STEAMVR™
Tracking Training

STEAM VR

Tracking Training

Troubleshooting Tracking Problems

Booting

- JSON errors may prevent booting
- Test with a known good render model!
- If the object does not boot, check the log file for details
  - `C:\Program Files (x86)\Steam\logs\vrserver.txt`
  - Also try...
  - `tail -f C:\Program Files (x86)\Steam\logs\vrserver.txt`
- Optical Sensor Errors
  - `Insufficient samples for a bootstrap pose`
  - `Can't start tracking: Not enough contiguous samples for a bootstrap pose`

Booting Continued...

- IMU Errors
- If the IMU is misconfigured in the JSON, the object may not boot
  - `Resetting tracking: IMU misalignment unreasonably large`
- Test optical booting and tracking without the IMU by changing the settings
  - `C:\Program Files (x86)\Steam\config\steamvr.vrsettings`
  - Add the following to the SteamVR™ settings file… (Not the JSON File)

```
"driver_lighthouse" : {
   "disableimu" : true
}
```

Booting Continued...

- Sometimes an object will only boot in certain poses or lose tracking (seemingly) at random.
- Double check the JSON file
  - Are the channel numbers correct for all the sensors?
  - Are the normals correct for all the sensors?
  - Are the positions correct for all the sensors?
  - Has the object been optically calibrated?

Tracking

- Sometimes objects shake around in VR
- Did you remember to enable the IMU?
- Is the object calibrated?
- Verify the problem is not the HMD
  - Compare against a known good object
- Verify it is not the base station
  - Is the whole world shaking or just the object?
- Try tracking static poses
  - Place the object on a table or the ground
  - Does the object drift?

Tracking Optical

- Inspect as many different poses as possible
- Hold the object still is a variety of poses
- If the object is forced to rely on the IMU, it may begin to drift

Let’s break tracking!

- Decimate the sensors (verify through simulation)
  - Remove sensors from the JSON file to create problem areas
  - Poses that will not boot
  - Poses with severe rotation error
  - Poses with severe translation error
- Change sensor values orientations (verify with visualize)
  - Channel map: reassign a sensor
  - Channel map: swap two sensors
  - Normals: Flip one or more sensors inside out
  - Normals: Zero out a unit vector
  - Position: Change the position of a sensor
  - Position: Make minor changes to several sensors
- IMU (verify with visualize)
  - Change the position by various magnitudes
  - Break the orientation in different ways

Finish up...

- Upload the calibrated JSON to your object!