

MIREVI MotionHub User Documentation

Hochschule Düsseldorf
University of Applied Sciences



Fachbereich Medien
Faculty of Media



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[MIREVI](#) MotionHub (MMH) is a middleware for merging body tracking data from different systems into one coordinate space in real-time in order to combine and use their individual benefits.

MMH offers support for several body tracking systems and encompasses a game engine plug-in that connects the MMH with Unity by means of a standardized protocol. The plug-in allows for the usage of a single type of skeleton for any body tracking system and, therefore, facilitates the switch between different body tracking systems during app development significantly.

MotionHub is developed at the research lab [MIREVI](#) from the [University of Applied Sciences Düsseldorf](#) within the scope of the project [HIVE](#).

Acknowledgements

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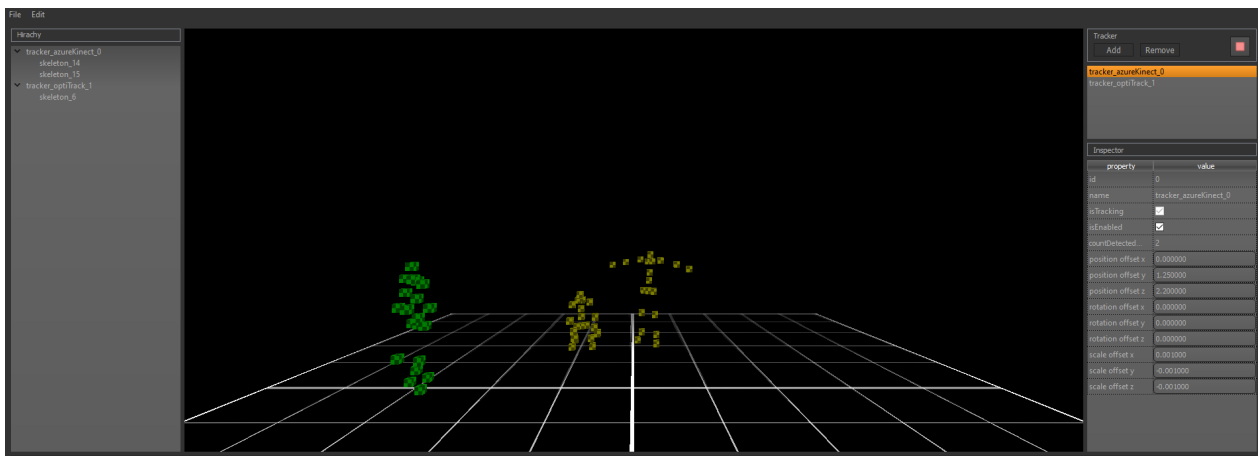
1. Supported Systems

MMH currently supports the listed body tracking systems.

Supported Systems
Azure Kinect
OptiTrack

2. MotionHub

2.1 Overview and Navigation

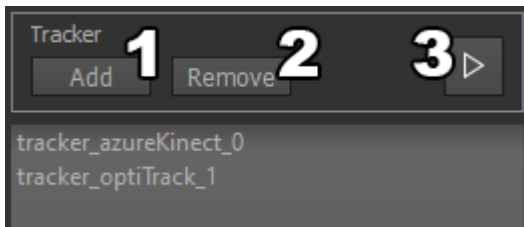


MMH consists of four panels. From left to bottom right:

Name	Usage
tracker and skeleton hierarchy	inspect tracker and detected skeletons
render window	preview transformed tracking data
tracker list	add / remove and start / stop tracker
tracker property inspector	offset tracker

The render window camera can be rotated by holding the left mouse button down in the panel and pulling the mouse left or right.

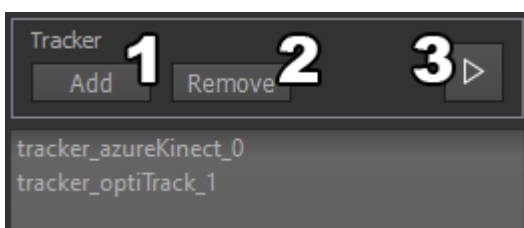
2.2 Adding and Removing Tracker



Add a new tracker by pressing the **"Add"**(1) button. A new popup will appear where you can select the type in a dropdown. Click **"Create"** to add the tracker to the list.

Remove a tracker by clicking on the name in the tracker list and click **"Remove"**(2). Trackers can only be removed while the system is not tracking.

2.3 Start and Stop Tracking



Start all trackers by pressing the play icon(3). This will start all tracker and the preview in the render window.

Stop all tacker by clicking the same button (now displayed as a stop icon)(3). This will stop all tracker.

2.4 Offset Tracker

Inspector	
property	value
id	0
name	tracker_azureKinect_0
isTracking	<input checked="" type="checkbox"/>
isEnabled	<input checked="" type="checkbox"/>
countDetected...	2
position offset x	0.000000
position offset y	1.250000
position offset z	2.200000
rotation offset x	0.000000
rotation offset y	0.000000
rotation offset z	0.000000
scale offset x	0.001000
scale offset y	-0.001000
scale offset z	-0.001000

Offset a tracker by selecting one in the tracker list and enter values in the position, rotation and scale fields. This will offset the trackers origin. All values are in meters.

3. Setup Body Tracking Systems

3.1 Azure Kinect

3.2 OptiTrack