



# CINEMA SUITE



USER DOCUMENTATION FOR CINEMA **MO CAP**  
DOC VERSION V2.01 - FEB 2016



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## Introduction

Thank you for purchasing Cinema Mo Cap! Our team makes software extensions for Unity that allow game developers, machinima gurus, and movie professionals to create and control content for their projects quickly, and easily. More importantly, we want our users to have fun doing it.

Being avid fans of video games and movies, our team set out on a common goal - to create a set of cinematic game and film tools, which are powerful, affordable and available to the masses.

Cinema Mo Cap is the motion capture module of our set of tools called "Cinema Suite". Cinema Suite is a collection of software extensions for Unity3D that will allow developers to create content without the need for scripting or programming. Cinema Mo Cap allows you to use your Microsoft Kinect or Kinect 2 to capture simple animations, which you can then use in your Unity project. Animations created with Cinema Mo Cap are fully compatible with Unity3D's Mecanim engine, and are meant to be compatible with any humanoid (biped) character.

Making great products is only possible if we have feedback from our community. Feedback is critical to our success and we welcome it in all forms, be it Facebook, Twitter, Email or our Forums. Please check out ways that you can directly communicate with us, at the end of this document.

Thank you for helping us make Cinema Mo Cap great!

The Cinema Suite Team

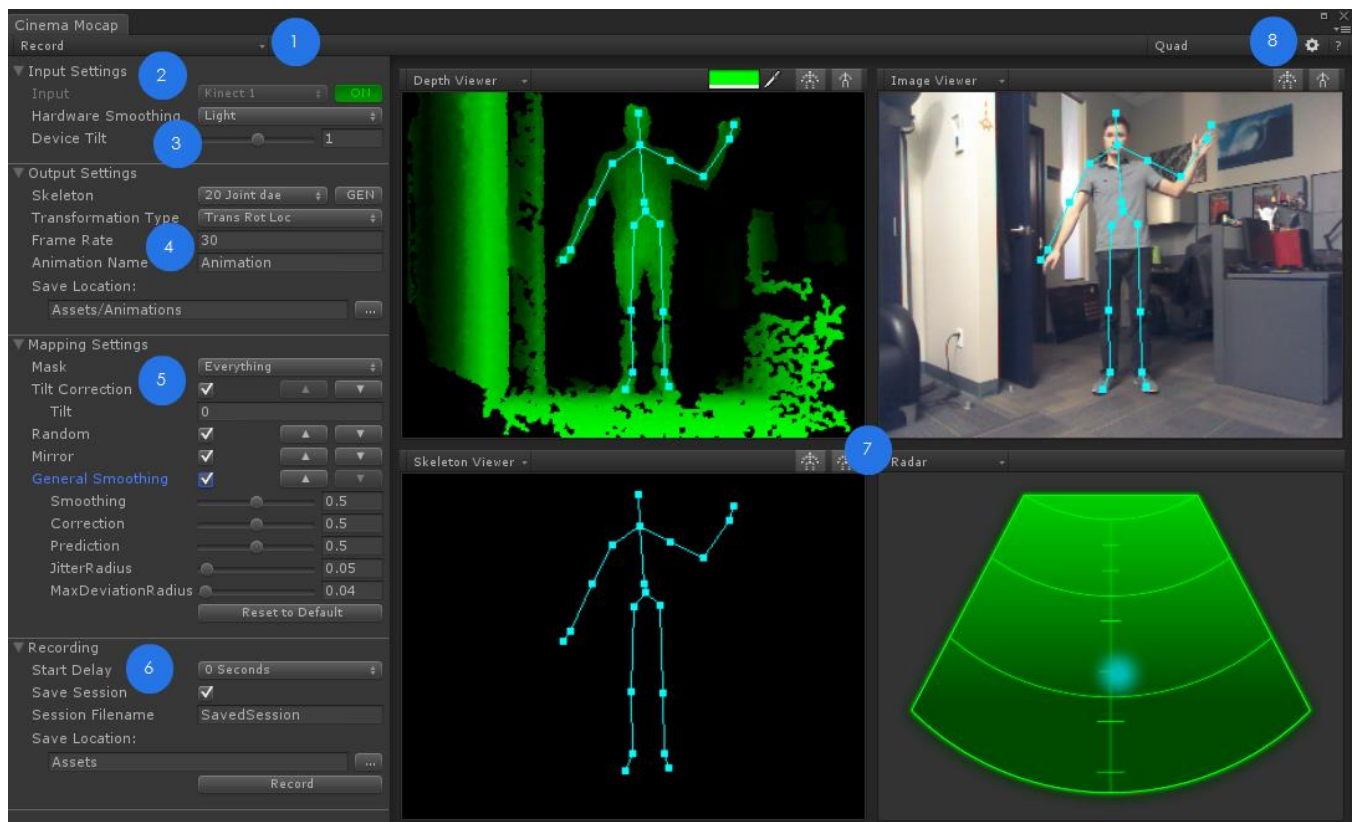
## Cinema Mo Cap Overview

### Key Features

- Quickly create animations for Unity3D, using the Microsoft Kinect or Kinect 2.
- Control various masking and filter options for Kinect and Kinect 2 devices.
- Save and edit motion capture sessions.
- Attach animations to any other Unity character.

### Interface Overview

Cinema Mo Cap is a software extension for Unity3D. As with any Unity window, you can position the application any way you wish. We always recommend 2 monitors.



- |  |                            |                           |
|--|----------------------------|---------------------------|
| <b>1</b> Mode Select                           | <b>4</b> Output Settings   | <b>7</b> Capture Windows  |
| <b>2</b> Main Settings                         | <b>5</b> Mapping Settings  | <b>8</b> General Settings |
| <b>3</b> Hardware Settings<br>(Kinect v1 Only) | <b>6</b> Recording Options |                           |

**Figure 1: Cinema MoCap Overview**

We will go more in depth with functionality later in this documentation.



## Installing Cinema Mo Cap

If you are using Kinect version 1 hardware for either Xbox360 or PC, Cinema Mo Cap requires the Microsoft Kinect SDK version 1.8 in order to operate properly. You will require a PC with Windows 7 8.1, or Windows 10, 32 or 64 bit. You can run Cinema Mo Cap on Mac computers running these versions of Windows in a virtual environment (Parallels® or Bootcamp®) but we cannot guarantee optimal performance. Our product is compatible with Unity 4.x and above.

If you are using Kinect version 2 hardware for either Xbox One or PC, Cinema Mo Cap requires the Microsoft Kinect SDK version 2.0 or higher in order to operate properly. You can only run the Kinect version 2 hardware on a Windows 8 or 8.1 or Windows 10 computer with the following requirements:

- USB 3.0 port available on your computer.
- 64-bit processor
- 4 GB of memory or higher (8 GB recommended)
- 3.1 Ghz or faster multi-core processor
- DX11 capable graphics adaptor

**NOTE:** Some older USB 3.0 ports (gen 1) will NOT work with Kinect 2 due to lack of power. You may need to purchase a powered USB 3.0 hub. For more information on troubleshooting USB 3.0 see Microsoft's hardware guide here:

<https://dev.windows.com/en-us/kinect/hardware-setup>

## Installing Microsoft Kinect SDK

The Microsoft Kinect requires drivers and associated software to be loaded, so that other applications on your computer can take advantage of the features built into the product (such as Cinema Mo Cap). At this time, Microsoft requires you to download their full Microsoft Kinect SDK for this functionality. Steps for installing the SDK are as follows:

1. **FOR KINECT VERSION 1:** Download the Microsoft Kinect SDK 1.8 at the following location:

<http://www.microsoft.com/en-ca/download/confirmation.aspx?id=40278>

2. **FOR KINECT VERSION 2:** Download the Microsoft Kinect SDK at the following location:

<http://www.microsoft.com/en-us/download/details.aspx?id=44561>

3. Make sure your Kinect is **UNPLUGGED FROM YOUR COMPUTER**. This is very important. If this step is not done, the Kinect drivers **MAY NOT** properly install.
4. Run the executable file downloaded in step 1 or 2 above. The SDK process is a one button install, simply accept the license terms and click the install button.



5. Click Close when prompted. Note: you do not need to install the Developer Toolkit. However, if you would like to test functionality in Windows, the Developer Toolkit will allow you to do this.

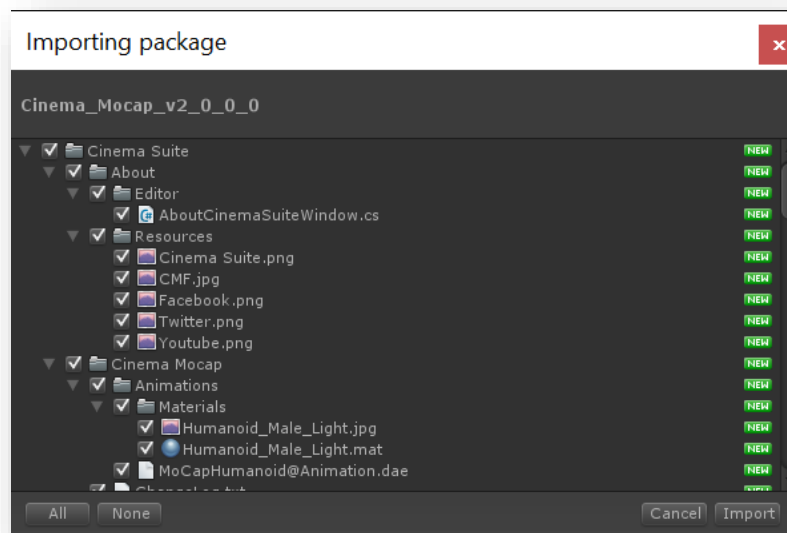
6. For install instructions from Microsoft, see the following link:

<http://msdn.microsoft.com/en-us/library/hh855354.aspx#Installation>

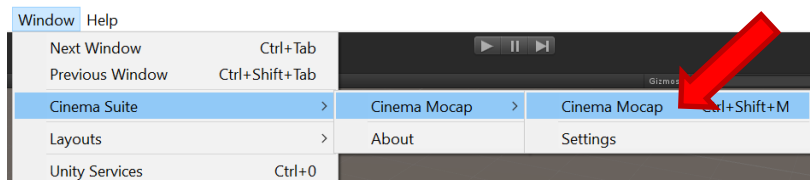
## Installing Cinema Mo Cap Unity Package

Cinema Mo Cap is a standard Unity3D Software Extension, and installs like any other Unity3D package. The name of the file we have created is called "CinemaMoCap.unitypackage"

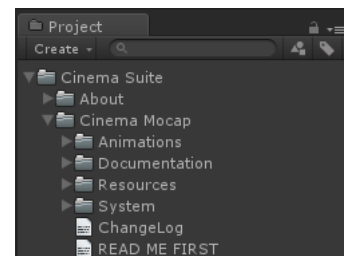
In order to load the Cinema Mo Cap Unity3D package you either drag the Unity package into your current Unity3D project, or in Unity3D go to the dropdown menu: **Assets > Import Package... > Custom Package...** then browse to the CinemaMoCap.unitypackage file. If you purchased from the Unity Asset Store, this process is automatic. The below image shows the Import Package dialog box, and the contents of the Cinema Mo Cap Unity Package.



Once the Importing package dialogue appears, click the Import button. After approximately ten seconds, you will see a new drop down menu (Cinema Suite) under the window pulldown. Once installed, Cinema Mo Cap will appear in a folder, inside your Unity project.



**Figure 2: Unity Pull down for Cinema Mo Cap**

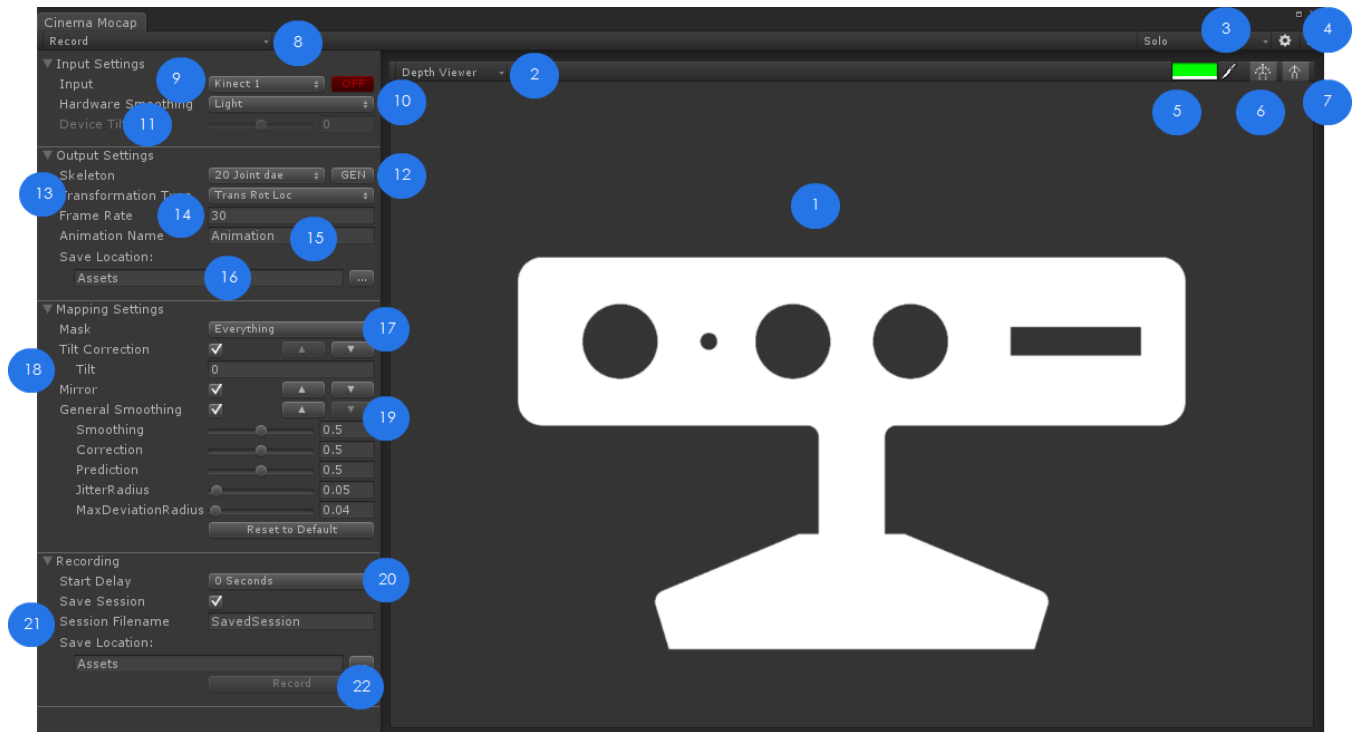


**Figure 3: Unity Project Folder**

# Cinema Mo Cap Features

## Detailed Overview

From the newly installed Cinema Suite pull down menu (located under the Window pull down in Unity), you will be able to open Cinema Mo Cap. Once you select Cinema Mo Cap from the pull down, the Cinema Mo Cap window will open.



**Figure 4: Cinema Mo Cap Window – Detailed Overview**

This is the window that will display when you first start Cinema Mo Cap. The window is Unity compliant and can be resized, dragged, and docked, just like any other Unity window. Let's get into a breakdown of all the available features, in Cinema Mo Cap.

### 1. Capture Window

The capture window will show feedback to the user, while they are performing actions being recorded by the motion capture device. When you start Cinema Mo Cap, a single capture window will display with only the Cinema Mo Cap logo. (The logo will change when interface is switched to Kinect 2). When you enable Kinect Tracking, the capture window will enable, and you will see the depth viewer that the hardware sensor sees.

### 2. View Options

Allows you to select what information will be shown in the capture window. Choices are Depth Viewer, Image Viewer, Skeleton Viewer and Radar





### 3. Layout Options

Allows the user to select how many capture windows they would like to have open, and how they are arranged. Options are:

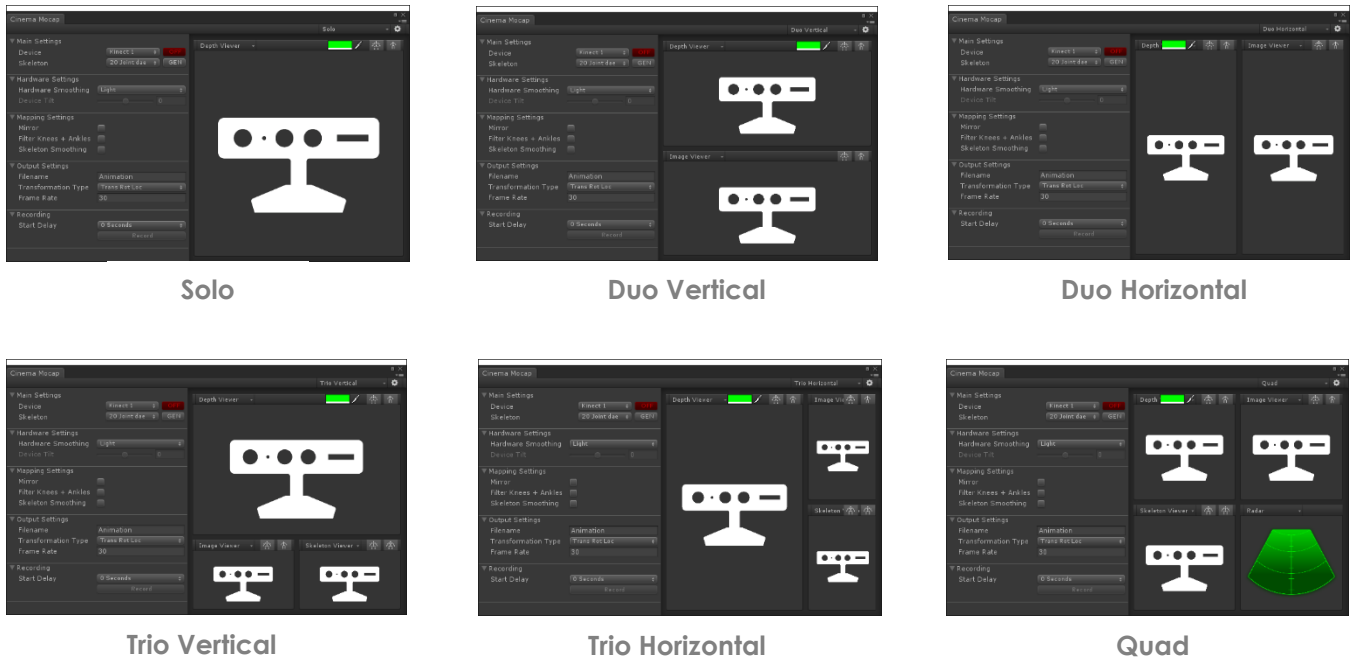


Figure 5: Window Configuration Options

### 4. Default Settings

Allows the user to control how the Cinema Mo Cap Window is configured when opened in Unity. There are two main options available:

- Device:** Select if you will be using Kinect v1 or Kinect v2 during startup.
- Layout:** Select a default layout to be used every time Cinema Mo Cap opens.
- Playback:** Will always open Cinema Mo Cap in "Review" mode to analyse past recordings.

### 5. Colour Selector

Allows the user to select a custom colour to be used in the Depth Viewer Window. The capture window will update live as you use the colour palette to select the desired colour.

### 6. Toggle Node Display

This option allows the user to decide if they would like to turn the motion capture nodes on or off. Changes are reflected in the Capture Window.

### 7. Toggle Bone Display

This option allows the user to decide if they would like to turn the motion capture bones on or off. Changes are reflected in the Capture Window.

## 8. Mode Select

There are two modes that you can use when in Cinema Mo Cap. They are "Record" mode and "Review" Mode.

**Record:** Will display the user interface required for recording animations with Cinema Mo Cap. This is the default setting.

**Review:** Changes the user interface into review mode, which allows you to view past recordings frame by frame and make changes to previously recorded animations. We will discuss the review functionality more in depth later in this documentation.

## 9. Device Selection

You can select whether to use a Kinect 1 or Kinect 2 device. The interface options will change depending on which device you select. Pressing the red off button will turn the Kinect's tracking sensor on, and the button will turn green. When enabled, the capture window will change to show what the Kinect is viewing.

## 10. Hardware Smoothing (Kinect 1 Only)

Cinema Mo Cap gives the user the opportunity to adjust how smooth they would like the motion capture to be. Choices available are:

- None
- Light
- Moderate
- Heavy
- Custom

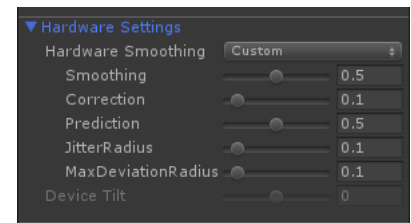


Figure 6: Custom Smoothing

Note that the heavier the smoothing, the more latency the Kinect will have while recording the capture. Selecting "custom" will enable additional smoothing options, explained later in this document.

## 11. Device Tilt (Kinect 1 Only)

For further precision in what you want to capture, you can use this slider to adjust the tilt of the Kinect device. The user can select tilt options between -27 and +27 degrees. Once selected, the Kinect will tilt accordingly.

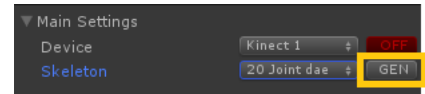
The Kinect 2 does NOT have an automatic tilt function. You must tilt the device manually using your hand. When the device is selected, this option will not be available.

## 12. Skeleton

Depending on if you are using a Kinect 1 or Kinect 2, the skeleton that will be generated for motion capture and recording will automatically be selected. 20 joint skeleton will be selected for Kinect 1 and 25 joint skeleton will be selected for Kinect 2.



To improve the quality of the captured recording, the user can import a live model preview into their Unity project. Once the subject is detected by the Kinect sensor, the model will match the movements that the user is making, live inside of the Unity project. To generate a live model, hit the GEN button. A new, temporary game object will be created in the root folder of the Unity Hierarchy called "Cinema\_Mocap\_Humanoid". The game object will automatically be deleted when recording is completed, or the Cinema Mo Cap window is closed.



## 13. Transformation Type

To ensure full compatibility with external animation applications such as Blender or Maya, we have added the ability to select how the created model's animation data is transformed.

## 14. Frame Rate

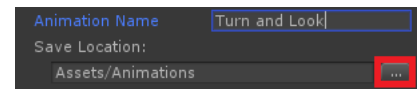
We have provided an option to select how many frames per second to record to the motion capture. Default is 30 FPS. Additional frames are applied to the animation during model generation inside of Unity.

## 15. Filename

Enter the name of the file that Cinema Mo Cap should create when the animation is complete. Once captured, the model will be called **MoCapHumanoid@<your animation>** (with <your animation> being the name you selected) inside of your Unity project.

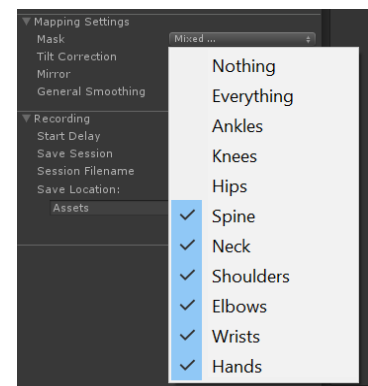
## 16. Location

If you would like to change the default location of where the model is saved in your current Unity project, you may browse to a location on your computer using the browse button.



## 17. Masking Options

Body masking in Cinema Mo Cap allows you to restrict your animation to record only certain joints. For example, if you only want to create an animation involving the upper body, but ignore the rest of the body, de-select "ankles, knees, and hips". This would be a good scenario for recording someone in a seated position.



## 18. Mapping Settings

For additional control, we have added several features that will help in creating the best motion capture possible for the Kinect 1 and Kinect 2 device.

### Tilt Correction:

Applies a smoothing algorithm to compensate for any accidental tilt that may be generated during recording. If your model is tilted forward or backwards after recording your animation, considering changing the tilt value. This value is measured in degrees.



**Mirror:** Flips the animation 180 degrees on the vertical axis, creating an exact mirror to the subject being captured.

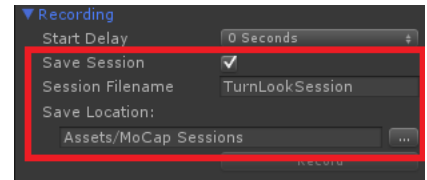
**General Smoothing:** For Kinect 1, this allows a second pass of smoothing for the motion capture subject. For Kinect 2, this is where you will adjust smoothing options to control the quality of the motion capture. For complete list of what these smoothing options do, see "**Step 3: Set Motion Capture Options**" later in this document.

## 19. Start Delay

We have provided an option to delay when your motion capture begins, so that the user can get into the proper position before recording. This option reduces the amount of cleanup required in the final animation. If you select a start delay, you will see a countdown represented in the capture window. Hurry!

## 20. Session Settings

If you want to ability to review your recordings at a future date, and make changes to past recordings, you can choose to save your session. Select the checkbox beside "Save Session" and type in a filename. If you would like to change the location that the session is saved in your project, select the browse button.



## 21. Record Button

This button will start, and stop the motion capture session. If you have selected a start delay, you will see a countdown on the screen before recording begins.

## Using Cinema Mo Cap

### Capture Process

When you capture an animation using Cinema Mo Cap, a grey textured character model is created in the current Unity project. If you do not specify a file location in the editor, this file is placed in the **"Cinema Mocap"** folder under **"Animations"**. The name of the file will be reflected by the name the user provided when capturing the animation. Within this model file, will be the actual animation that was recorded during the motion capture session, again using the name the user provided.

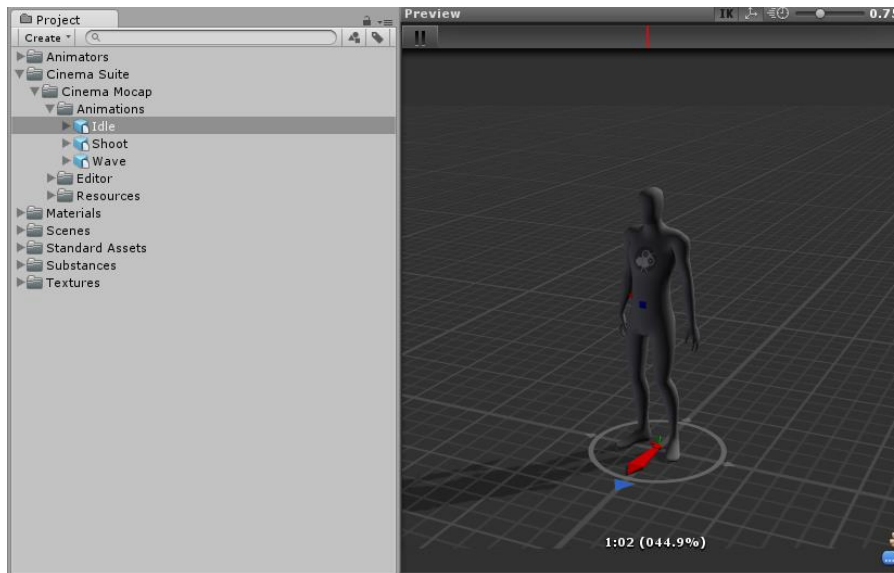


Figure 7: Cinema Mo Cap Humanoid

We take this approach, because when the model file is created (.dae format), any animations associated with it can then be used in the Mecanim system in Unity. Therefore, you can assign any captured animation to Mecanim's Animator tool inside of your Unity Project. This gives the developer the power of adding any of their Cinema Mo Cap captured animations to any humanoid or biped character in their Unity project.

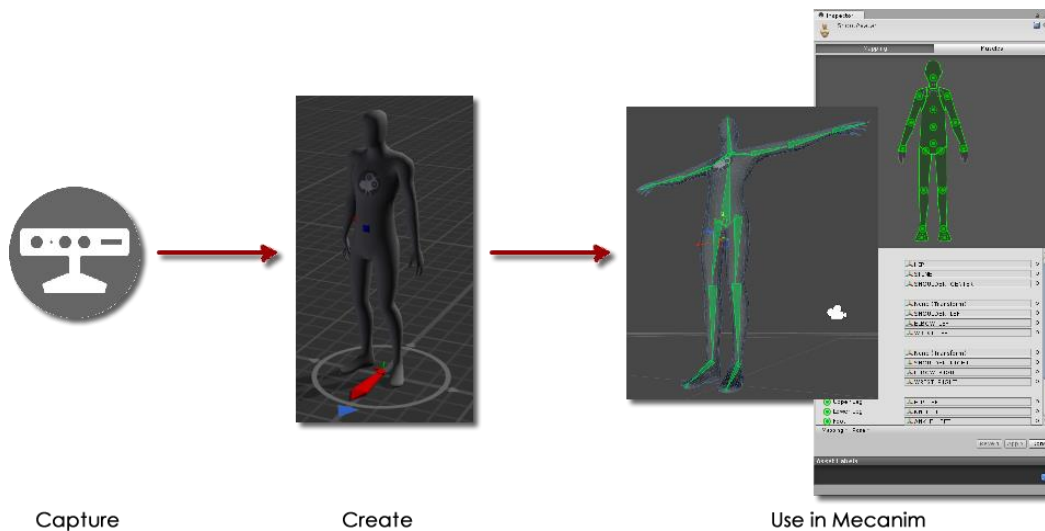


Figure 8: Cinema Mo Cap Workflow

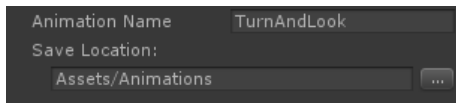


## Creating a motion capture session

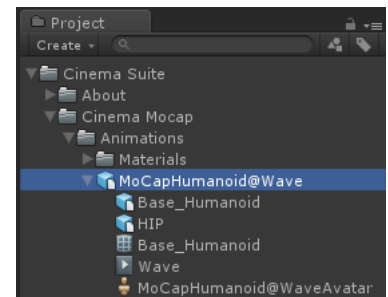
Capturing an animation in Cinema Mo Cap is quick, easy, and fun. To ensure the best results, review the steps below.

### Step 1: Output Settings

By default, your animation will simply be called "animation". Pick a name that would be associated with the animation you are attempting to create. If you are creating an animation of someone waving, name it something like, "wave". If you create a new animation with the same file name as a previous recording, Cinema Mo Cap will create the new file, with an incremented number at the end (Animation1, Animation2, etc.)



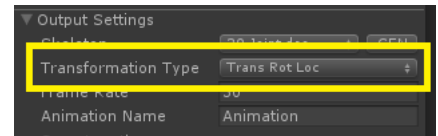
The animation that is captured will be attached and saved to a model in the current Unity project, under a folder of your choosing. The model will be called **MoCapHumanoid@<your animation>**, with <your animation> being the animation. In the sample below, we captured an animation called "wave".



#### Setting Transformation Type:

Selecting the transformation type can be important if you decide you want to edit your animation in external animation packages such as Blender or Maya. Available choices are:

**Trans Rot Loc:** By default, Cinema Mo Cap will use the "Trans Rot Loc" transformation type when creating animations. Recordings created using the "Trans Rot Loc" option (Translation Rotation Location) will create a model with animation data that uses component-wise values for location and position of joints.



**Matrix:** Recordings created with Cinema Mo Cap that use the "Matrix" option will create a model with 4x4 matrix animation data for location and position of joints within the generated Collada model. Matrix is the mode to use for exporting the captured model to most applications outside of Unity for additional editing and tweaking (such as Blender).

**Frame Rate:** By default, Kinect 1 will record at 24 frames a second, and Kinect 2 will capture at 30 frames per second. You can select a custom frame rate if you desire more or less animation frames in your recording.



## Step 2: Set Motion Capture Options

**Device Tracking:** Push the red "Device Tracking" button to enable the Microsoft Kinect sensor. When selected, the Cinema Mo Cap logo will disappear, the button will turn green, and you will see what the sensor is seeing. This will be a live screen which constantly monitors the environment.




**Capture Views:** You can choose four ways in which you would like each Capture window to appear in Cinema Mo Cap. Select the dropdown in the upper left corner of the capture window.

**Depth Viewer:** Will show the range of depth that the Microsoft Kinect can see accurately. (called "Infrared viewer" for Kinect 2)

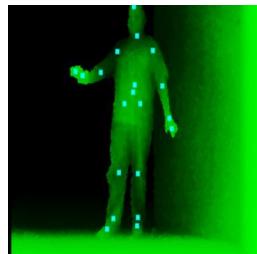
**Image Viewer:** This will enable the Kinect's webcam, and show its image in the capture window. Full colour representation of the environment and subject you are capturing.

**Skeleton Viewer:** This will show only the subject's skeleton during capture, against a black background.

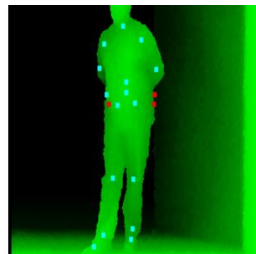
**Radar:** The radar will show where the subject is currently standing, in relation to the range of view that the Microsoft Kinect can capture.

**Node and Bone View:** Selecting these icons  will show and hide the motion capture nodes or bones on the subject being captured. When the node is cyan in color (green in colour for Kinect 2), it means that the Kinect sensor can fully track the joint on the subject.

When the node turns red, the sensor has temporarily lost exact location of the joint, and is "interpolating" or taking a best guess, on where this joint should be.



All joints have been detected by the Kinect sensor



Kinect has lost track of 3 joints with hands behind back.

Figure 10: Node Points

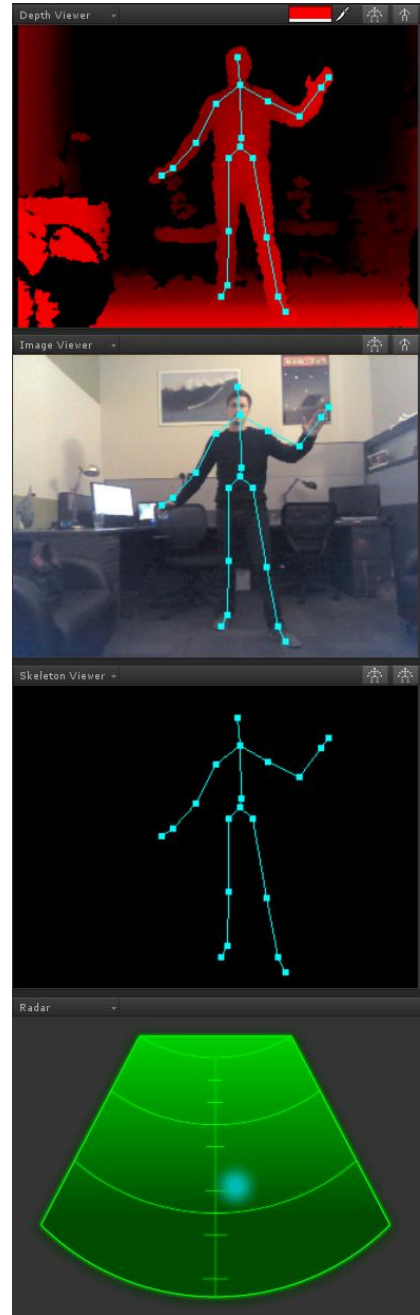


Figure 9: Capture Views





## Step 3: Set Mapping Options

**Hardware Settings:** Cinema Mo Cap can control the quality of the animation being captured by allowing the user to select from no smoothing to heavy smoothing. The setting tells the capture device how precise to be when capturing data. Please note, that the heavier the smoothing, the more latency (lag) the device will operate with while it calculates how much to smooth the capture. Make sure to take this into consideration, when performing in front of the device. Cinema Mo Cap will use the “light” setting by default.

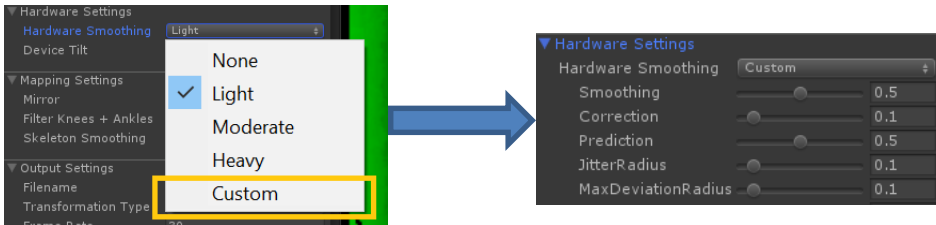


Figure 11: Kinect 1 - Hardware Smoothing

For even finer control over your capture data, you can select “**Custom**” smoothing. When selected, you can individually control different aspects of the smoothing algorithm to suit your needs. Selecting custom smoothing will enable the following options:

**Smoothing:** Determines how much the initial motion capture will be smoothed according to the raw data. This is measured in a multiplier. A value of 0 will use pure raw data. Higher values will increase the power of the smoothing algorithm.

**Correction:** Amount to correct the motion capture from its current prediction value, the higher the value, the more it will correct according to the raw data over time. The lower the value, the more it will correct according to the prediction value. This value is measured with a multiplier. A value of 0.5 is a good benchmark between raw data and prediction.

**Prediction:** Amount of frames to look into the future, to make a best guess at the next motion capture point. The higher the value, the further into the future the algorithm will predict, the lower the value, the closer to current time the algorithm will predict. This is measured in fractions of a frame.

**Jitter Radius:** Controls how much area is used to control jitter of a node. Any jitter that exceeds the radius value is clamped to that value. This value is measured in metres.

**Max Deviation Radius:** Maximum amount in metres that a filtered position can deviate from the raw data.

**NOTE:** The Kinect 2 does not have hardware smoothing available. This area will not be visible in the Cinema Mo Cap window when Kinect 2 is selected. To adjust smoothing options for Kinect 2, Select “**General Smoothing**” under mapping

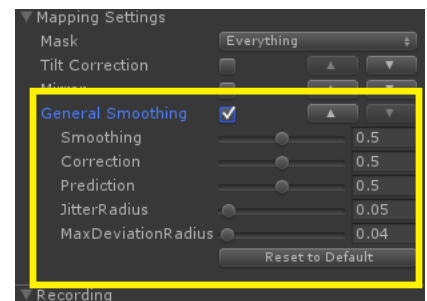


Figure 12: Kinect 2 Smoothing





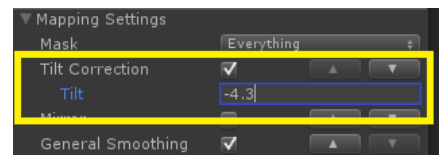
settings, then adjust the settings accordingly. This will also act as a second smoothing pass, if you are using Kinect 1.

**Device Tilt:** If the subject being captured does not quite fit within the confines of how the Kinect is aligned, you can control the tilt of the Kinect 1 using this slider. Lag between setting the tilt value, and the actual Kinect hardware tilting is about one second, so please be patient. The values in the slider are in degrees. The Kinect 1 can be tilted from negative 27 degrees, to positive 27 degrees, depending on the requirements of the user.



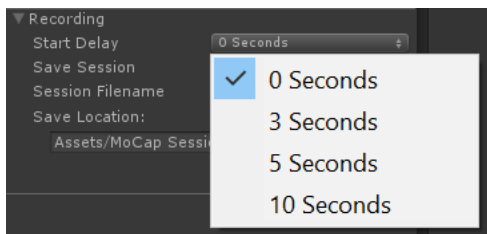
This option will not be available when using a Kinect 2 sensor. You will need to tilt the device manually.

You can apply a tilt correction algorithm to your captured data as well (using Kinect 1 or Kinect 2). Select the **“Tilt Correction”** option under mapping settings. Under **“Tilt”** enter a number (in degrees) that you would like the capture to be tilted. You can enter both positive, and negative degrees.



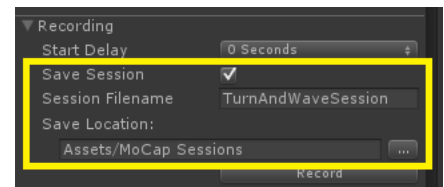
## Step 4: Recording

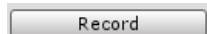
You can control how you would like the motion capture session to begin.



**Start Delay:** Select when capture will begin after the record button is pressed. Choices range from 0 to 10 seconds. If you pick a time greater than 0, a countdown will appear in the capture window as you stand in front of the Kinect sensor.

**Saving your Session:** Clicking the **“Save Session”** option under record sessions will give you the ability to save your recording session in your Unity project. Saving the session gives you the ability to review the session at a later time, and make changes to many different options to help further refine your animation. If you want to save your session, select a filename for your session, and select a location using the browse button. We will talk about reviewing recorded sessions later in this documentation.



After going through the steps above, and setting the Cinema Mo Cap environment, it is time to begin your motion capture session by hitting the record button. 

To ensure the best results, make sure that you follow the following guidelines:



1. **Check your surroundings:** Make sure you have enough space to operate. The space you are operating in should be open enough to capture your movement, without interference from inanimate objects (desks, furniture, etc.). Refer to the chart below for tips on where to position the subject.

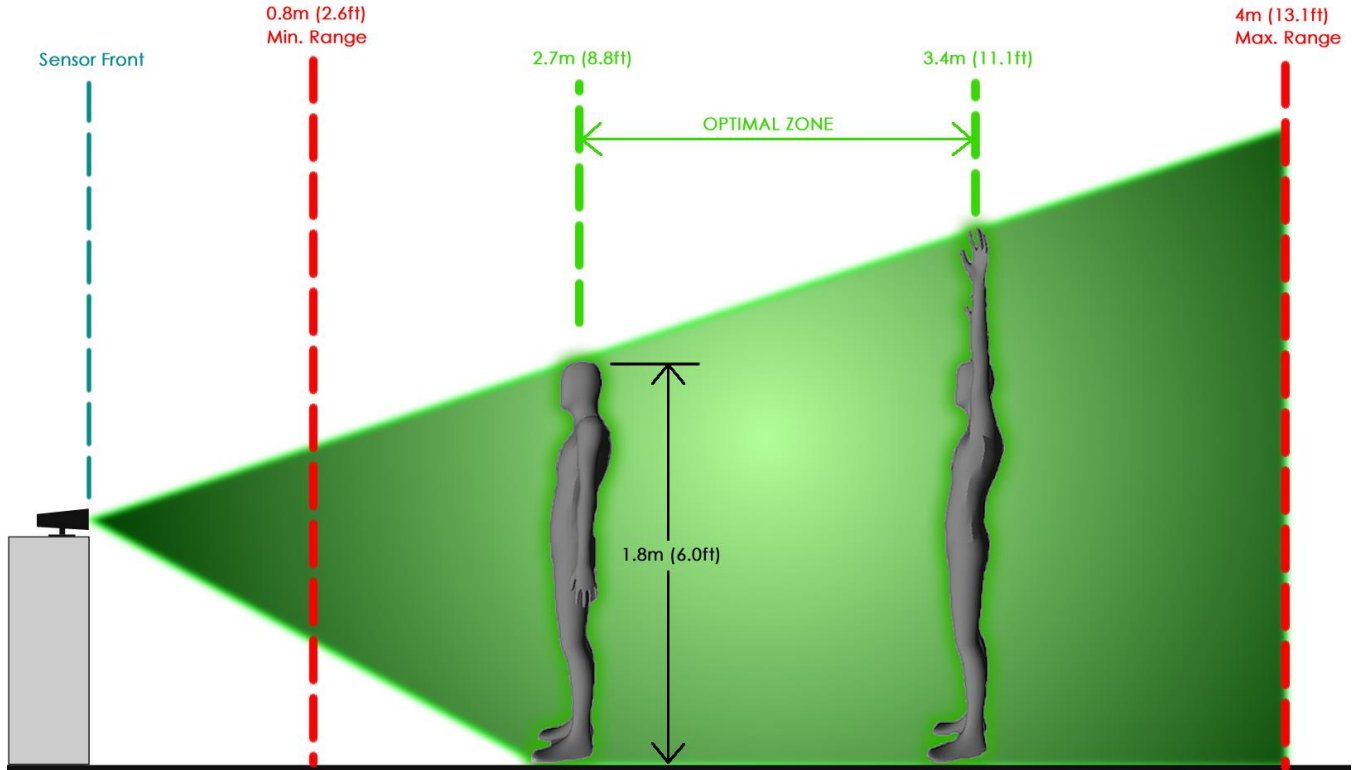
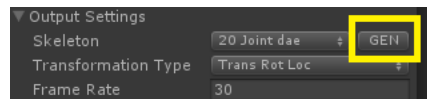


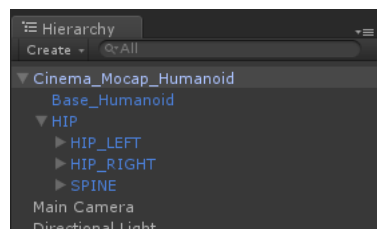
Figure 13: Optimal Positioning

2. **Enable Model Preview:** Cinema Mo Cap gives you the ability to watch your animation mapped to the Cinema Suite Humanoid model, live inside your Unity Project. To view yourself as a Unity model, follow these quick steps.

- a. Click the Model Preview "Generate" Button.



- b. A preview model will appear in your Unity Hierarchy called "Cinema\_Mocap\_Humanoid". The model will be located at the 0,0,0 coordinate in your current scene.





- c. Double-click on the model in the hierarchy to focus on that model in your scene. Reposition your view using Unity if required.
- d. Start Device Tracking and step into the capture area. The Unity model will now represent your movements. Record your session when ready. See image below.

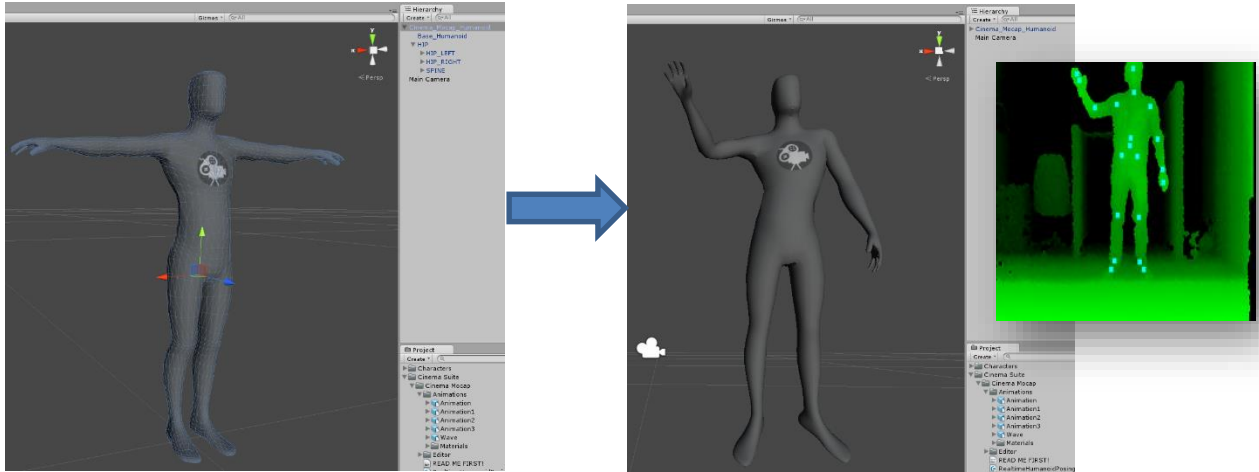
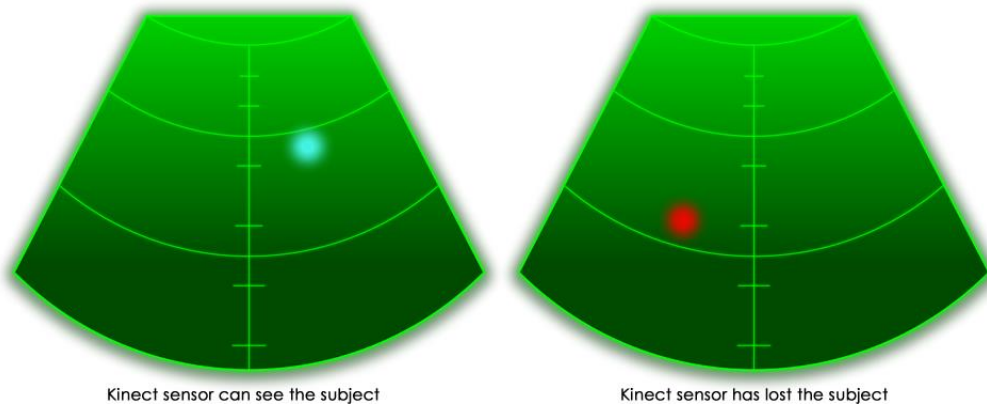


Figure 14: Model Preview Generation

3. **Check the accuracy radar:** Before recording, enable the Kinect and step into the motion capture environment. Pay close attention to the radar. The radar is an accurate representation of the entire area the Kinect sensor can accurately see. On the radar, the subject will be represented by a cyan colored dot. Walk around your environment, and make sure the cyan dot does not leave the radar environment. If it does, you have exited the area the sensor can accurately track. If for any reason the sensor cannot see you, this dot will turn red.



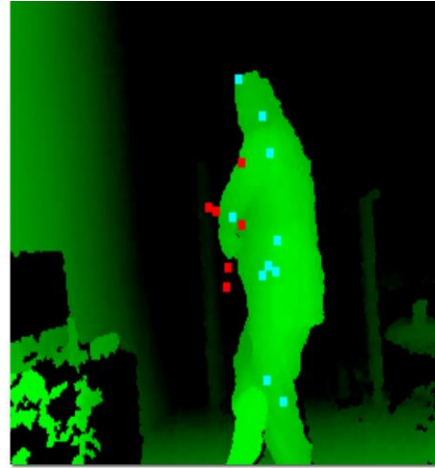
4. **Respect the Kinect:** Cinema Mo Cap at this time, utilizes one single Microsoft Kinect. The purpose of the application, is to capture simple animations in which the subject is **facing the Kinect**. Although you may capture any animation you wish, the Kinect **does not** have the ability to track 360° turns, very quick motion, jumping, or high action sequences.
5. **Keep joints in view:** During your capture, be conscious about keeping the motion capture nodes cyan in colour (green for Kinect 2). Once a node turns red, it means the Kinect has



lost view of this joint, and is making a best guess on where that joint may be. Usually the Kinect's internal software is pretty good at doing this, but there will be times that it will affect the accuracy of your animation.



Capture is accurate and clear with all joints visible

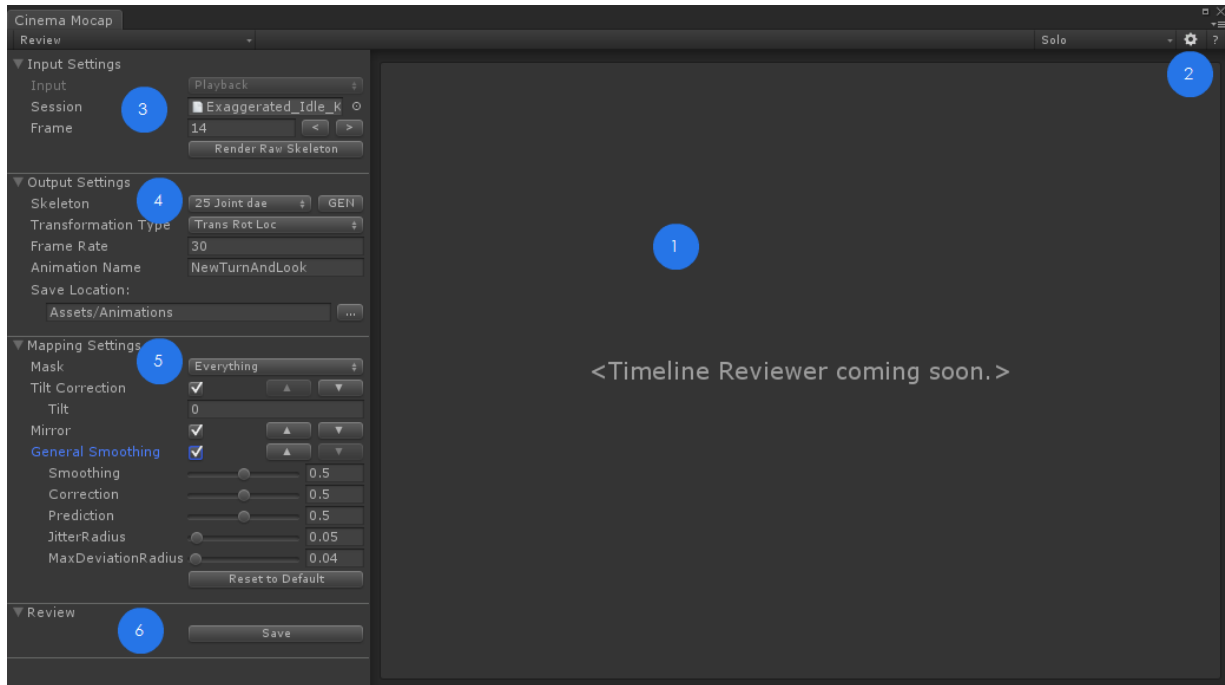


Crossing arms, legs and hiding joints will cause Kinect to interpolate lost points. Can lead to inaccurate animation

- 6. Completing your motion capture session:** Once you have completed your session, hit the stop button.  Your animation will then save to your Unity project under the filename that was originally entered, with the generated model (.dae format) file. Remember, the file will be saved under the project folder **Cinema Suite > Cinema Mocap > Animations**. If you no longer need the model preview, simply delete it from your project by selecting it in the Unity scene or highlighting and deleting from the Unity Hierarchy.



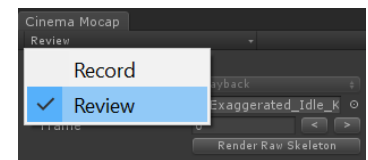
## Step 4: Reviewing a Saved Session



- 1 Future Timeline Editor
- 4 Output Options
- 2 Main Settings
- 5 Mapping Settings
- 3 Input Options
- 6 Review Control

Figure 15: Review Mode for Cinema Mo Cap

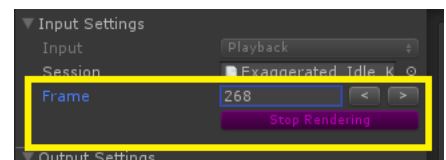
Cinema Mo Cap allows you to save a motion capture session for future review. To make changes to past sessions that have been saved, select **Review** from the main Cinema Mo Cap window.

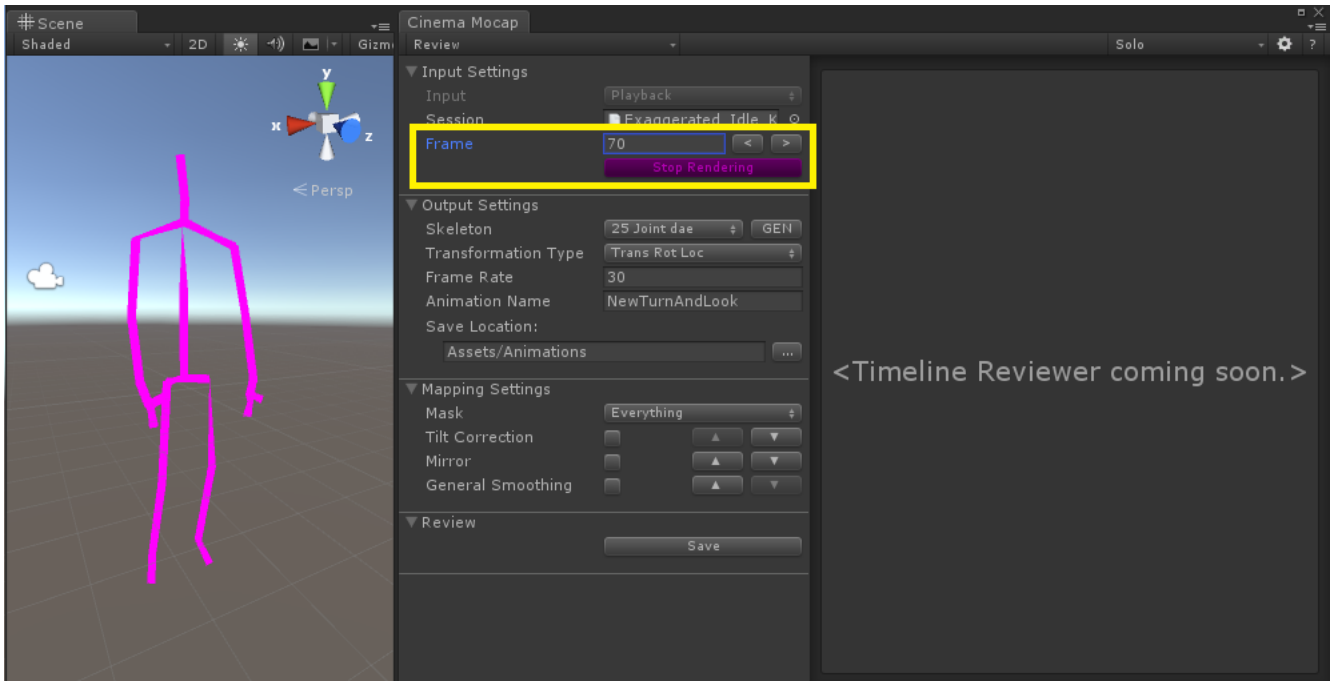


**Input Settings:** When in review mode, the input type will always be set to "Playback". To open a saved session, click on the target button to the right of the "Session" field. All available sessions in your existing Unity project will be listed for selection. Select your session from the list.

To view the recorded session, select the "Render Raw Skeleton" button. A new skeleton model will temporarily be generated in Unity's scene window.

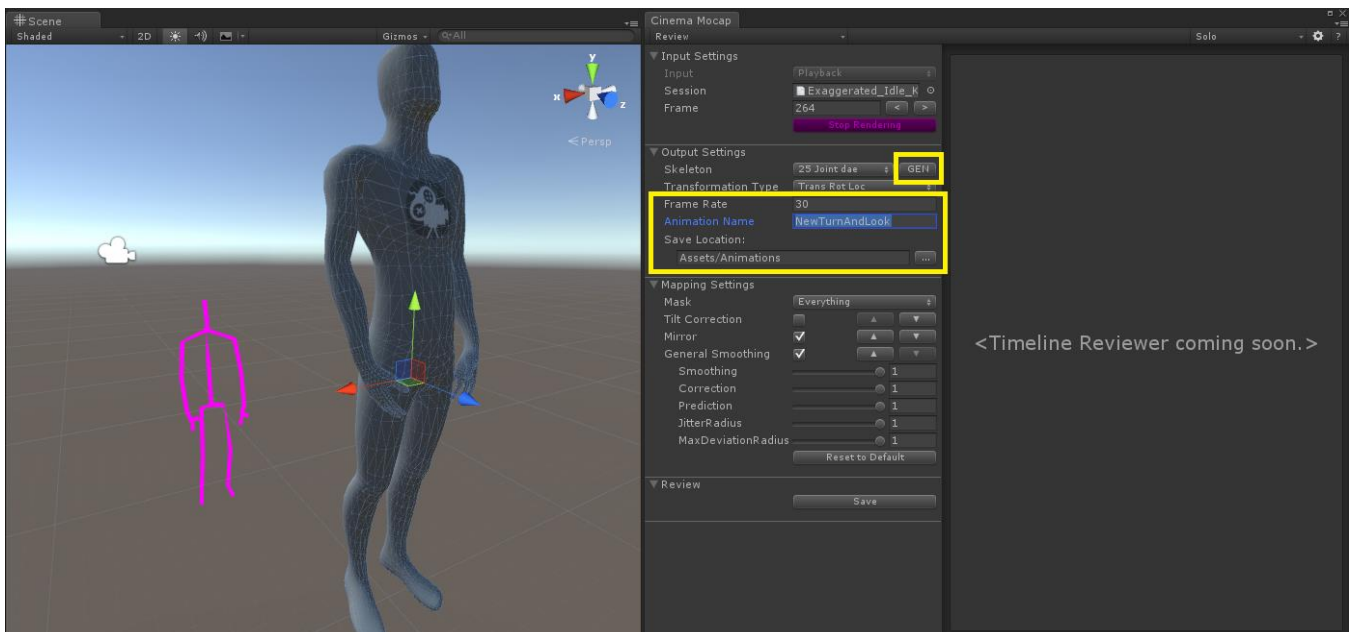
**Frame:** To view the animation data, hover over the frame field, hold your left mouse button and drag left or right. The animation will then scrub from it's first to last frame. If you want to view each frame individually, use the arrow buttons.





**Figure 16: Frame scrubbing with live skeleton preview**

**Output Settings:** To see live changes applied to your model, click the “GEN” button beside the “Skeleton” field. A live model will be generated in close proximity to the skeleton preview. Now, when scrubbing frames, you will see that both the raw skeleton data and the model will preview live, in unison.

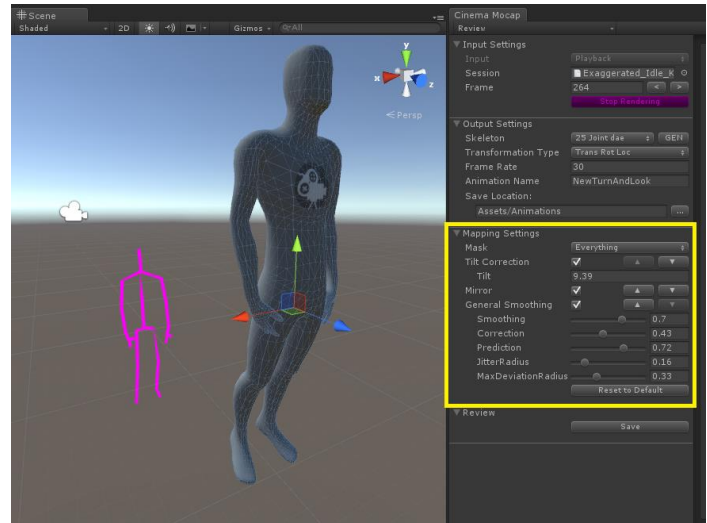


**Figure 17: Raw skeleton data with live model preview**

When saving your session, a new animation will be saved in your Unity project. Select the new frame rate that the animation will contain, as well as a new animation name and file location.

**Mapping Settings:** To make changes to the motion capture data, use the same mapping settings as when the original animation was captured. Changes can be made to the tilt correction of the model, mirroring the animation, or general smoothing. You can even select different body masks, to discard joints that formed the original animation. For more information about how smoothing options effect your model, see Step 3: Set Mapping Options.

Any changes you make to the mapping settings will be reflected live in the model preview. Once you are satisfied with the new changes you have made, it is time to save your session.



**Figure 18: Mapping settings and their effect on the live model preview**

Notice in this example, changing the tilt correction to 9.39 degrees has tilted the live model forward slightly, as compared to the original raw motion capture data.

**Review:** When you are ready to save your changes, click the save button. The existing motion capture session will be updated to reflect your changes, and a new model will be created in your Unity project with the new, modified animation.

**Timeline Editor:** A future release of Cinema Mo Cap will have a built in timeline editor, that will allow you to further refine your saved session, including the ability to clip the start and end point of your animation, as well as other features.



## Using your new animation in Unity

### About Mecanim and Unity3D

Unity uses the Mecanim system for controlling animations inside of Unity3D projects. For a full explanation on how Mecanim works, please refer to the Unity tutorial on Mecanim, located here:

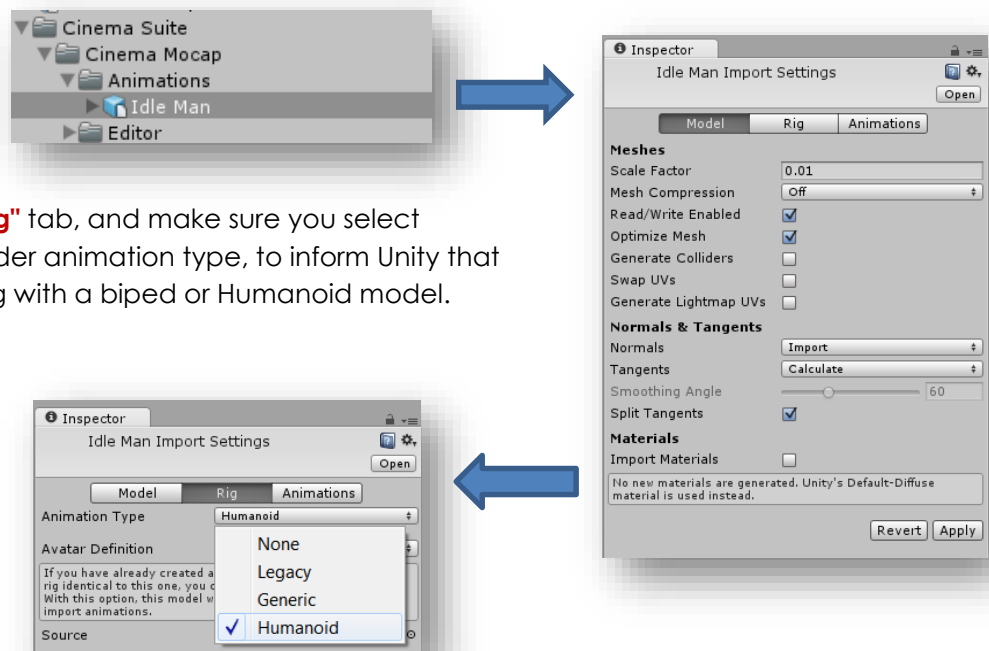
<https://www.youtube.com/watch?v=Xx21y9eJq1U>

We will cover **only basics** of Mecanim in this example, so that you can get started on using your newly created animations effectively, inside of Unity3D.

Once an animation has been created with Cinema Mo Cap, we can use these tools for cleaning up the start and end point of the animation, and control whether or not the newly created animation will be looped.

### Modifying a new animation for use in Mecanim

In this example, we have created a new Animation called "Idle Man" which is now located inside the **Cinema Mocap > Animations directory**. When you select this model, the Unity Inspector will display model information as shown below:



Click on the **"Rig"** tab, and make sure you select **"Humanoid"** under animation type, to inform Unity that you are working with a biped or Humanoid model.

*Figure 19: Preparing model for Mecanim*





Next, click on the animation tab. It is here, that you can control the beginning and start point of your animation, as well as other features. We will only outline some of the key features below:

Adjust animation's start and end point  
As you adjust the sliders, the lights on the side will become red, yellow, or green depending on how well your animation loop will match.

Define if you would like your animation to loop or not.

Adjust root positions and rotations of humanoid model when animation is applied.

Mirror the newly created animation

Control additional features such as defining what body parts use inverse kinematics, what transform masks will be applied to the animation, and adding additional control with animation curves. See Unity tutorial for more information.

Hit the play button to preview how your animation will look.

Apply your changes to the model when complete.

**Figure 20: Editing Your Animation in Mecanim**

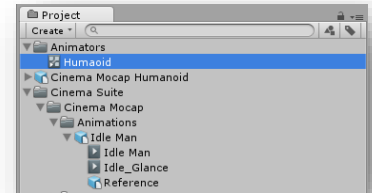
When you are done making modifications to your newly created animation, hit the **"Apply"** button. Unity3D will apply the changes to the newly captured animation.



## Using the animation with other characters/avatars

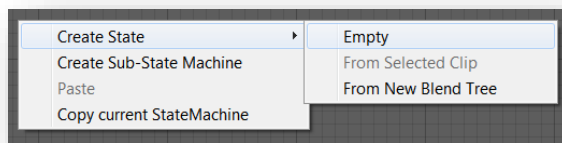
Once your animation is modified and ready for use, Unity makes it very easy to add the animation to other characters you may want to use in your project. Below is a very simplified way to apply a single animation to a Unity character with your new animation.

1. Create a new Animator. This can be done in Unity by right clicking in your project folder and selecting "**Create > Animator Controller**".

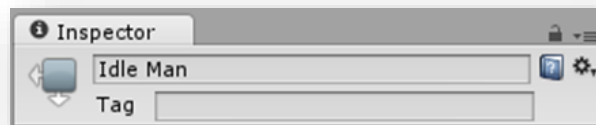


2. Name your Animator. We called ours "Humanoid"

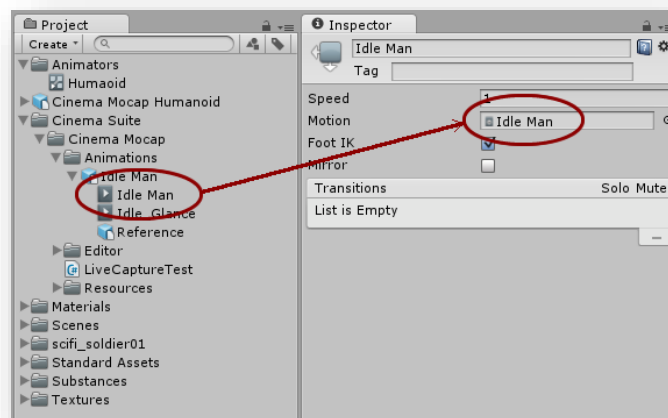
3. Double click your newly created Animator, and the Animator window will open. Right click any space inside the Animator window, and select "**Create State > Empty**"



4. Highlight your newly created state. Then, in the Inspector window, give your state a name (we called ours "Idle Man").

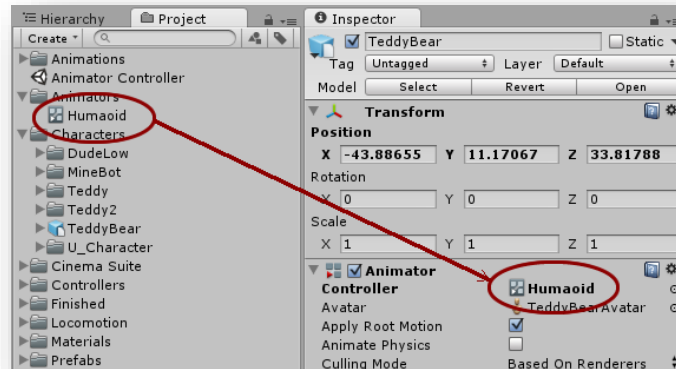


5. Drag the newly created animation from your project into the "**motion**" field. You can also click on the target icon beside the motion field, and select the animation from a list of all other animations in your project.

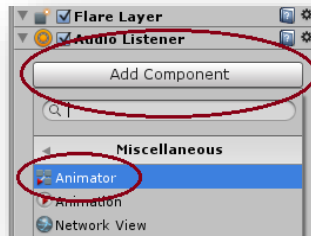




6. Select your model in your project or Hierarchy window. In the Inspector, drag your newly created Animator Controller to the **"Controller"** field of the Animator script.



7. If you do not have an animator script assigned, add one by clicking the **Add Component** button in the Inspector for your object. Then select **"Miscellaneous > Animator"**



8. Enter play mode in Unity. To do this, select the Game tab, and hit the play button. Your captured animation will now be running, and applied on the model you have transferred the animation onto!



## Community

We want to hear from you! Quite simply, without you, none of what we develop would be possible. We always want to hear from our community, whether it is for feedback, sharing ideas, adding features, and providing additional help. Here's how you can find us:

- Website:** [www.cinema-suite.com](http://www.cinema-suite.com)
- Facebook:**  [/CinemaSuiteInc](https://www.facebook.com/CinemaSuiteInc)
- Twitter:**  [/CinemaSuiteInc](https://twitter.com/CinemaSuiteInc)
- YouTube:**  [/CinemaSuiteInc](https://www.youtube.com/CinemaSuiteInc)
- Blog:** [www.cinema-suite.com/blog](http://www.cinema-suite.com/blog)
- Email:** [support@cinema-suite.com](mailto:support@cinema-suite.com)
- Forums:** [www.cinema-suite.com/forum](http://www.cinema-suite.com/forum)

## Help and Support

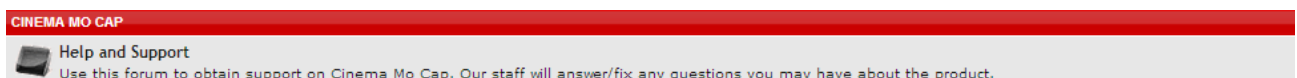
### Cinema Suite Forums:

The fastest way to obtain support for Cinema Mo Cap is to visit the Cinema Suite forums. Our forums can be found at [www.cinema-suite.com/forum](http://www.cinema-suite.com/forum).

Before creating a post, please make sure to search the forum using the search bar located in the upper right area of our forum site.

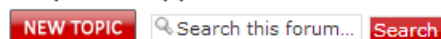


If you cannot find what you are looking for, please create a new forum topic under the Cinema Mo Cap category "**Help and Support**" by clicking on the text below.



Once inside the Help and Support area for Cinema Mo Cap, create a new topic by selecting the new topic button in the upper left area of the page.

### Help and Support





We constantly monitor our forums for new support inquiries.

## Email:

If you fail to receive an answer in the forums, you may also email our support team directly. Our email address is [support@cinema-suite.com](mailto:support@cinema-suite.com).

Please note the following when emailing support for quickest service:

1. We need 2-3 days to process email support requests, due to volume.
2. For fastest service, please provide your Unity Asset Store Purchase invoice number for our product.
3. Put invoice number in subject field, with brief description of problem.
4. In the body of the email, please provide as much of the following as possible, for quickest service:
  - Detailed explanation of the problem. Provide screenshots if possible.
  - What version of Unity?
  - What version of Cinema Mo Cap? (Go to **Window>Cinema Mo Cap>About** to obtain version number).
  - Sequence of events leading to issue.

## Licensing:

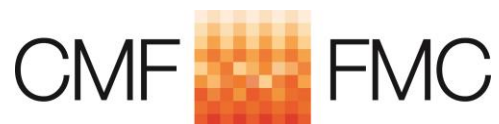
Licensing for Cinema Mo Cap is governed by the Unity Asset Store End User License Agreement (EULA). For more information about the EULA, please [click here](#) for more information.



## Thank you

Without you, what we do would not be possible. We sincerely thank you for purchasing Cinema Mo Cap, and allowing us to create software that helps the community do their work quicker, easier, and hopefully with a bit more fun.

Cinema Suite Inc., would like to extend a special thank you to the Canada Media Fund, for making Cinema Mo Cap Possible.



[www.cmf-fmc.ca](http://www.cmf-fmc.ca)

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