

MASSIVE

Working with Motion
Version 1.1

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Now it's time to get your motions that you captured in the motion capture lab into massive. This will help you process them and get them working.

If you don't know how to motion capture don't worry! I have provided a tutorial on how to actually capture the motion and calibrate our camera's in the motion capture lab.

**See [motion Capture Documentation](#)*

Now that you have the motion captured you will need to process it. If you do not know how to process the data you can see either the written documentation on how or watch the video.

**See [Vicon Post Processing Documentation](#)*

**See [Vicon Post Processing Video](#)*

If you would like to practice I have included an .x2d data file on the disk for you to practice with, it's called

[zombie_walk001.x2d](#)

Third you will need to transfer the .c3d data from Vicon into Motionbuilder. Motion builder will assign joint information and skeletal structure.

**See [Motionbuilder Documentation](#)*

If you would like to practice I have included an .c3d data file on the disk for you to practice with, it's called

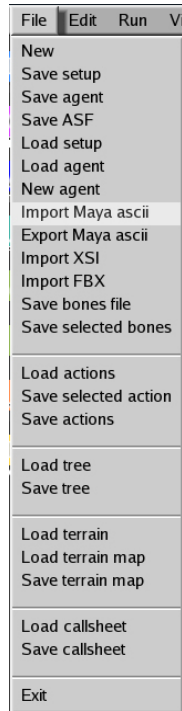
[zombie_walk001.c3d](#)

Final step requires the use of Maya. You need to rename the joints and get rid of the marker data that has come along for the ride since the beginning. But today is your lucky day! I have written a script that will take care of everything for you.

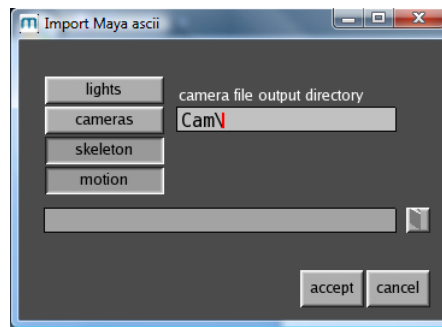
**Copy and paste the [bluePill.mel](#) file into the script editor and execute.*

**Please not that once the joint conversion has taken place all you need to is save out as a Maya ascii file.*

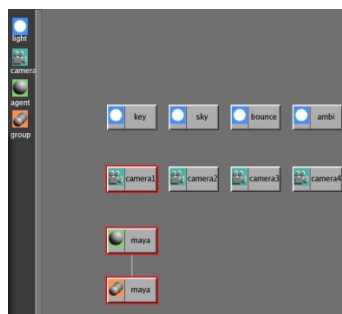
Once you have converted all of the data it's time to open Massive. When Massive has loaded you need to go to file and scroll down to the Import Maya Ascii.



The file that you should import is called *zombie_walk001.ma*. When you import this Maya ASCII file you will get a new window with a few options on it. For the purposes of this tutorial I am choosing to import the skeleton. That way we can see what we were working with. Normally though we would just be importing the motion.



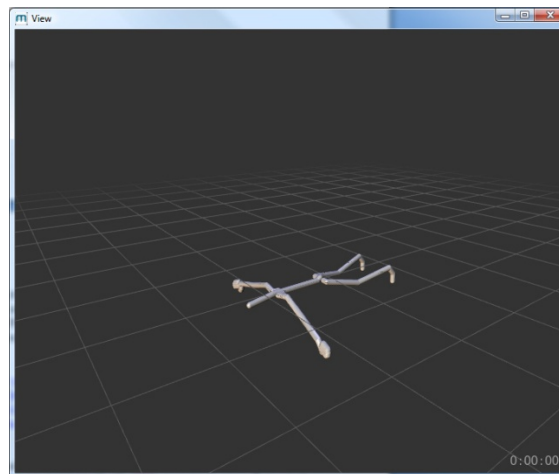
This is the zombie file which we will use within our simulation. Once you import your ASCII file it will show up in the scene page.



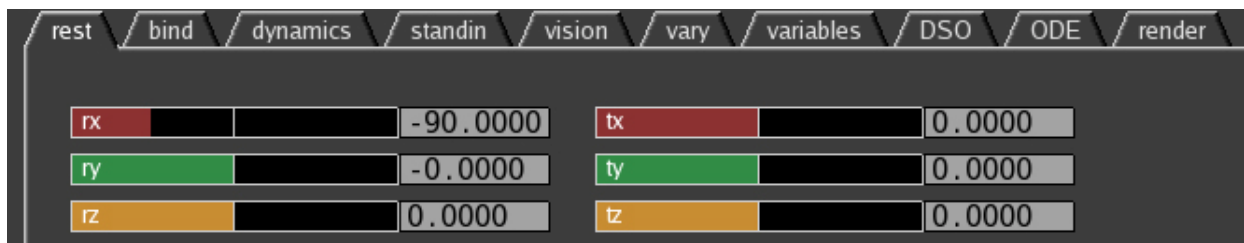
Now you can go down to the bottom and rename your agent and the adjoining skeleton that came with it.



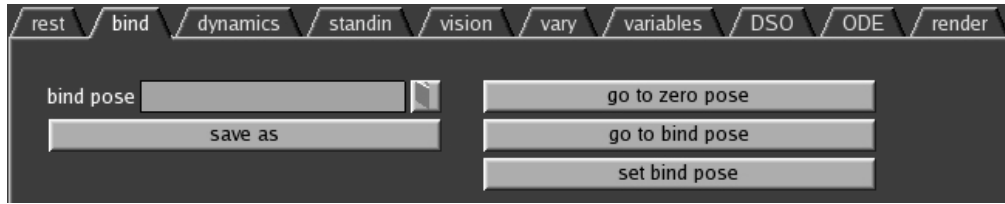
As you can see your skeleton is not facing the right way. Well there's an easy way to fix it.



Under the scene page go back down to the rest tab and under the rx field make sure that it reads -90.000



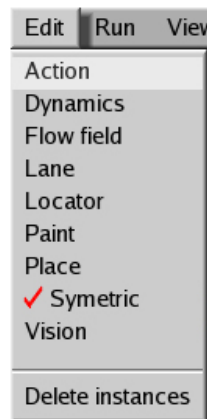
Within massive there is a cool tool that will set this pose forever so you can always refer back to it. While still under the scene page back down to where you see the rest tab and go one tab to the right. The bind tab has four buttons. Once you have the pose set go to this tab and click the save as. This will save a .act file and you can always load it for any motion or skeleton. Also say for example if you want to start over just go back to this tab and click go to bind pose. Massive will return it to the bind pose you set up.



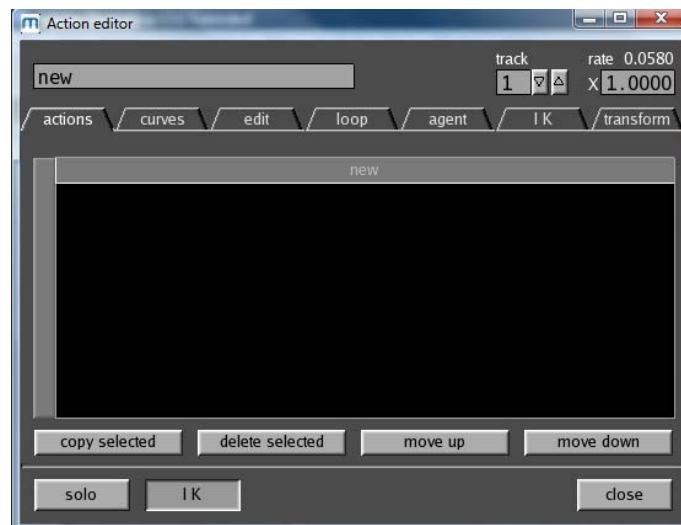
**Note that if you have more than one agent set up in the simulation then go to the scene page and select the agent you are working with and then link back to the body page.*

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You now need to edit your actions, so go up the main menu bar and select edit and pull down to action.



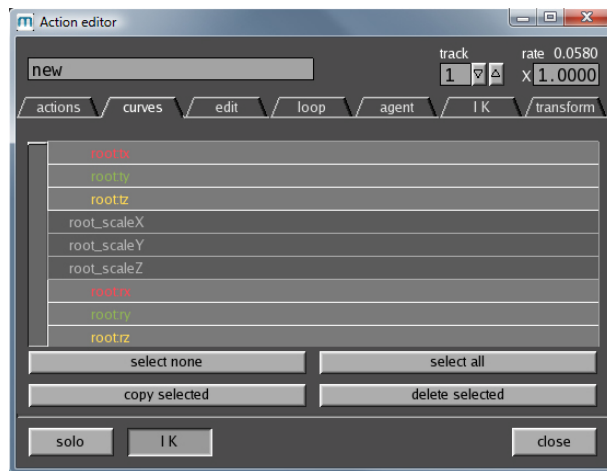
A new window comes up. Now this window is a doosey when it comes to editing your actions. I find this window one of the key tools within Massive, so let's start at the top and work our way down.



Now you can see that we only have one motion imported. You can rename each motion by selecting it and going up top to the text field and changing the name to whatever you want.

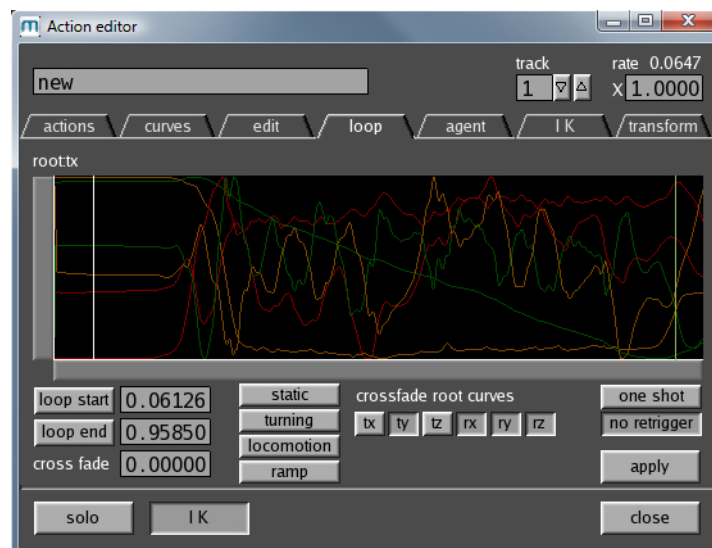
The move up and down buttons on the bottom allow you to prioritize which motions or set of motions will take precedence over the other.

Next you need to go to the curves tab within the action editor and you should highlight 6 joints which control the entire motion. So hold shift and select root:rx root:ry root:rz root:tz root:ty root:tx, the text is in red, green, and yellow.



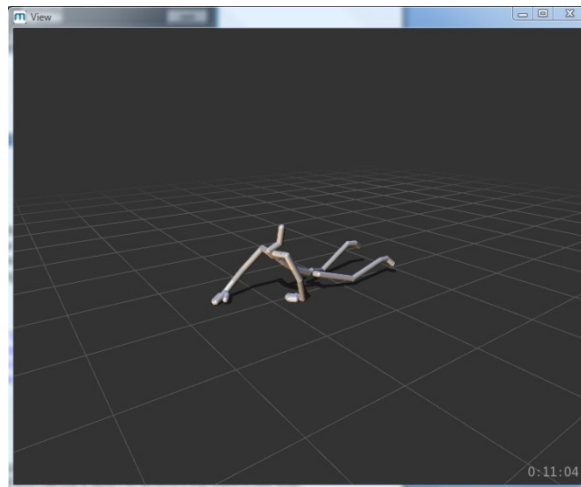
*Note that you can select all of the other joint curves and edit there motion separately if you had a need to.

The next step to head over to the loop tab within the action editor. You will see all of the joints that you just highlighted are shown. Now if you want to you can loop a specific curve, but to get the entire set of joints just select the joints previously mentioned.



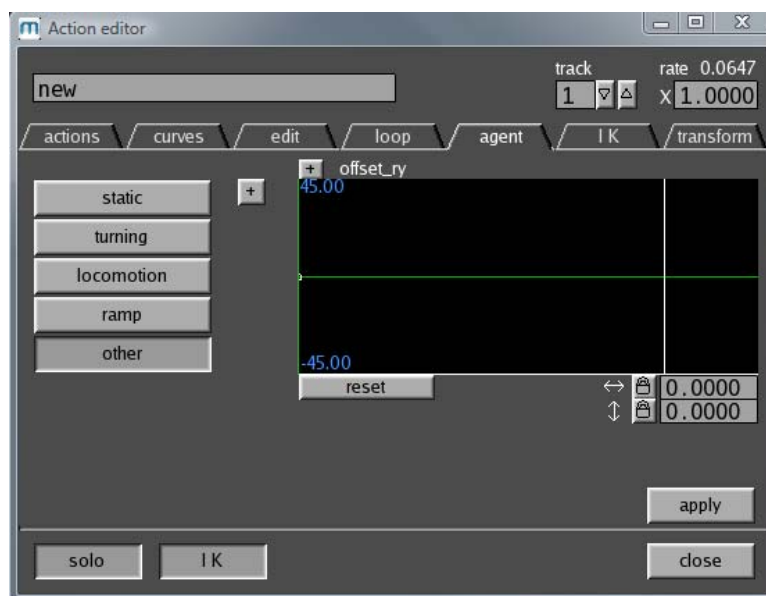
Now within the graph you can actually just click within curve window and a line will appear. One for start and one for finish. So you need to find the start and end of the action that you are planning to use. This comes in very handy when trying to cut those T-Poses that are at the beginning of motion captures.

Make sure that you have the Solo button selected and you can view your motion within the view window. Just go up to the run menu at the top and click go.



Once everything is happy in your world click apply. Please be careful though once the loop is applied it is undoable.

The final step in editing the motion is you need to go to the agent tab within the action editor. If it is a slow to fast action you will want to choose ramp. If the motion is just standing, then select static. Obviously if the agent is turning than select turning. and for a constant moving motion make sure to select locomotion. Once done click apply.



Please be careful it is undoable once you apply the agent curves you will have to start all over again.

*An important note is that before you even capture that data from the person that is wearing the suit, make sure that you know what everyone in your simulation is doing. You need to make sure that you capture all of the turns, jesters and in-betweens. That way when in the action editor you can edit the curves and your simulation is smooth and hiccup free.

*A tip that may help you is when in the motion capture lab do not capture just the full motion. Map it out and capture the steps to the entire sequence instead. It is always easier to put together multiple steps of the planned movement than cutting up the entire sequence.

Once you have your motions ready now we need to actually get them working so back to the brain page.

All you need is one output node. Once you bring up the attributes of that output node all you need to do is in the channel text field make sure that you type in exactly the name that you use when you named the motion when you first opened the action editor and renamed the action. Then make sure that the middle bar is slid all the way to the right so it's at 1.000.



That's it!

Go to the run menu and click go and watch your motion rock out!