

Download

1. Download REtracker1.3FreeD
2. In folder copy and paste remote_address.txt and key.txt from REtracker
3. Extract "ReTracker_freeDBP latest.rar"
4. Make copy of Unreal Project folder into where you store Unreal projects
5. Open project
 - a. You may need to make a copy in your desired version if in Unreal 5

Physical Things you will need:

1. Black and white chessboard
 - a. <https://github.com/MiloMindbender/LiveLinkPlugins/releases>
2. Aruco tag
 - a. <https://github.com/MiloMindbender/LiveLinkPlugins/releases>
3. Real sense camera
 - a. A different tracking camera will also work

Unreal Project set up

1. Open Project Settings
 - a. Set frame rate to same as camera
 - b. Enable
2. Plugins
 - a. Enable Composure
3. Create Actor
4. Create Cine Camera
5. Parent Actor to camera
6. Create comp
 - a. Open Composure window
 - b. New comp
 - c. Add media plate
 - d. Add cg plate
7. Create media player
 - a. Open it
 - b. Click folder icon
 - i. Click video -> your camera
8. Go to Composure
 - a. Select media plate
9. In details
 - a. Go to inputs tab
 - i. Inputs sub tab
 1. Select your media source
 - b. Go to transforms
 - i. Chroma Keying
 1. Click plus on key colors
 2. Select your greenscreen

10. Go to Composure
 - a. Select comp
 - b. In details
 - i. Transform/Compositing Passes
 1. Transform Passes
 - a. In material tab create new material
 - b. Open material
 - c. Change material domain to post process
 2. Add 2 textureSampleParameter2d
 3. Rename them to the same names as your cg plate and media plate
 4. Add an over node
 5. Attach textureSampleParameter2d to the over node
 6. Attach over node to emissive color
 7. Exit
11. Now when you view your comp it should have your media plate with the greenscreened as the unreal scene
12. In ContentBrowser
 - a. Create new Blueprint Virtual Subject
13. Modify blueprint
 - a. Open
 - b. Create 3 float variables
 - i. Focus
 - ii. Iris
 - iii. Zoom
 - c. Event graph
 - i. Add update virtual subject static data node
 - ii. Connect "Event On Initialize" to "update virtual subject static data" node
 - iii. Expand static of "update virtual subject static data" node
 - iv. Check focal length, aperture, and focus distance
 - v. Add "update virtual subject frame data" node
 - vi. Connect "Event on update" to "update virtual subject frame data"
 - vii. Expand static of "update virtual subject frame data" node
 - viii. Create nodes for all of your custom variables
 1. Plug zoom into frame data focal length
 2. Plug iris into frame data aperture
 3. Plug focus into frame data focus distance
14. Select cine camera
 - a. In details
 - i. Create 2 livelink controller components
 1. One for realsense sensor
 2. One for Fiz
 - ii. In realsense controller
 1. Set subject representation to camera

- iii. In Fiz
 - 1. Set subject representation to virtual
- 15. Now create a Lens in the Content Browser
- 16. Assign lens to cine camera
- 17. Open Lens
 - a. You can name the lens and give it a serial number in here but it doesn't matter what it is
 - b. Set sensor dimensions and image dimensions of cameras
 - c. Go to Lens panel
 - i. Select focus
 - 1. Click plus in top left
 - a. Check input focus
 - b. Set both numbers to 1
 - 2. Click plus in top left
 - a. Check input focus
 - b. Set both numbers to 10000
 - ii. Select iris
 - 1. Click plus in top left
 - a. Check input iris
 - b. Set both numbers to 1
 - 2. Click plus in top left
 - a. Check input iris
 - b. Set both numbers to 32
 - iii. Go back to Calibration Steps
 - 1. Briefly go to your Unreal level
 - a. Search outliner for camera calibration media plate and select it
 - b. In the details change the media source to the one you created
 - i. Your live feed
 - 2. Back to the calibrator steps
 - a. Go to Lens distortion
 - i. Now click the video feed to add images to the calibrator
 - 1. Move the checker board around particularly the edges at different angles and take pictures
 - ii. When done click add to lens distortion calibration
 - iii. A pop off will come up with your error
 - 1. You want this as low as possible
 - b. Go to Nodal Offset
 - i. checkerboard
 - 1. Rest realworld checkerboard in front of camera

2. Set Nodal Offset Algo to Nodal Offset Checkerboard
3. Set Checkerboard to your digital checkerboard object
4. Click footage
5. Click apply to calibrator
6. Your digital checkerboard should jump to the location the real

ii. Aruco

1. Set Nodal Offset Algo to Nodal Offset Aruco Markers
2. Set Calibrator to Aruco_ID_8_15x15cm_C_1
3. Set Calibrator Point to DICT_6x6_100-8-BR
4. Click footage
5. Click Apply to Camera Parent

18. Now you should be good to go