

Carrara NLA Clip files and selected BVH files

Carnegie Mellon MOCAP data with further processing and editing by John Calder at the Manukau Institute of Technology in New Zealand. Version 1.1 of 23 Oct 2010.

Acknowledgement: The Carnegie Mellon statement applies:

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The data used in this project was obtained from mocap.cs.cmu.edu.

The database was created with funding from NSF EIA-0196217.

The movements

I am selecting the most useful of the 2600 CMU files for our needs

1. .CAR FILES

Full conversion to .car format with editing. Results vary when applied to different figures than the one I used to create the file. eg Walk with V4 looks OK to me when applied to M4 but my students say "he walks like a woman".

- 09_11** Fast Run V4 (as Cycle)
Includes correction to distorted arm movement
- 16_15** WalkV4 (as Cycle) – good general purpose walk cycle for V4 and M4 etc
- 16_15** WalksM3 (as Cycle and as long walk) for M3 and V3 etc
- 77_02** Standing Still V4– quality of natural sway - seems to work on all figures
eg to give more life to talking characters
I have taken the slowest, most still part of the very active CMU original
and slowed it down about 8 times.
- 83_34** Walk up Stairs V4

2. BVH edit in DAZ Studio –

Less processed. More widely applicable to Generation 3 etc.

Above movements plus:

- 40_10** Wait for the bus
- 137_28** "Normal Wait"
- 140_07** "Waiting" – looks like a sports player eg goalkeeper waiting
at the ready for a challenge.

My process: pto

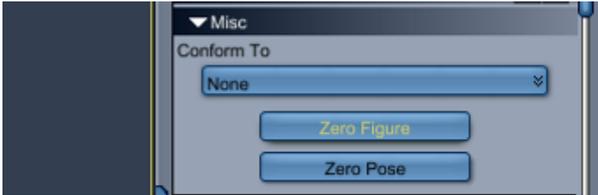
Process used here:

1. Pre-process in DAZ Studio 3

Start with a quick edit in DAZ Studio to reduce the frame rate to reduce the number of keyframes to edit. I have been changing to 24fps but with my latest work I am taking advice from other writers in the DAZ Forums and reducing to 12fps to make further keyframe editing easier. In some cases, trim the movement to a single cycle. Save as BVH.

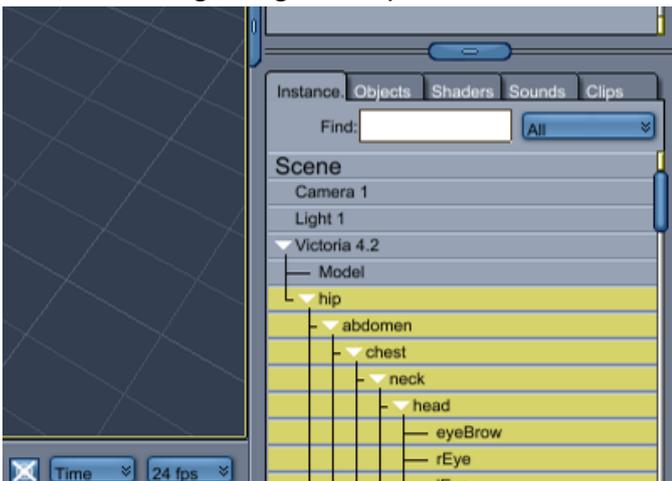
2. Process in Carrara

Start with an empty scene in Carrara then import the target figure - usually Victoria 4.2. In the right-hand properties panel, under "Misc", click the "Zero Figure" button.



I find that some movements eg "16_15 Walk" only work well for a specific target figure generation and I need to redo this step with different target figures.

Focus on Target Figure "Hip"



Load the BVH

IMPORTANT - Do NOT import at the default time setting of 0.00 seconds. This will cause the result to have an inconvenient position shift when we reuse it. This was a major challenge until I discovered that we can sometimes get a well-positioned result by importing at a later time: 1.00 seconds.

Also select "Apply to Selected Skeletons"



For stubborn position shifters eg "09_11 Run" I have also needed to make use of the "Fenric" plugin for BVH and PZ2. I export to BVH with its checkbox "Include Global Translation" clear then import again.

Convert to NLA, edit.

Remove all objects except the NLA master clip object. This includes deleting the test figure then making sure it is all gone with:

Menu:File → Edit → Remove Unused Masters → Remove Unused Objects

Menu:File → Edit → Remove Unused Masters → Remove Unused Shaders

Then save the car file.

The resulting files are small, typically 50K, and give versatile re-use.

Use the .car files via Import into any Carrara Scene

Note that we do get a popup error message – we simply click “OK” then continue.

The manual suggests that there is a more orthodox way to package these as a “.cbr” file but to date I have not yet been able to get “.cbr” to work – suggestions welcome.

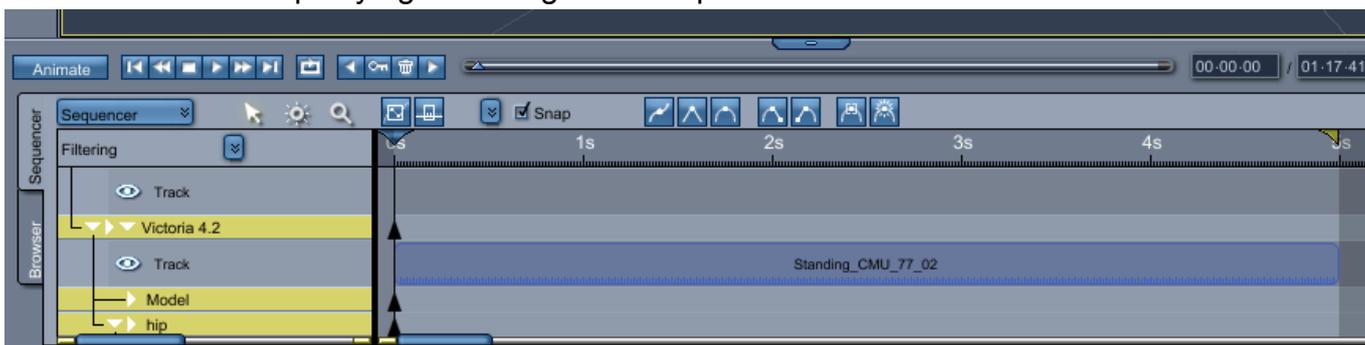
OR

Use one of these .car files as your scene starter file then add or paste your scene content and characters.

These “NLA Clips” appear as master clips under the NLA Tab at the bottom right corner of the Carrara Assembly room. You can drag and drop them into the NLA track under the figure name in the animation sequencer.

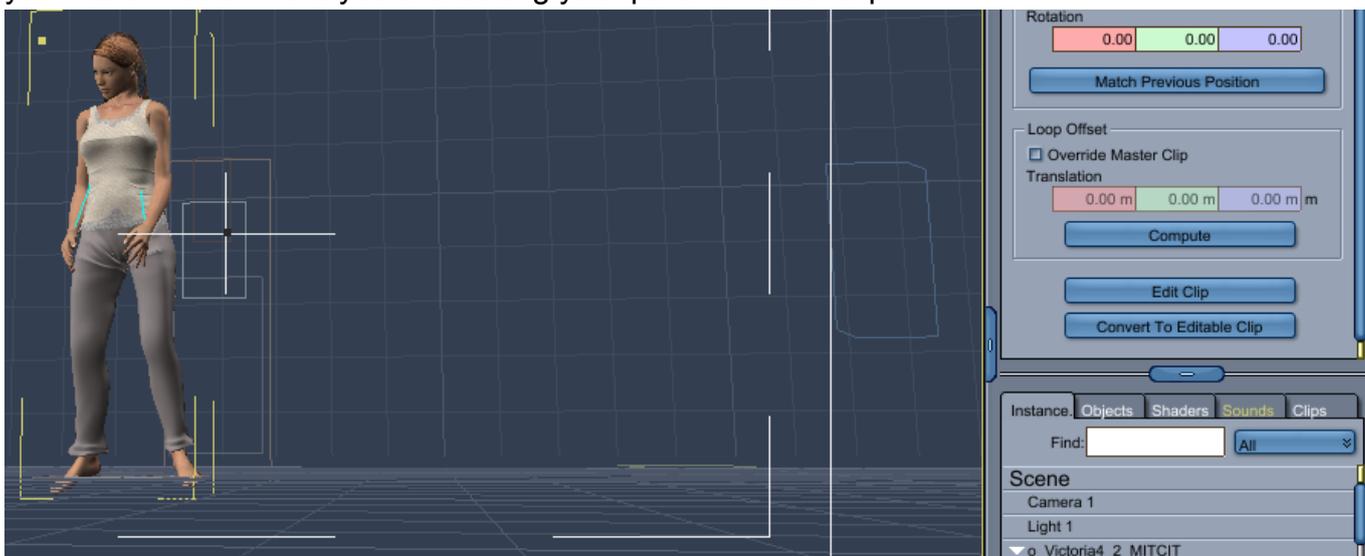
Some NLA hints and tips

You can edit NLA clips by right-clicking on the clip in the timeline.



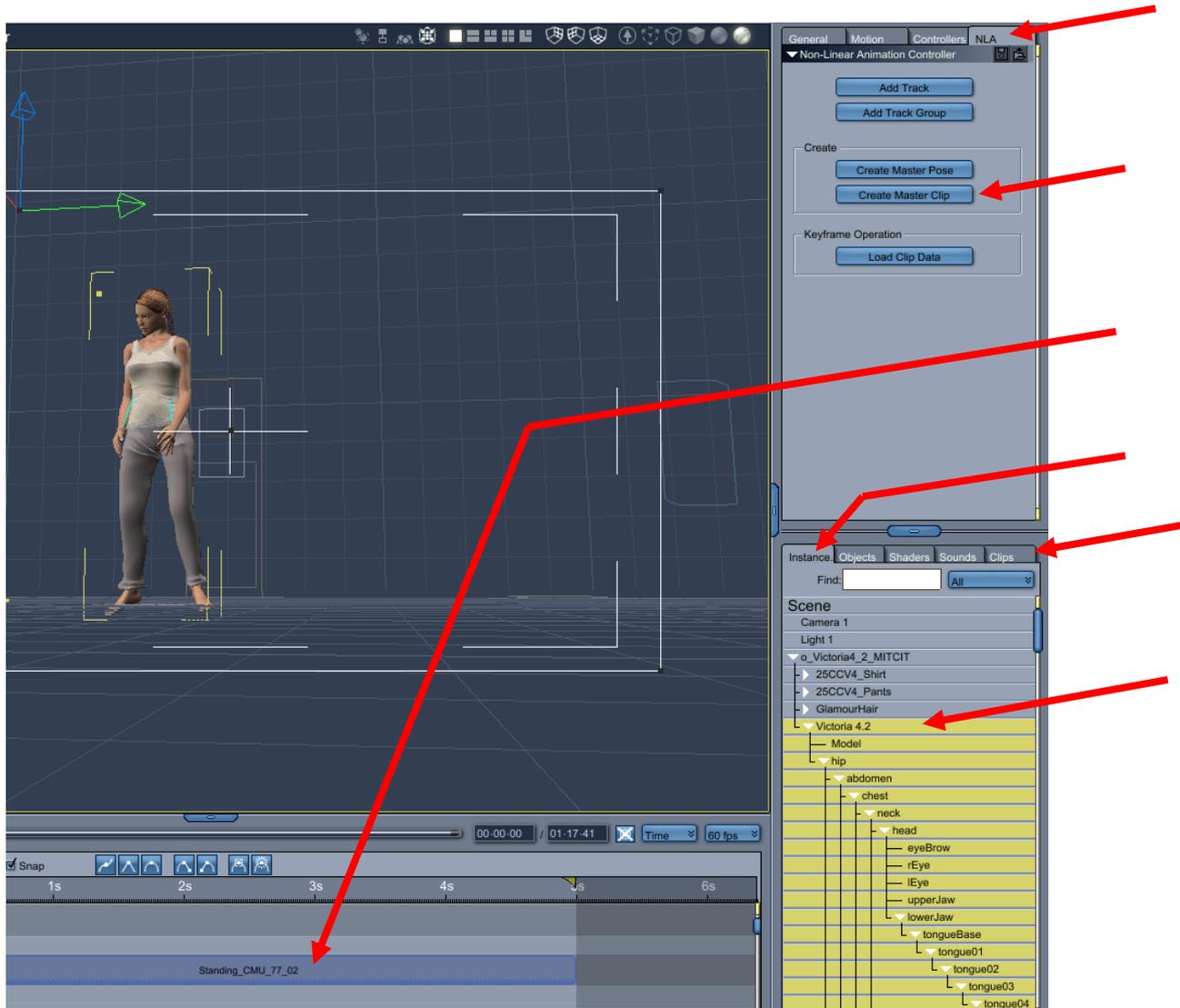
OR by clicking an “Edit” button in the user interface that appears at the top right of the Carrara Window when you left-click on the clip in the timeline.

In that properties pane is a button labelled “Convert To Editable Clip”. In my experience this puts you into a mode where you are editing your parent master clip.



New master clips - pto/

IF you are making changes for reuse later THEN you need to click “Convert To Editable Clip” first. However IF you forget OR you want a variety of masters OR you want to create new versions while keeping old versions THEN you can click on the character you are working with in the Scene, select a NLA tab at the top right, then click a button “Create Master Clip” and save your changes as a new reusable master under a different name.



Hint – IF you click on your character eg Victoria 4, and you do NOT see a NLA tab up top THEN try clicking on another character then back on the one you want – that seems to give the system a "refresh" shake-up. (experience in beta 8.1.0.18)

Hint – long scene use of “Standing Still” – IF you need more than 5 seconds of standing still THEN I suggest that you copy another 5 seconds on to the timeline then apply “Reverse Frames” to this copy. That will give a smooth transition and some variety of "almost inaction".