directory and enter the command: "source setup.bash"

Go back to the ros2_optitrack directory, and do the following command: “ros2 launch mocap_client mocap.launch.py”
and if you want to listen to the messages from the cameras: “ros2 run subscribe_to_mocap sub_mocap” assuming you have created a node that would subscribe to the topic the cameras are publishing to.

In case you need/want it, here is the git for the ROS2 for the cameras:
https://github.com/hpaul360/mocap_ros2