

# Scene Track for Unity User Manual

## Scene Track Plugin (Beta)

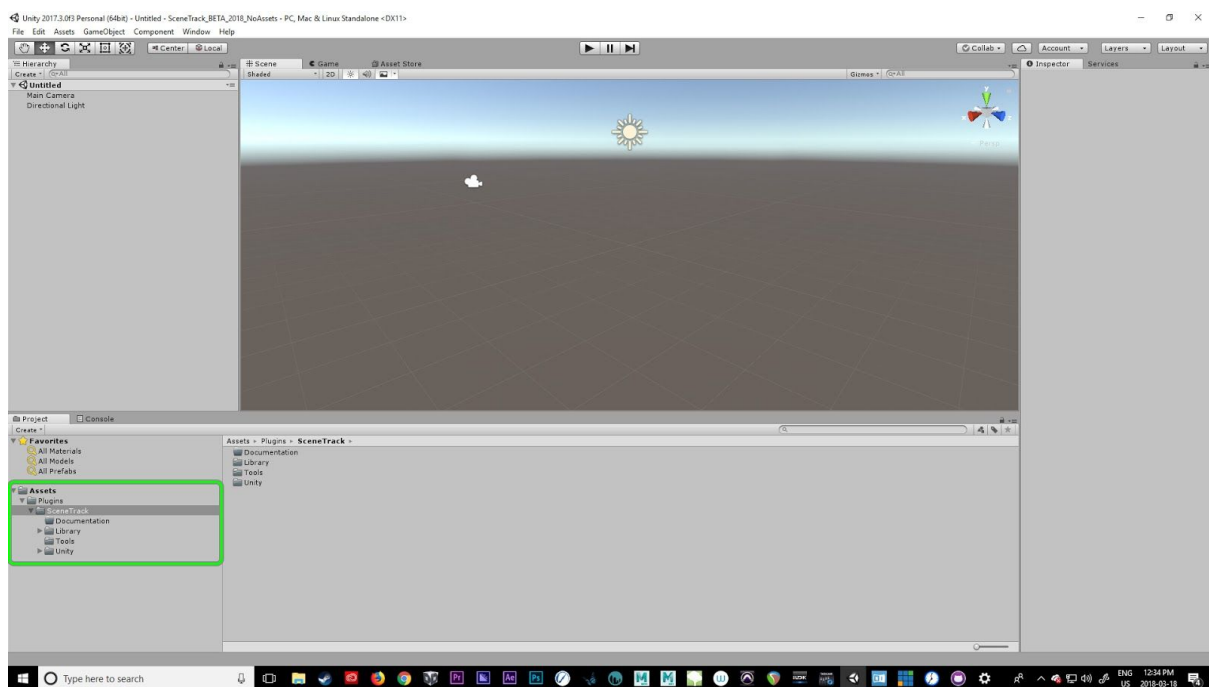
The scene track plugin allows you to record live, textured, skinned mesh animation data, transform, rotation and scale animation, event data and video from Unity's Editor while in play mode for export as an animated, textured FBX, MIDI and VIDEO file.

You can also export a video of what one of the cameras in the scene was seeing while you were recording your animations.[2]

## Installation Instructions

There are two ways to install the plugin:

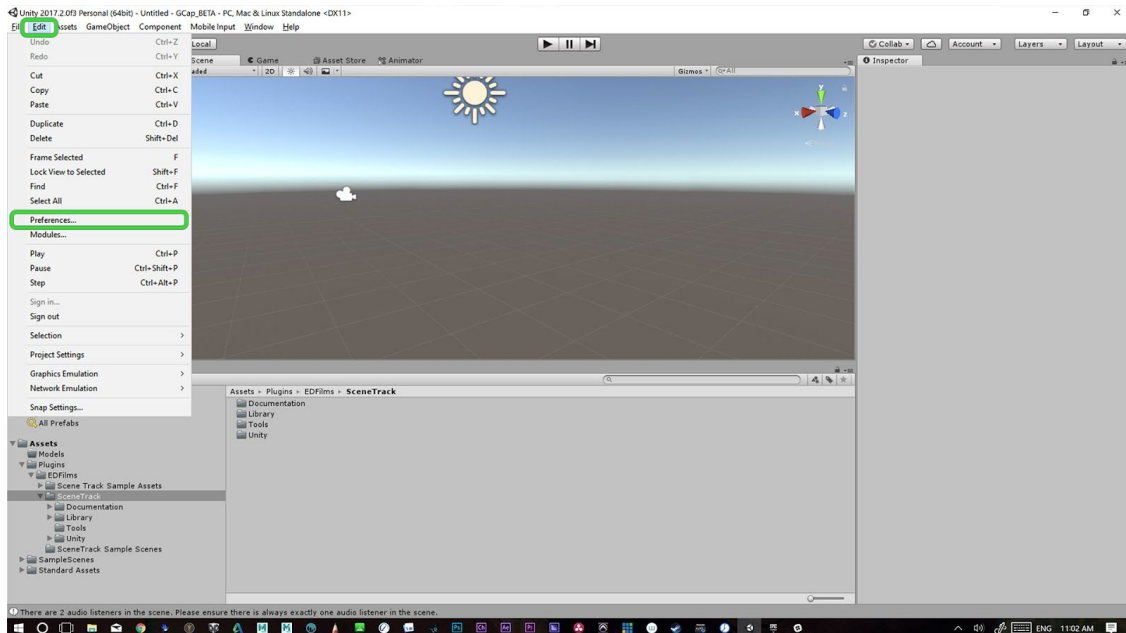
- Download and the Scene Track Unitypackage and import it into your project <https://docs.unity3d.com/Manual/AssetPackages.html>
- Or download the ZIP file, extract it and copy the SceneTrack folder into your Plugins folder in your current Unity project. If your project doesn't have a plugins folder you can create it yourself.



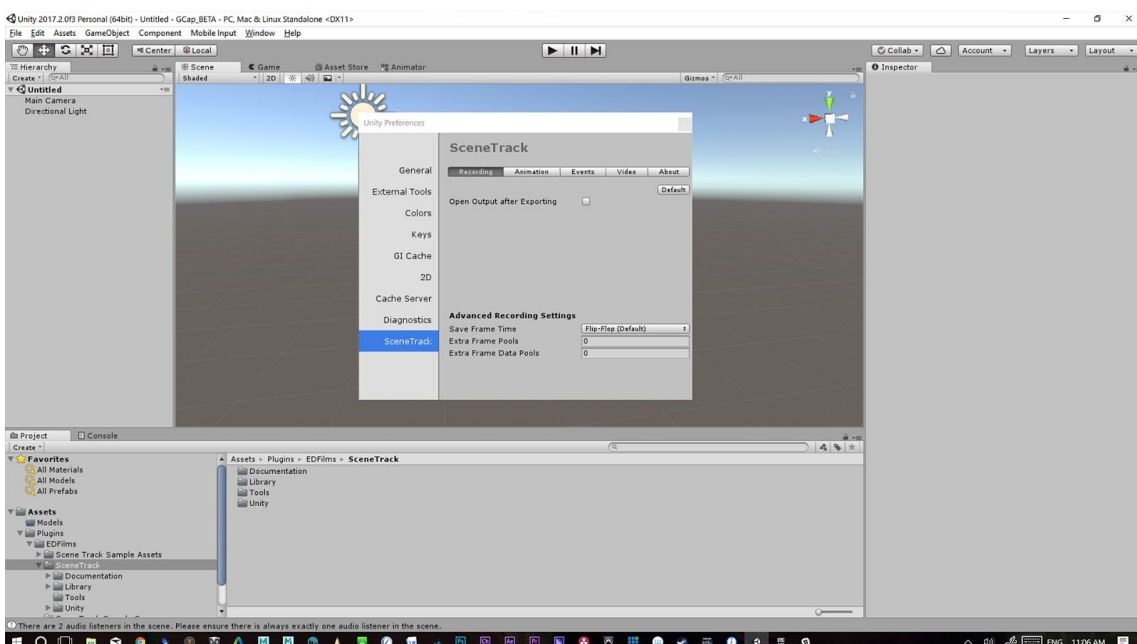
# Scene Tracker in Unity

## Scene Track Preferences

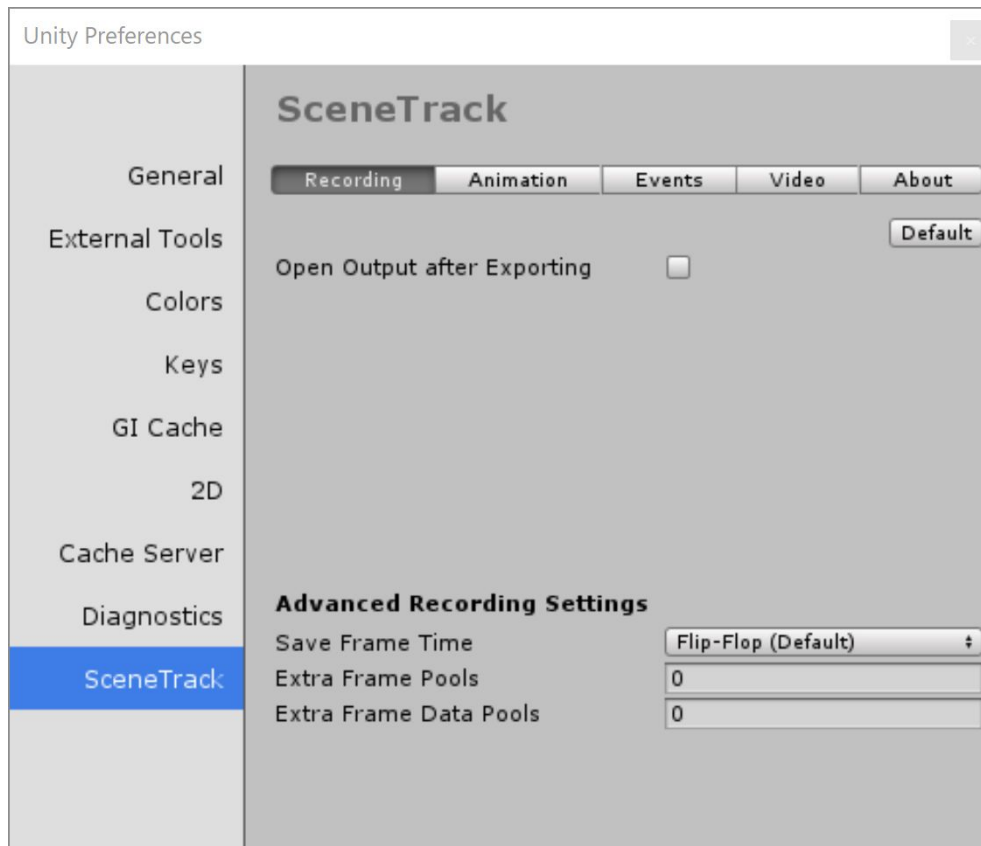
The scene track preferences can be found under in Unity's preference window under the Edit menu/Preferences.



If the Scene Tracker is properly installed you should see it labeled in the bottom of the window in the left hand column. Click on it to bring of the Scene Trackers preferences.



## Recording [Tab]



### Default

Sets the options to default settings (Recommended)

### Open Output after Exporting [ ]

Opens the exported file after it is completed writing the file in an editor of your choice.

### Advanced Recording Settings

#### Save Frame Time [Drop Down Menu]

##### Continuous

Continuously writes a frame to disk as Unity gameplay is active (Slowest)

### **Flip Flop (Default)**

Alternates dynamically from caching frames to RAM and writing them to disk (Recommended)

### **Frames (4, 8, 10,12,20,30,60 )**

After recording the specified number of frames to memory it will copy them to the hard disk. Depending on the scene complexity and your computer's hardware performance you may want to experiment with different values.

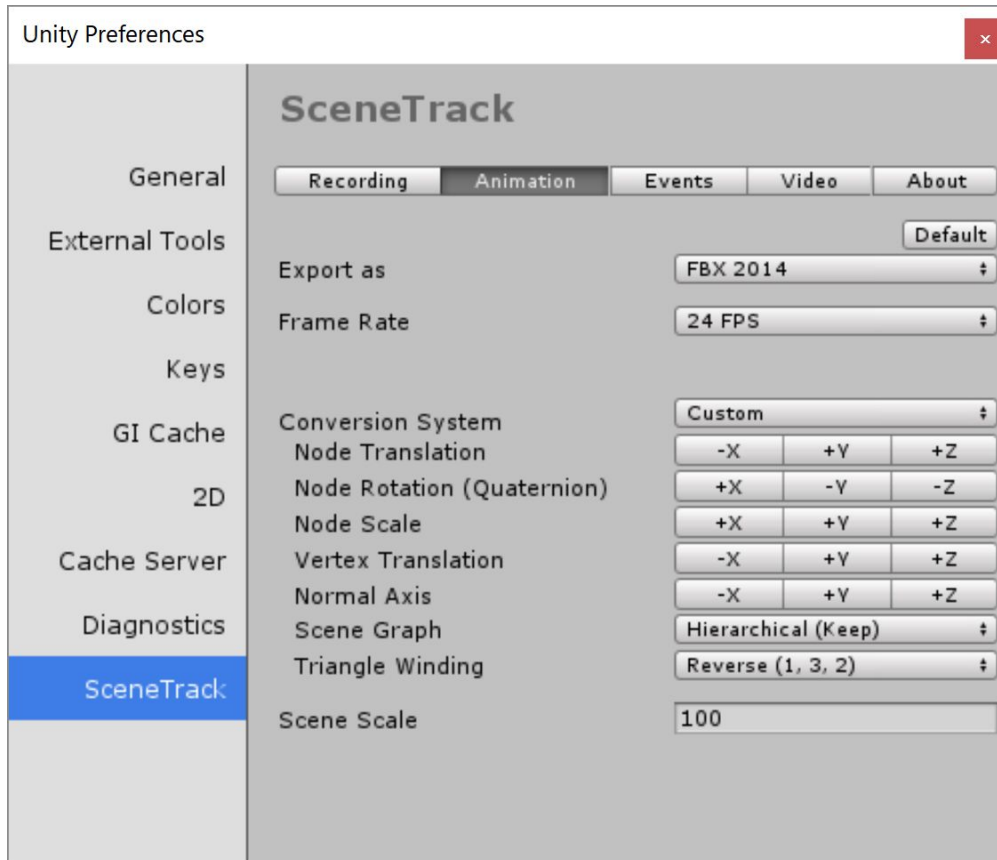
### **Extra Frame Pools**

a

### **Extra Frame Data Pools**

a

## Animation [Tab]



### Default

Sets the options to default settings

### Export As

FBX 5.3 - 2016 is currently the only supported format versions.

### Frame Rate

Choose the frame rate of for your animated project. We have included broadcast standard frame rates to make it easier.

### Conversion System

This determines how the recorded coordinates are interpolated for export. Setting custom values can have dramatic results so if you are getting unexpected results in the FBX animation set the conversion system to Unity.

### **Unity (Recommended)**

This interpolates Unity's coordinate system so that it will be accurate when imported into Maya or 3D applications with similar coordinate systems.

### **None**

A one to one output of the coordinate data. The animation data will not work accurately when used in Maya.

### **Custom**

Set your own coordinate conversion. If the application you are using has a Z up coordinate system you can manually configure the conversion to fit.

### **Node Translation**

Set the X,Y,Z,W translation conversion values to positive or negative relative to Unity.

### **Node Rotation (Quaternion)**

Set the X,Y,Z,W quaternion rotation conversion values to positive or negative relative to Unity.

### **Node Scale**

Set the X,Y,Z,W scale conversion values to positive or negative relative to Unity.

### **Vertex Translation**

Set the X,Y,Z,W vertex translation conversion values to positive or negative relative to Unity.

### **Normal Axis**

Set the X,Y,Z,W normal axis conversion values to positive or negative relative to Unity.

### **Scene Graph**

#### **Hierarchal (Keep)**

Maintain the scenes hierarchy structure

## **Flatten**

??

## **Triangle Winding**

Sets how the recorded meshes vertices naming is interpreted so that the faces normal point in the right direction.

### **Keep (1,2,3)**

Clockwise winding order

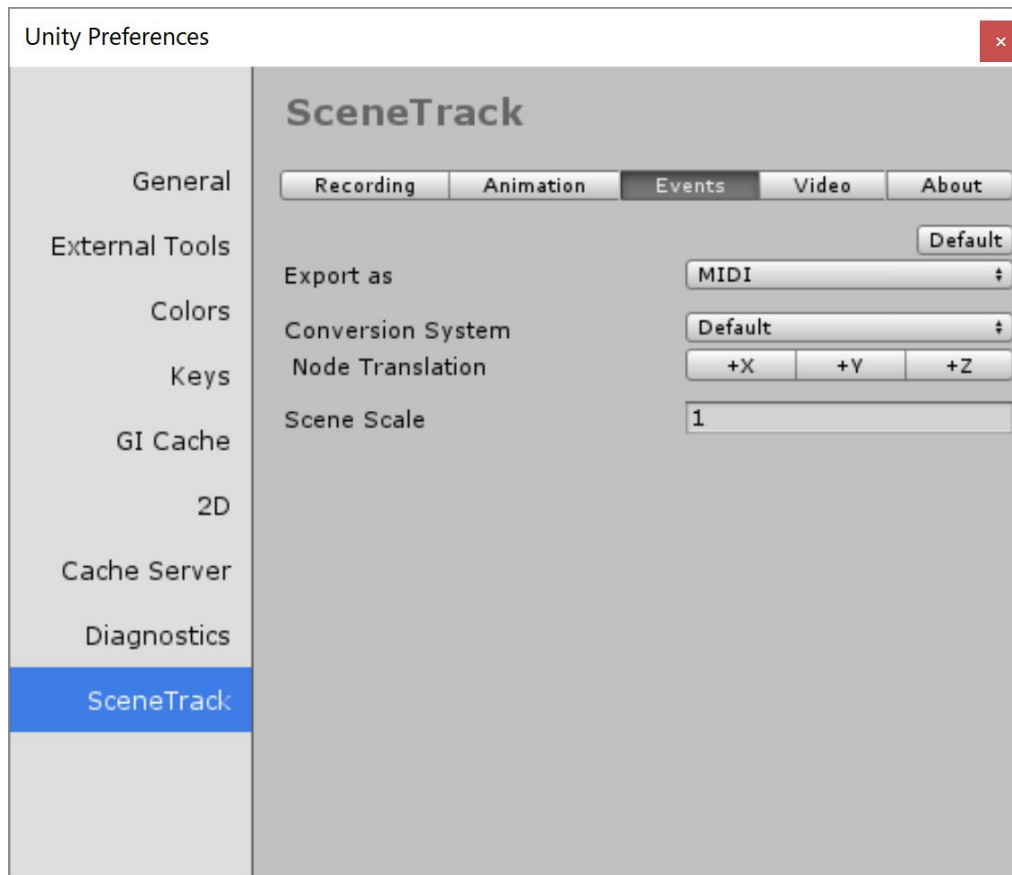
### **Reverse (1,3,2)**

Counter Clockwise winding order

## **Scene Scale**

The scene scale determines how the Unity world space is translated into the FBX file for use in your preferred 3D application. The best setting for a Maya world space is 100.

## Events [Tab]



### Default

Sets the options to default settings

### Export As

#### MIDI

Export the event data as a MIDI file for use in any sound editing application that supports MIDI data.

#### XML

The event data will be written into an XML file format.

### Conversion System

Since position is the only tracked attribute for our MIDI interface we only need to look at translation values X,Y,Z



### **Default**

This leaves things as is +X,+Y,+Z

### **Unity**

Converts the translation data to a left handed coordinate system

### **Custom**

Set your own coordinate conversion to suite your audio application

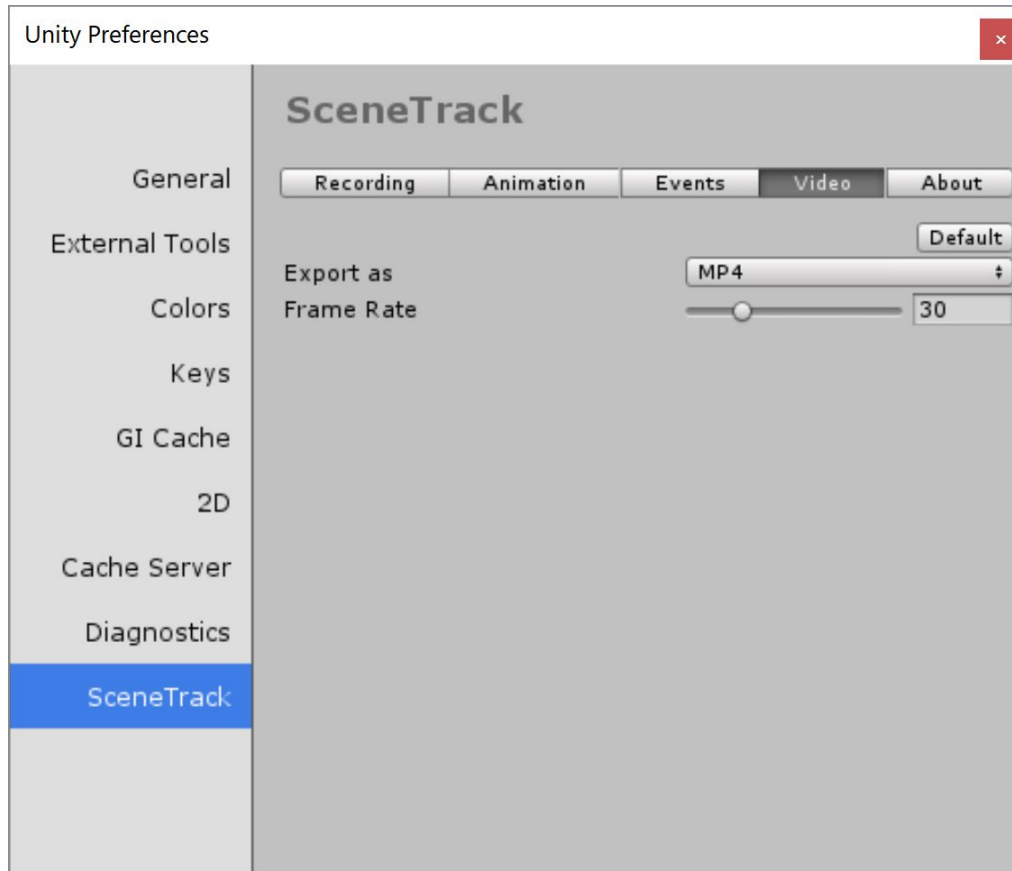
## **Node Translation**

X,Y,Z conversion values to interpolate the recorded coordinate space data.

## **Scene Scale**

This will affect how the volume and input velocities in the MIDI file are computed. If MIDI velocity values seem unaffected, try increasing the scene scale by factors of 10 ie.1,10,100,1000, etc.

## Video [Tab]



### Default

Sets the options to default settings

### Export As

**JPEG Sequence**

**PNG Sequence**

**MP4**

**Quicktime (mov)**

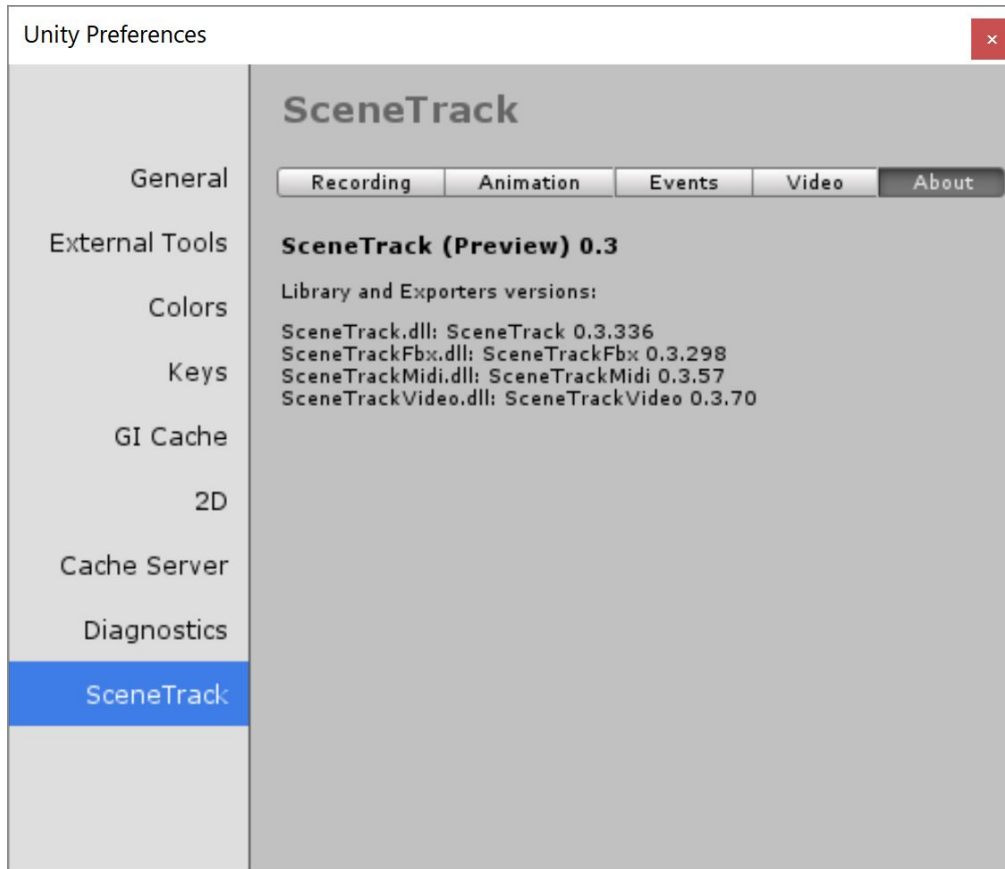
**Animated GIF**

### Frame Rate

Set your preferred frame rate for the video. It is recommended that you use the same frame rate as your Animation settings.

## About [Tab]

Current build numbers of Scene Track librairies.



# Scene Track Window

In the Window menu, select the Scene Track item. This will open the Scene Track panel.

## Auto Add To Scene

This button will add a SceneTrack Object component to every active object in your scene that has a mesh renderer or a collider.

## Tracked Scene Objects (#)

Displays the number of objects in your scene that have a scene tracker component attached to them.

## Refresh

The Refresh button allows to scan the scene to refresh this number.

## Enable

Activates all trackers in the scene so that they will record all animation data in next play session.

## Disable

Deactivates all trackers in the scene so that they will not record animation data during play session.

## Takes

Displays the number of recorded takes (animations) stored in the Take folder.

## Refresh

The Refresh button will update the number of recorded Takes stored in the cache so far. It should update automatically, but if it does not or you have just reloaded the scene this can let you know how many takes are cached.

## Clear

The Clear button deletes all of the recorded takes from the cache. You will be prompted by a popup asking if you are sure you want to clear all the recorded data.

## Selected Take [#]

The pull down menu shows a list of all takes recorded so far and allows you to select one of them for export.

## Export Animation

Exports the selected take as an FBX file containing all of the tracked geometry and the animations that were recorded during play mode.

### **Export Events**

Exports the selected take's animations events to a multi-track MIDI or XML file.

### **Export Video**

If you added a SceneTrackCamera component to one of the cameras in your scene, you can export that camera's recording to Jpeg sequence, PNG sequence, MP4, Quicktime (mov) or animated GIF.

### **Clear**

Deletes the selected take.

## **The SceneTrackObject Component**

This is the component that the "Auto Add To Scene" option creates on objects in your scene.

### **Track Object [ ]**

Whether or not to track this object. You can set it manually, or have the Scene Track Window set it globally with the Enable/Disable buttons.

## **Components**

### **Mesh [ ]**

Enable or disable the mesh recording during playback. When disabled the mesh will not be included in the export.

### **Mesh [ ] Set as Export Pose**

If you are having problems with a skinned mesh lining up with the bones when exported to an FBX file, you can try set as export pose to bake in a start position before joints are tracked. This attempt to take into account any deformations that Unity has done prior to runtime so that joint offsets are lined up with the starting mesh.

### **Physics Events [ ]**

Enable or disable the recording of physics events. This is used for populating the MIDI/XML data and will record collision events based on a mesh collider.

## Children Trackers

You can manually add or remove SceneTrackObject component in children of the selected Object with the Add and Remove buttons.

### **Add**

Add trackers to all applicable child objects in the selected objects hierarchy.

### **Remove**

Remove trackers from all applicable child objects in the selected objects hierarchy.

### **Enable**

Enable the tracker so that it will be recorded during game play.

### **Disable**

Disable the tracker so that it will not be recorded during gameplay.

## The SceneTrackCamera Component

Add this component to a camera if you want to later export this camera's recording to MPEG format.

### **Disable Camera [ ]**

Enable or disable the camera for use during gameplay. It is disabled by default so that it does not override the gameplay camera.

### **Resolution [Drop Down Menu]**

Determines the resolution of the output video upon export. Currently Scene Tracker supports. The larger the frame size, the larger the file and longer the export process.

## Scene Track Multi Bone Proxy Component

New Feature