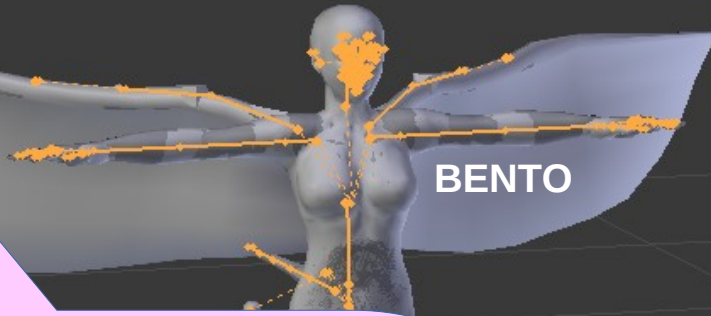


# ~BENTO~ animation



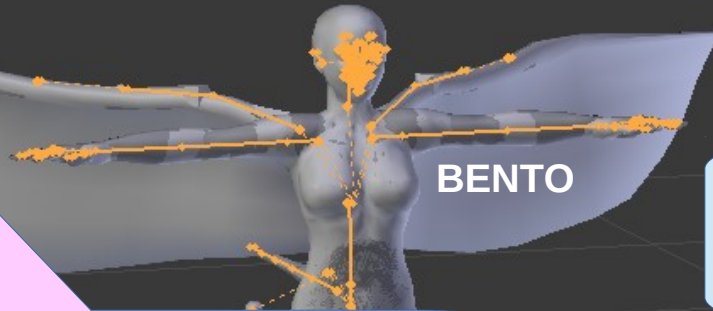
Now that we have rigged Rex with bento (*Bento armature tutorial*) how can we go on with animation like sit or walk



Yap in a previous tutorial we have rigged REX the DOG with a part of these bones.  
But before we go on with REX-BENTO.  
Let see what animation is about.



# ~BENTO~ animation



Though we could use blender from the REX files?

A how to is presented by Second Life™ here:  
[How to create animations](#)



Yes that is what we intend to do. You can use avastar too for animation.

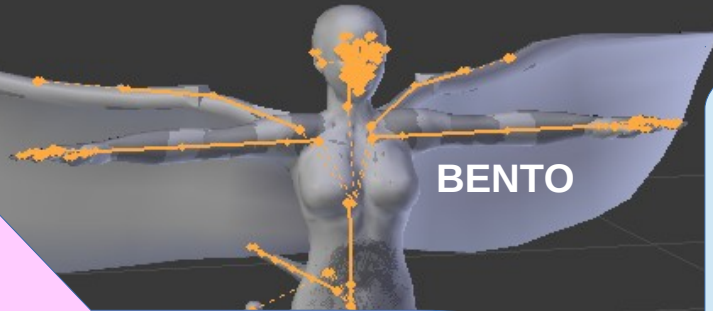
[Avastar rigging and animation blender add on .](#)

We did not use avastar for rigging rex do we have to now for animation ?

No we dont we will see how but still with avastar life would be simpler.



# ~BENTO~ animation



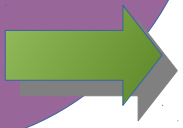
Great these are the standard animation already available in opensim under the same UUID.

Please go on and download the standard secondlife™ bvh animation from following link:

[standard BVH files for opensim.](#)



Yap you can use them as templates and modify as needed will see about that in a moment.



# ~BENTO~ animation



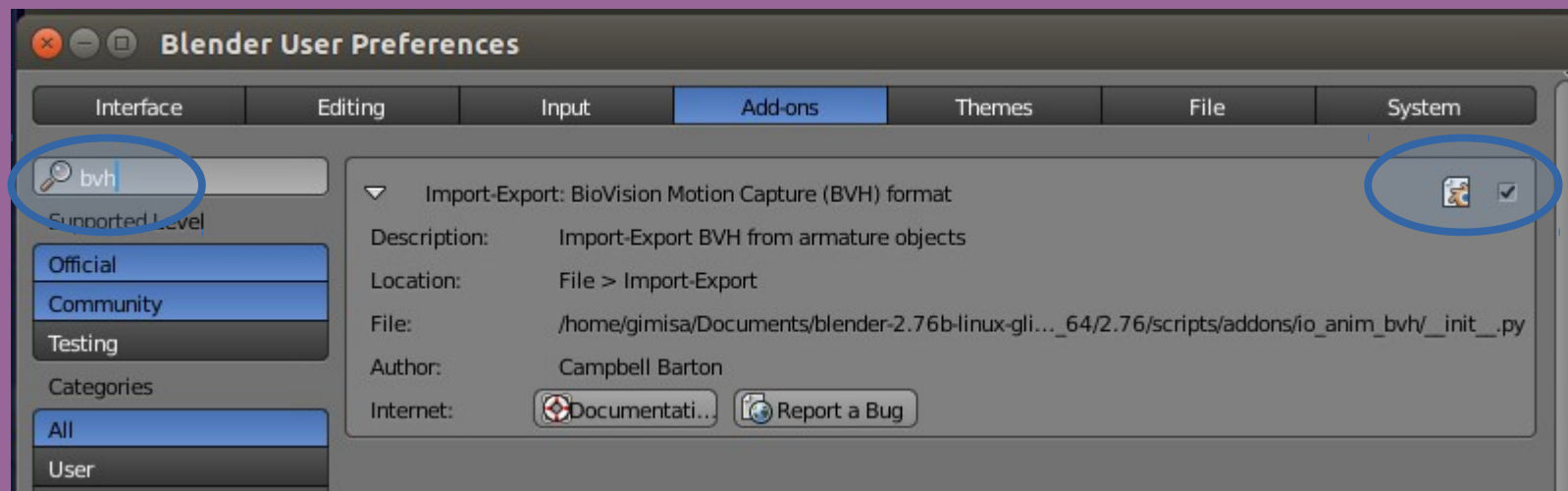
So I open up blender and what you suggest I do .

BENTO

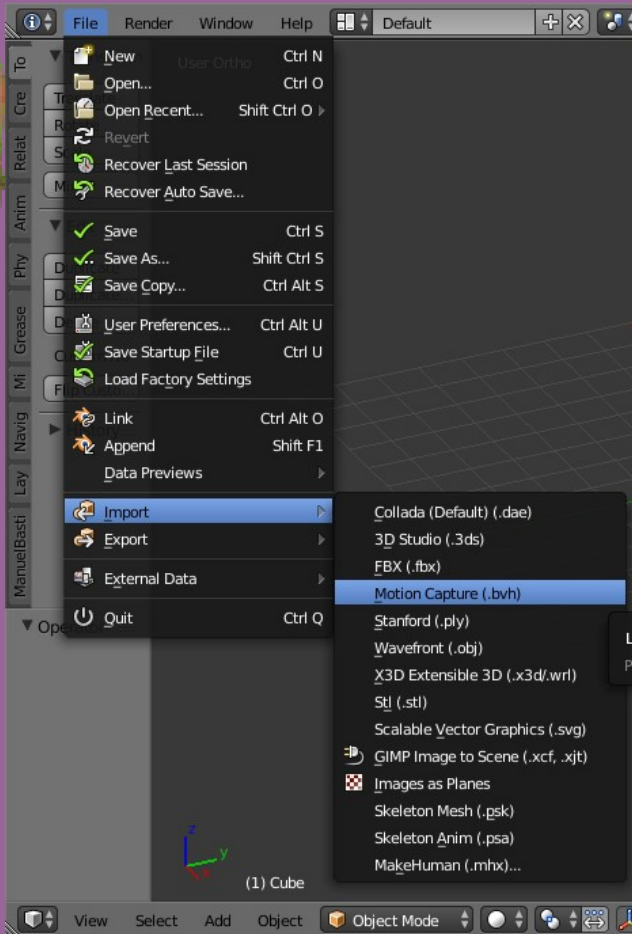
So in File, preference addon I type **bvh** and make sure its selected in .



First make sure you have **bvh** import add on . ( the opensim format for animation file)

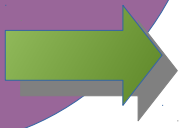


# ~BENTO~ animation



Now for a test lets import a SL\_Avatar\_Tpose.bvh from the standard animation file we have downloaded earlier.

So in File I go import and there I have BVH file type select it find the file SL\_Avatar\_Tpose.bvh And hit enter.





# ~BENTO~ animation

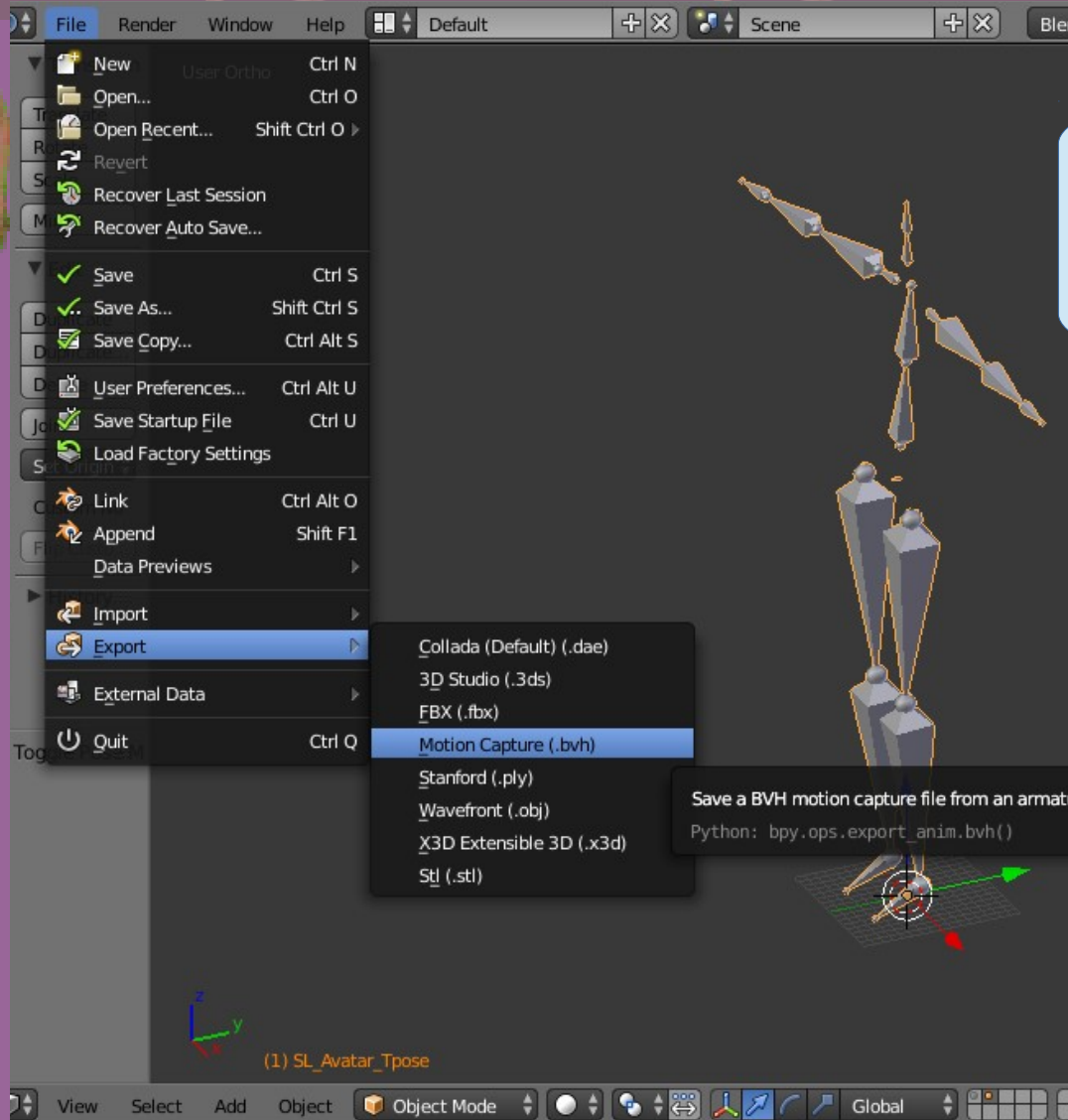


Cheek I get a monster in return.  
And where is the avatar???

Ya no avatar. You get only an bone  
armature. Since t-pose is only a pose  
it has even no animation to speak of.

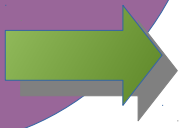


# ~BENTO~ animation

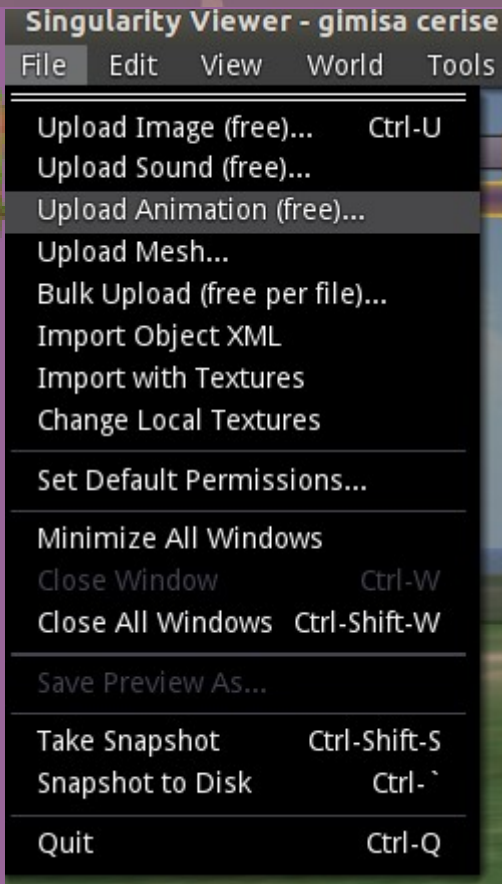


Export that out now as  
test-tpose.bvh  
We will try an opensim  
animation import.

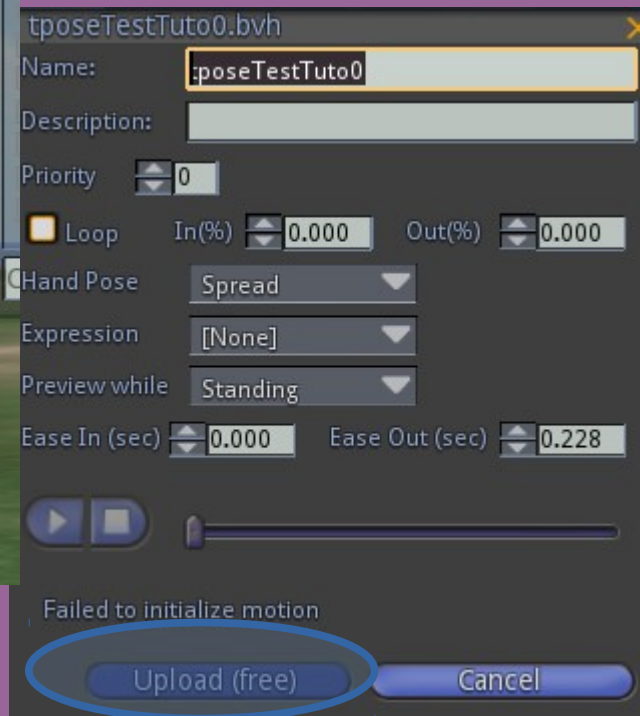
So file export motion  
capture bvh files.



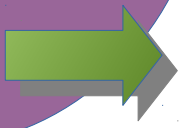
# ~BENTO~ animation



Then viewer and upload animation. But hey!! What is wrong I cant upload it ????



Nop, we just did not applied the proper procedure. Lets back track



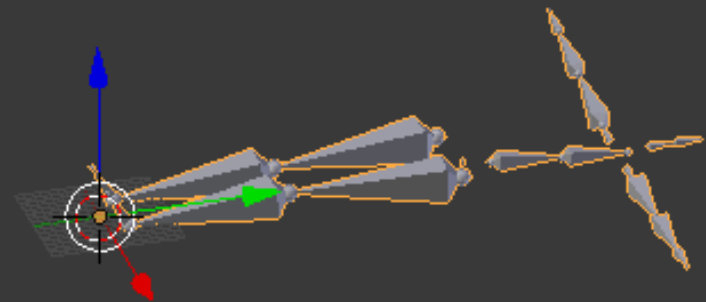
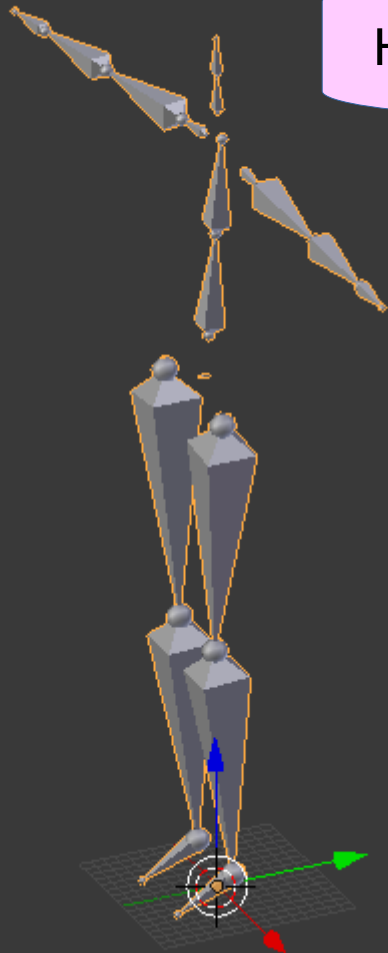


# ~BENTO~ animation



Here we have our imported tpose.

Note that he stand up with Z.  
( standard blender ).  
What you need to do is rotate it x-  
90degree for compatibility with  
opensim .



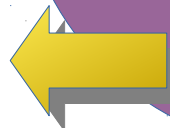
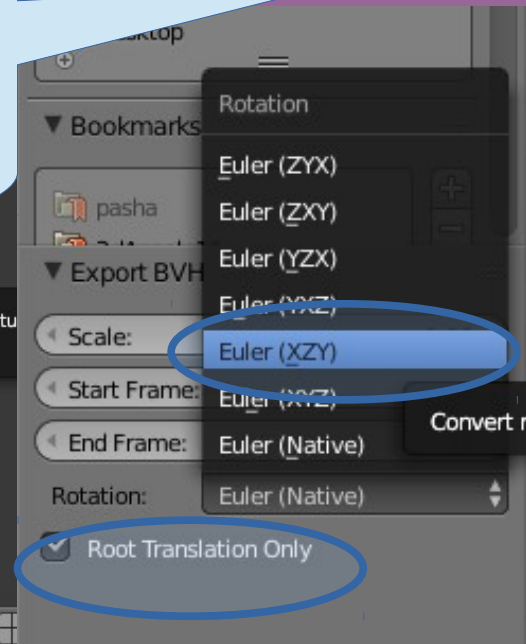
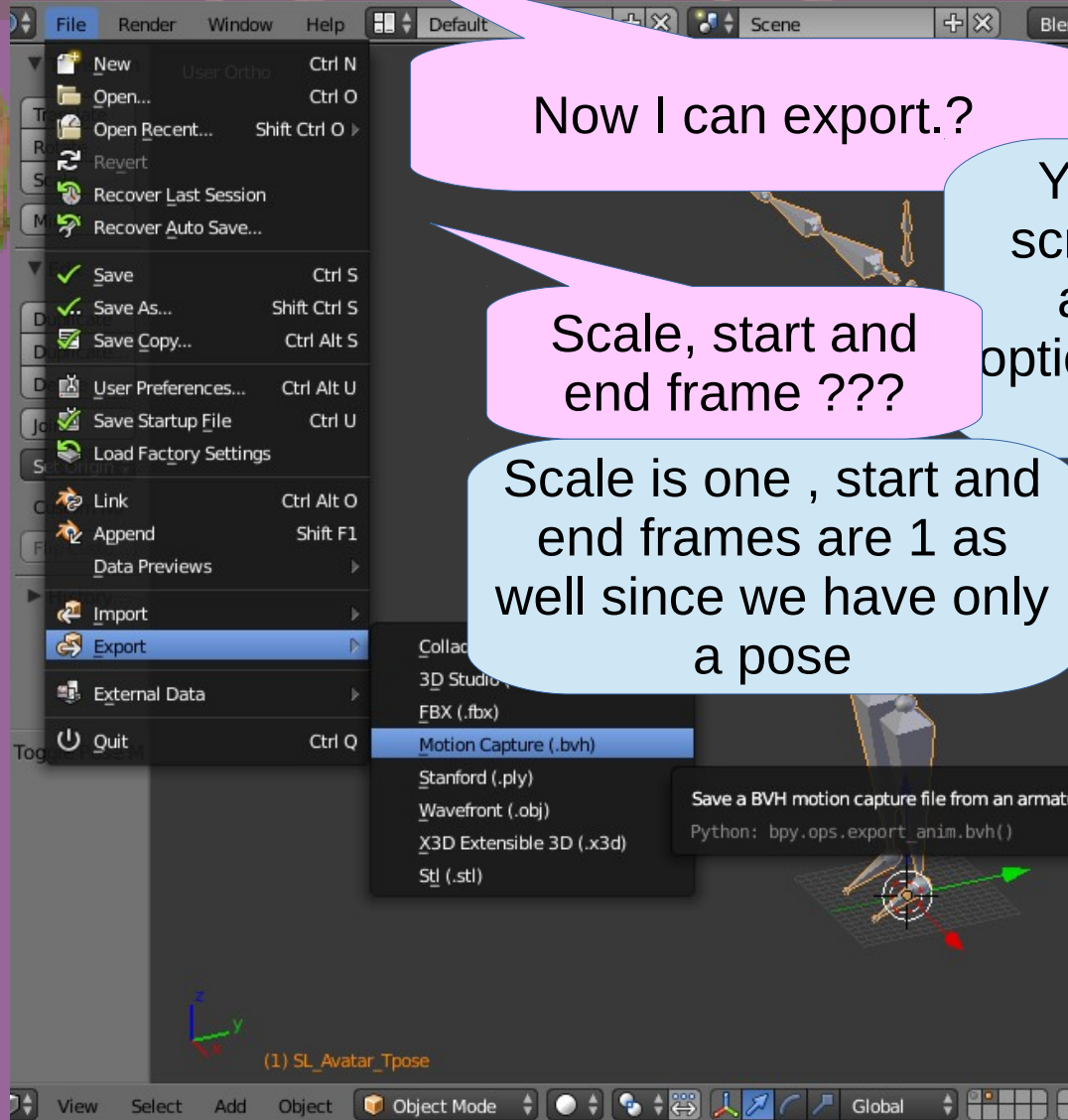
# ~BENTO~ animation

Now I can export.?

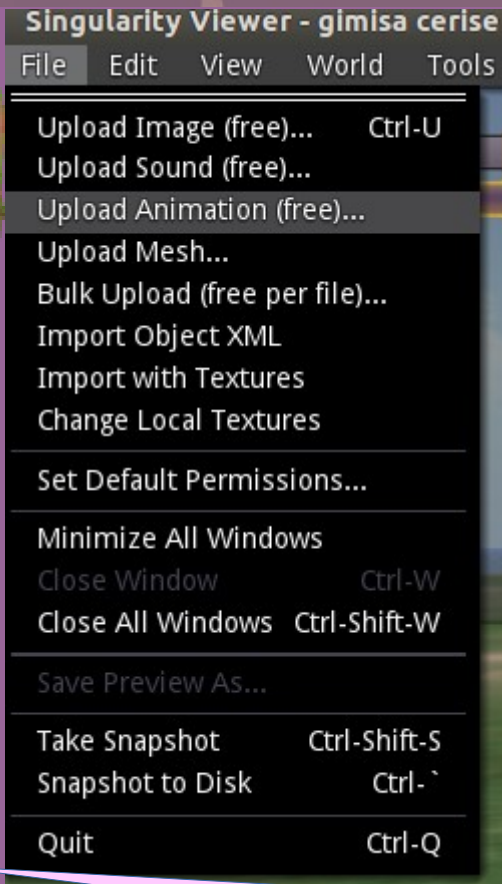
Scale, start and  
end frame ???

Scale is one , start and  
end frames are 1 as  
well since we have only  
a pose

Yes but on next  
screen , we need to  
apply the proper  
options for rotation and  
root location .



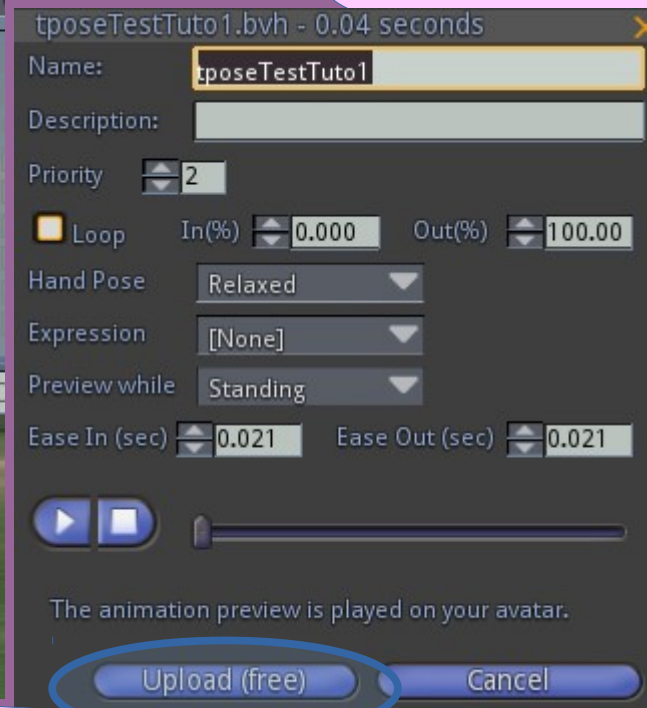
# ~BENTO~ animation



Now It works. Great ,  
what shall I do with  
priority and so on...?



Well we leave it at that  
for now we will discuss  
them when we try our  
REX-BENTO



So I need to remember my armature to face up on Z. And to export  
with root translation only and euler rotation xZy.

# ~BENTO~ amature

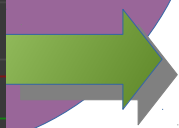
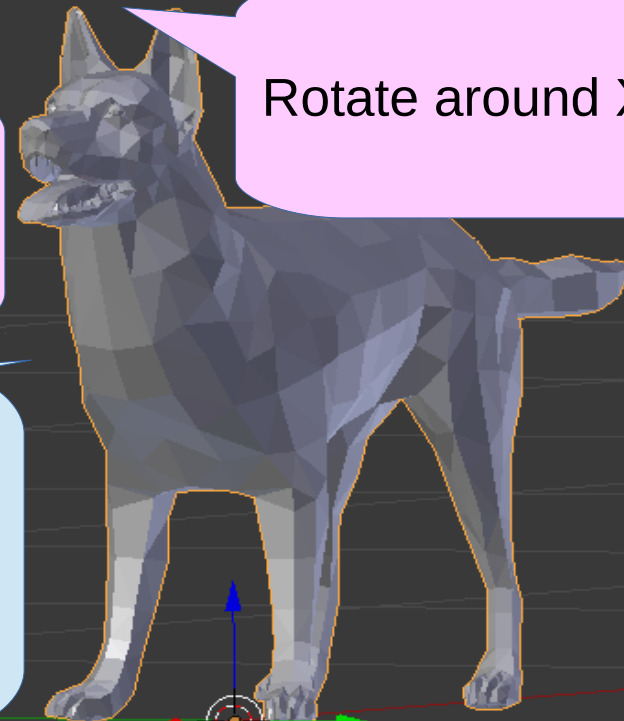
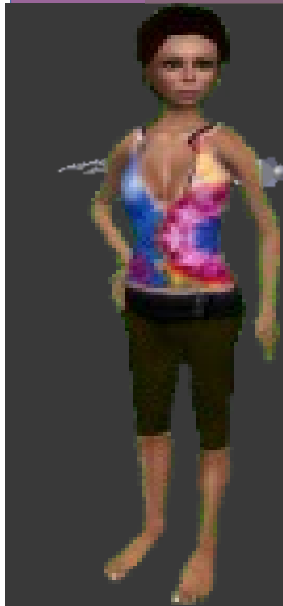
Now our armature is not at all the same way for REX!!!!

No we have to set it right for animation you see.

Rotate around X -90deg.

Could we have imported the rig in that way .?

No that would have given us a rotate dog that would be funny!!!



# ~BENTO~ amature



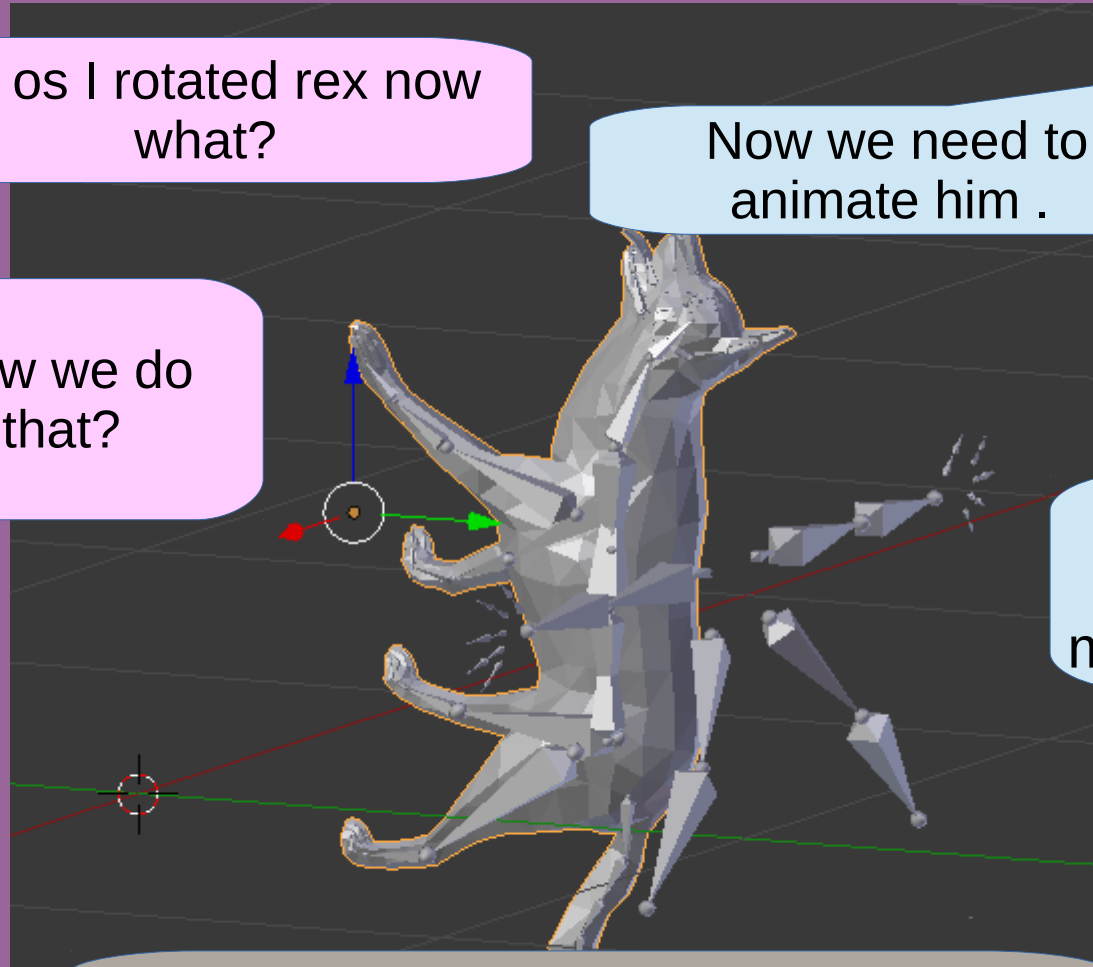
Ok os I rotated rex now  
what?

How we do  
that?

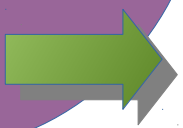
Now we need to  
animate him .



We need to  
find a walk  
model for dog .



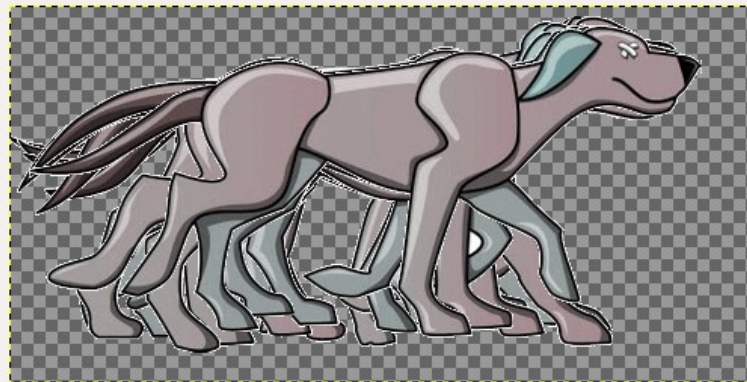
Ref:dog walk gif



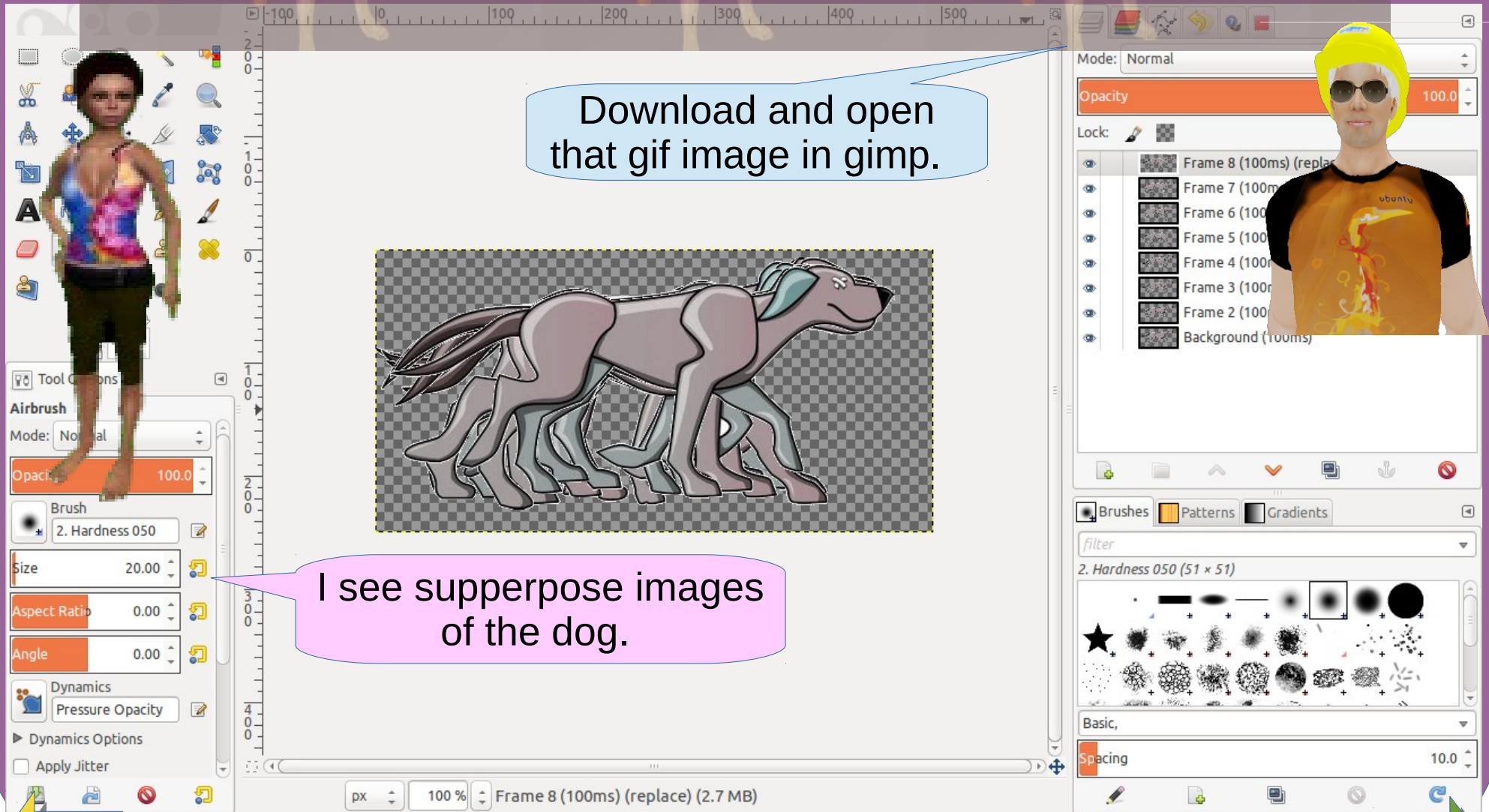


# ~BENTO~ amature

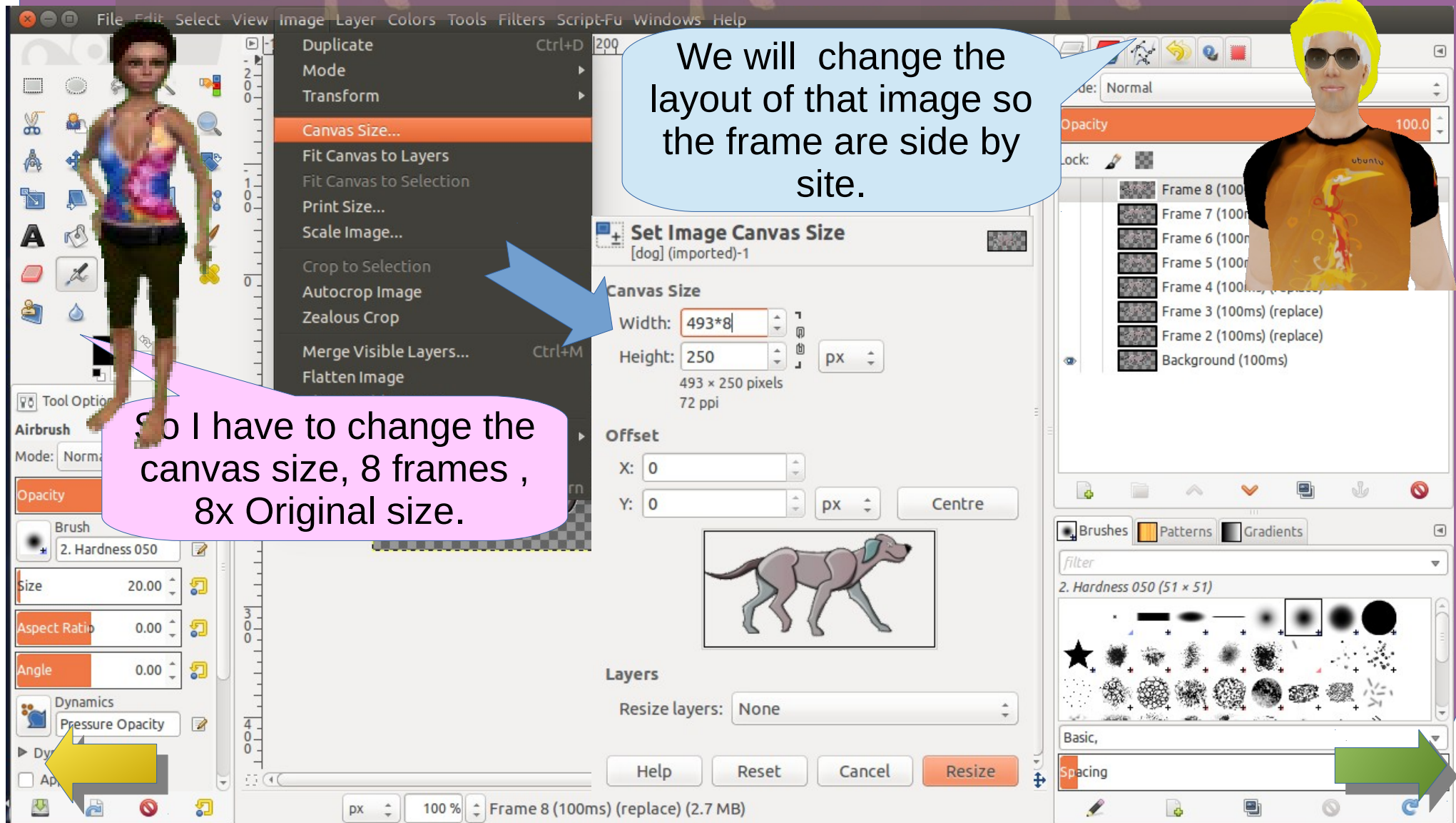
Download and open  
that gif image in gimp.



I see supperpose images  
of the dog.



# ~BENTO~ amature



# ~BENTO~ amature



So I turn all frame off and one by one I turn them and slide them forward. .



And in turn frame by frame we move the frame forward to have a sequence of images representing the animation we want to do .

Its Important to respect the sequence.



Mode: Normal

Opacity

Lock:

Frame 8 (100ms) (replace)

Frame 7 (100ms) (replace)

Frame 6 (100ms) (replace)

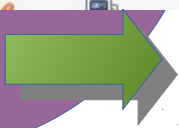
Frame 5 (100ms) (replace)

Frame 4 (100ms) (replace)

Frame 3 (100ms) (replace)

Frame 2 (100ms) (replace)

Background (100ms)

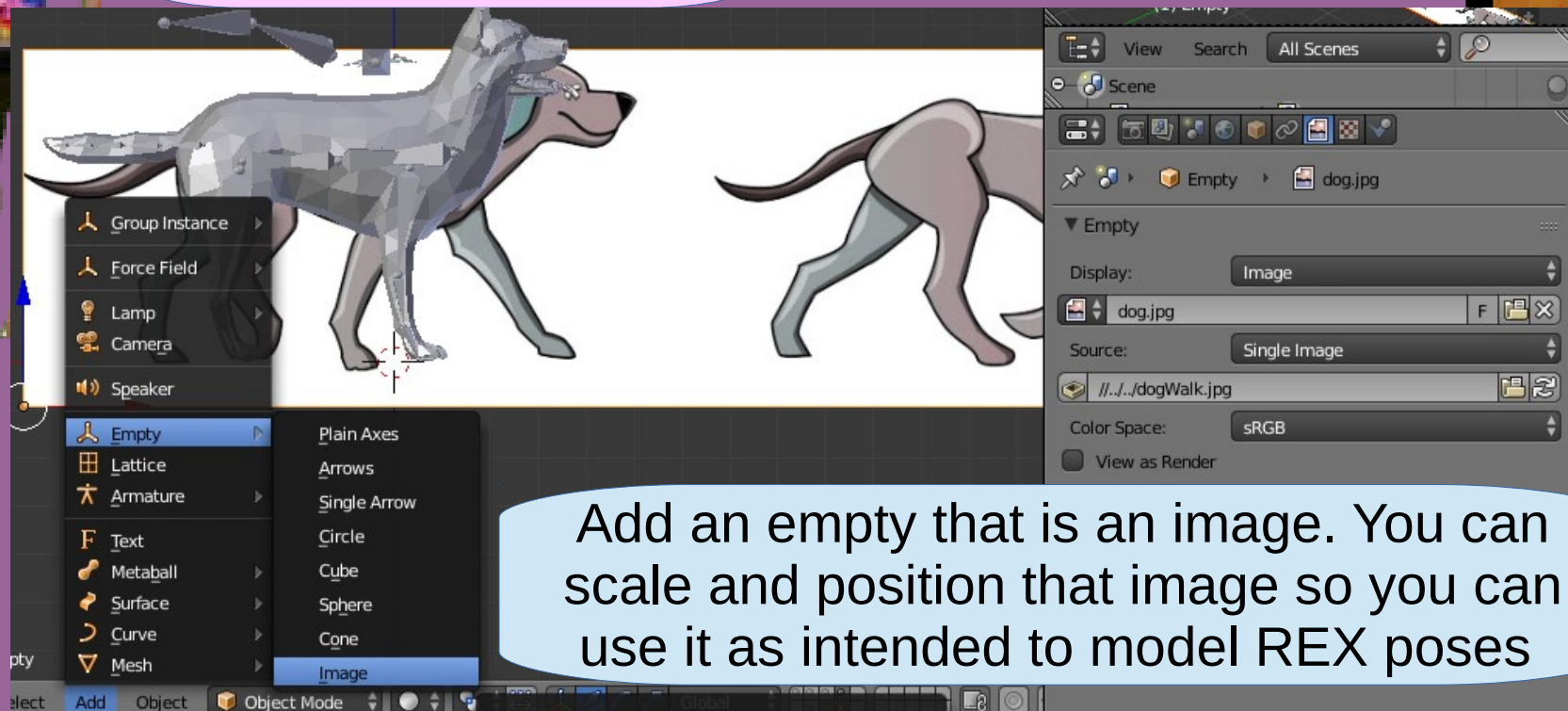




# ~BENTO~ amature

And how???

And use it as model  
helper to animate Rex



Add an empty that is an image. You can  
scale and position that image so you can  
use it as intended to model REX poses

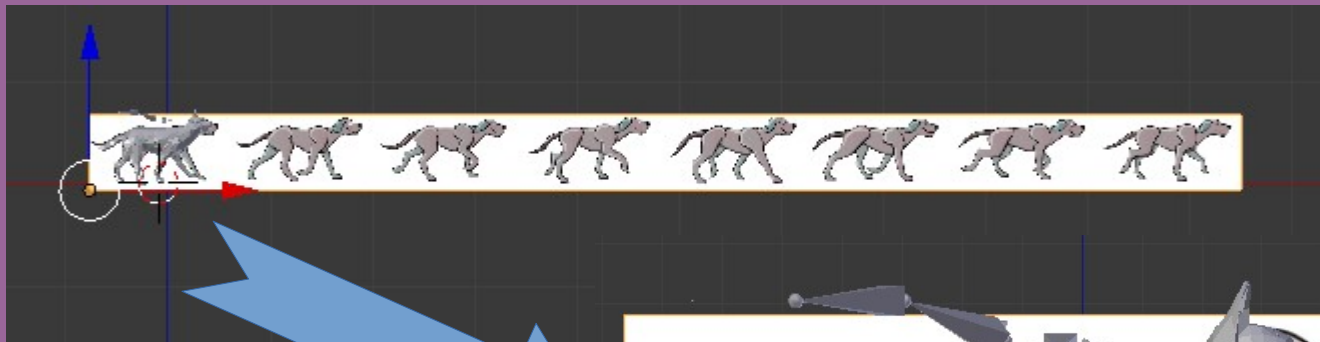
Ref:dog walk gif

# ~BENTO~ amature

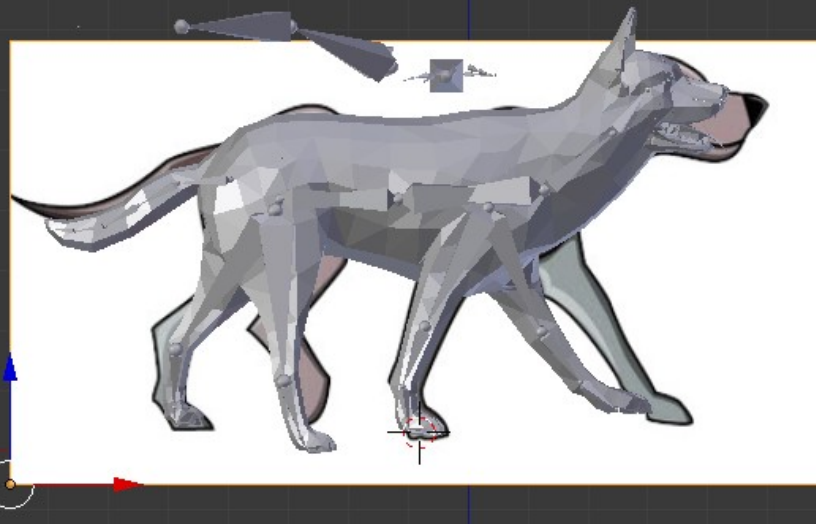


I dont get it??

Look this is all the gif  
frame for the dog walk.



I see so you  
position Rex to  
each of those frame  
as best as possible

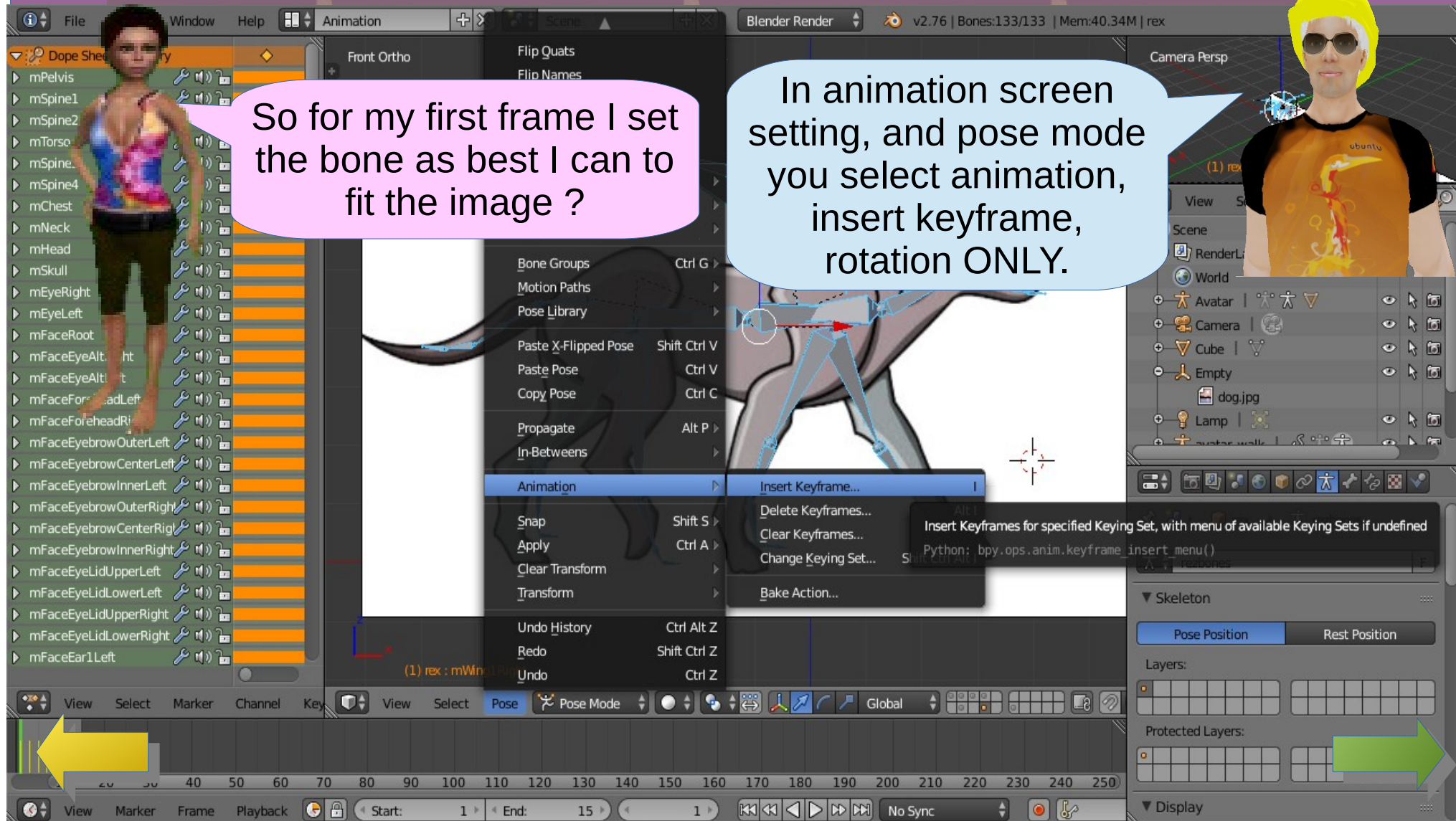




# ~BENTO~ amature

So for my first frame I set the bone as best I can to fit the image ?

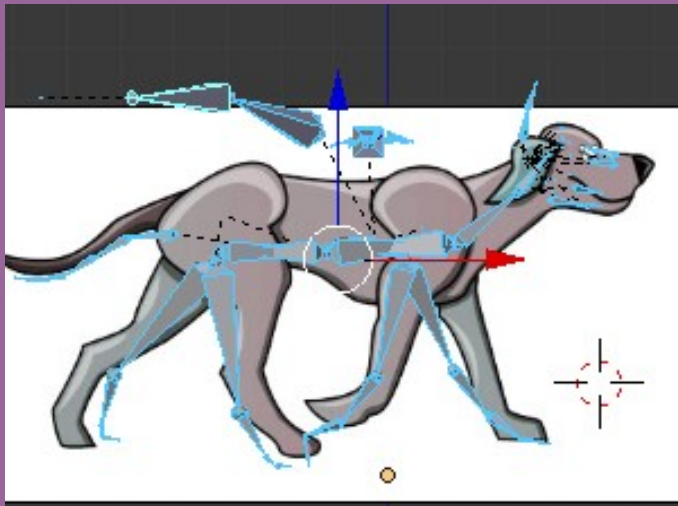
In animation screen setting, and pose mode you select animation, insert keyframe, rotation ONLY.



# ~BENTO~ amature



Then on frame 2, I repeat the process for the next positions?



Well I suggest you leave a frame between so the movement is smoother. So frame 3 is next and 5 and so on till 15 frames are created.

What happen in between the frame we dont define?

Blender extrapolate the movment. So that you get a smooth transition.



# ~BENTO~ amature

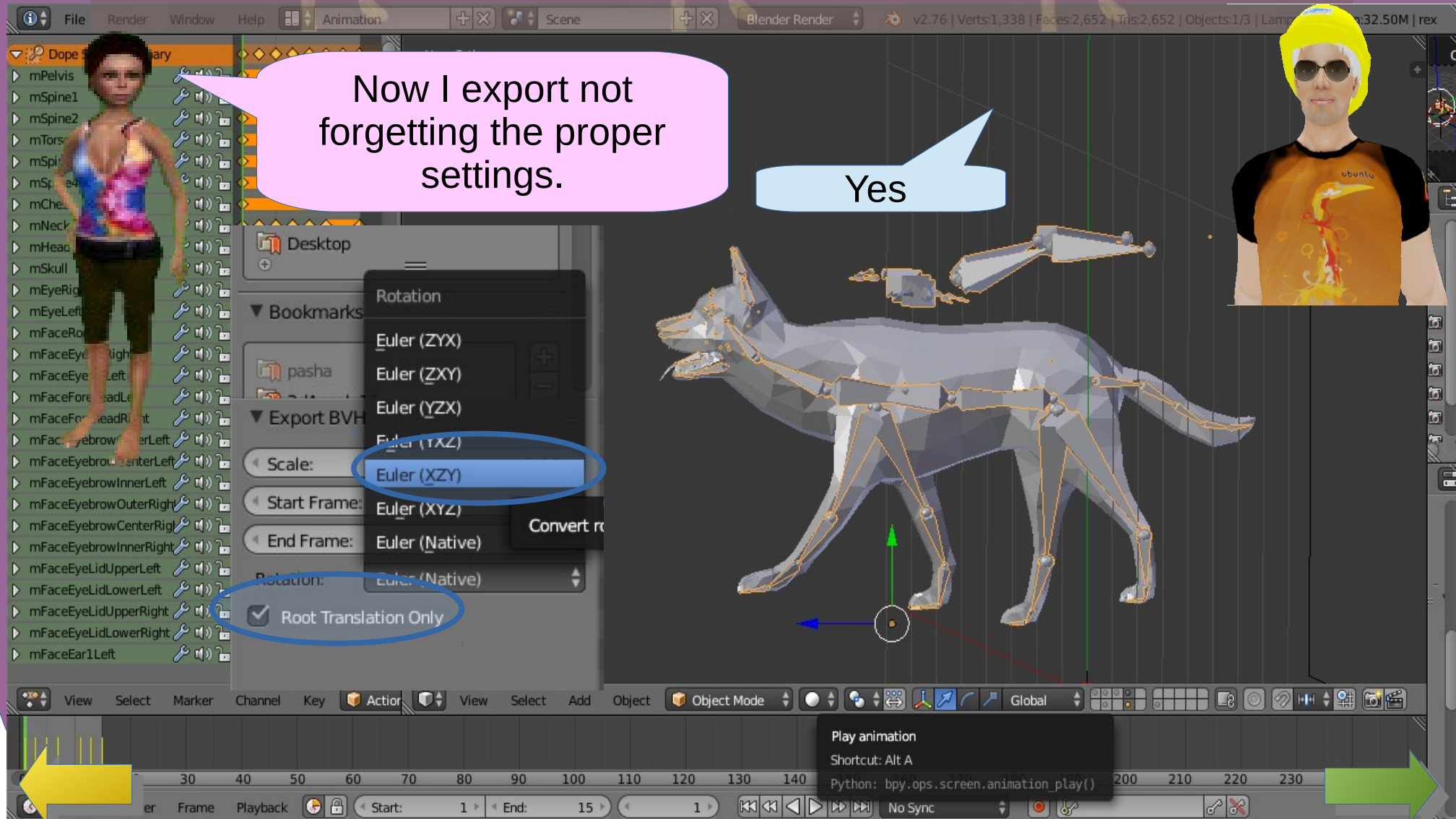




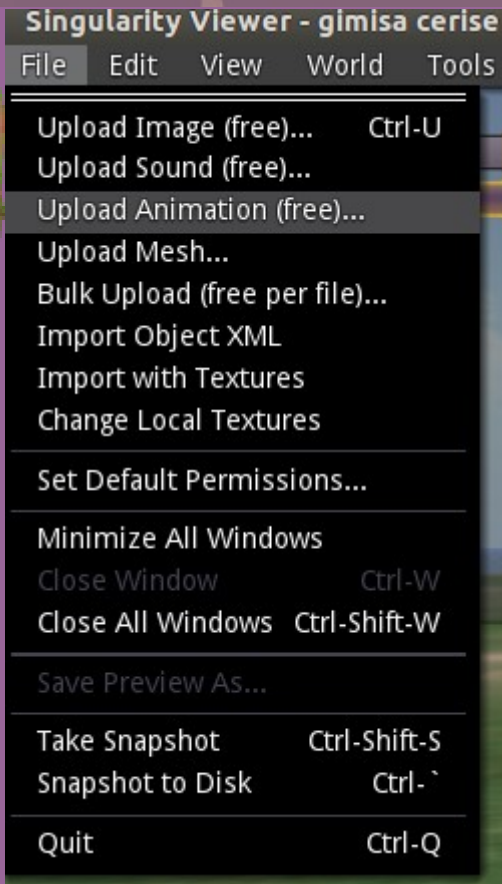
# ~BENTO~ amature

Now I export not forgetting the proper settings.

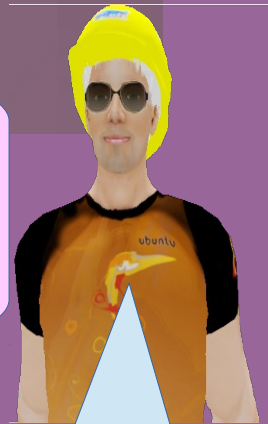
Yes



# ~BENTO~ animation



Now I upload inworld my  
bvh file as animation?



No no

What is wrong ????

Time scaling . Opensim works on a  
30 frames seconds. So you dog will  
do his walk sequence in half a  
second way too fast for a natural dog  
walk.





# ~BENTO~ animation

HIERARCHY  
ROOT pelvis

{

OFFSET -0.092699 0.000000 0.403191

CHANNELS 6 Xposition Yposition Zposition Xrotation Yrotation Zrotation

JOINT mSpine1

{

OFFSET -0.022553 0.000000 0.014078

CHANNELS 3 Xrotation Yrotation Zrotation

JOINT mSpine2

{

OFFSET -0.198318 0.000000 0.000000

CHANNELS 3 Xrotation Yrotation Zrotation

JOINT mTorso

OFFSET 0.198318 0.000000 0.000000

CHANNELS 3 Xrotation Yrotation Zrotation

JOINT mSpine3

{

OFFSET 0.242775 0.000000 0.015368

CHANNELS 3 Xrotation Yrotation Zrotation

JOINT mSpine4

{

OFFSET -0.242775 0.000000 -0.015368

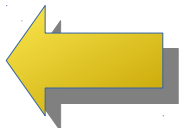
CHANNELS 3 Xrotation Yrotation Zrotation

JOINT mChest

So this is a regular text  
file that I can modify?

Yes exactly.

Open the bvh file create  
with you text editor of  
choice. ( notepad )



# ~BENTO~ animation



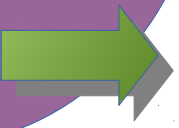
I can search for word  
"MOTION"?

At one point you will  
see a change in the file  
structure as follow .

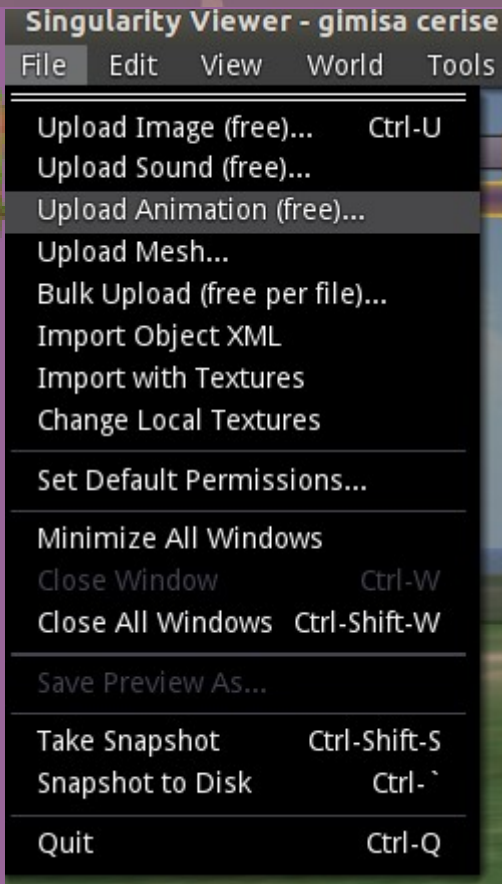


Yes you have the frame counts  
you created and you have the  
time per frame. Change it to the  
value shown ( .041667 )

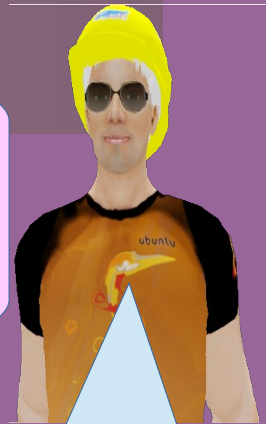
```
907  
908  
909  
910  
911  
912  
913  
914 }  
915 MOTION  
916 Frames: 15  
917 Frame Time: 0.041667  
918 -0.092699 0.000000 0.403191 -0.000000 0.000000 -0.000000 -0.000000 0.000000 -0.000000 -0.000000 -0.000000  
0.000001 -0.000000 0.000000 0.000001 0.000000 0.000000 -0.000000 -0.000000 0.000075 45.49048  
0.000001 -0.000000 0.000001 0.000000 -0.000000 0.000001 0.000001 -0.000000 -0.000001 0.000000  
-0.000000 -0.000000 0.000000 -0.000000 -0.000000 0.000000 -0.000000 -0.000000 0.000000 -0.000000  
-0.000000 0.000000 -0.000000 -0.000000 0.000000 -0.000000 -0.000000 0.000000 -0.000000 -0.000000  
0.000000 0.000000 -0.000000 0.000000 0.000000 0.000002 -0.000001 -0.000001 -0.000002 0.000000  
0.000000 0.000000 -0.000000 0.000000 0.000002 -0.000000 -0.000000 0.000001 -0.000001 -0.000000  
-0.000000 0.000000 -0.000000 -0.000000 0.000000 0.000000 0.000002 0.000000 0.000000 0.000000  
0.000000 0.000000 0.000001 0.000000 0.000000 0.000001 0.000000 0.000002 0.000000 -0.000000 0
```



# ~BENTO~ animation

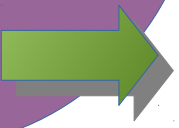
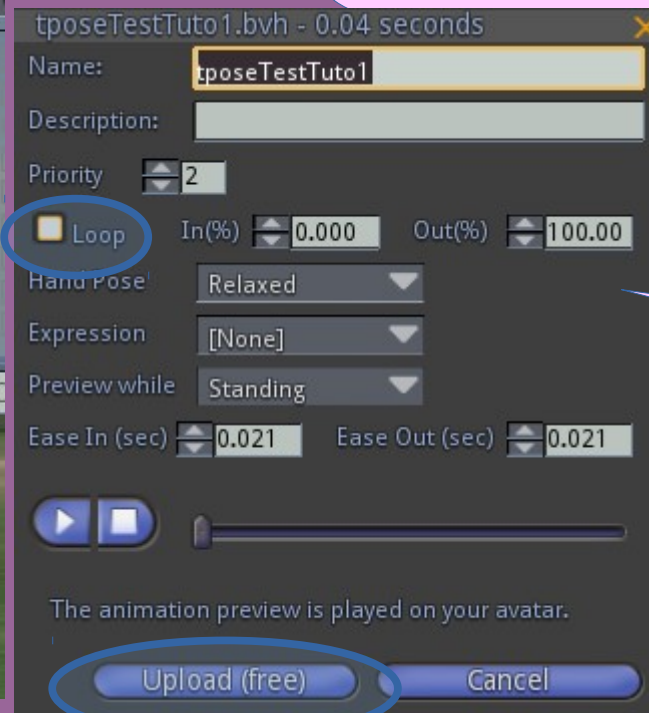


And now I can import right?

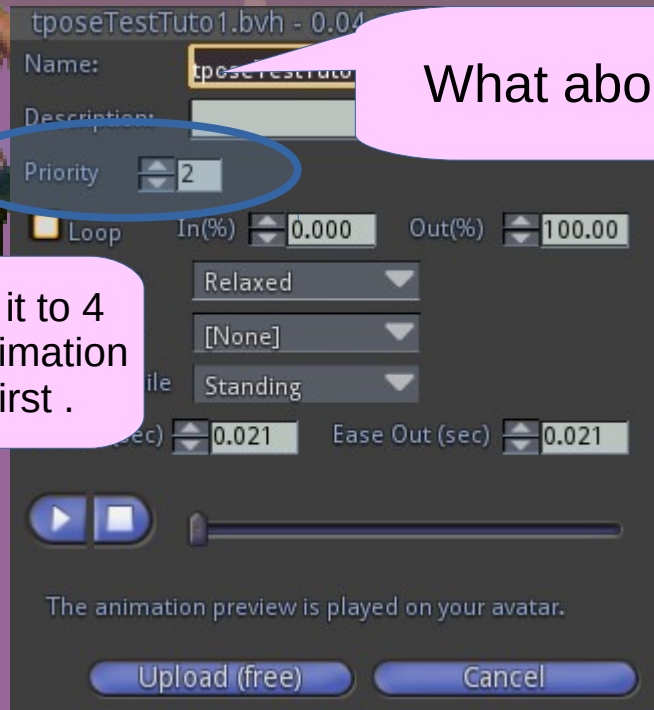


Yap , since its a walk you want loop on

What about priority?



# ~BENTO~ animation



What about priority?

So I set it to 4  
so my animation  
come first .

Walk in opensim / second life  
has the following priority: 0,3

Well since we script an animation override  
with REX, priority does not matter so here 2  
is good if we eventually want something else  
to animate it while walking.  
But yes if you wanted your walk to take over  
the default one on an object you would do set  
it to high. But personally in any case I leave it  
to 2 and use script to control the current  
animation.

wiki.secondlife.com/wiki/Internal\_Animations

Search

ABP

type	c541c47f-e0c0-058b-ad1a-d6ae3a4584d9	avatar_type.bvh	2	Yes	Also plays the typing sound when started
walk	6ed24bd8-91aa-4b12-ccc7-c97c857ab4e0	avatar_walk.bvh	3 & 0	Yes <sup>[1]</sup>	Automatically replaced by female_walk if female shape is worn (priority 3 for pelvis and legs, 0 for everything else) Also triggers express_wink_emote. Sent with

# ~BENTO~ animation



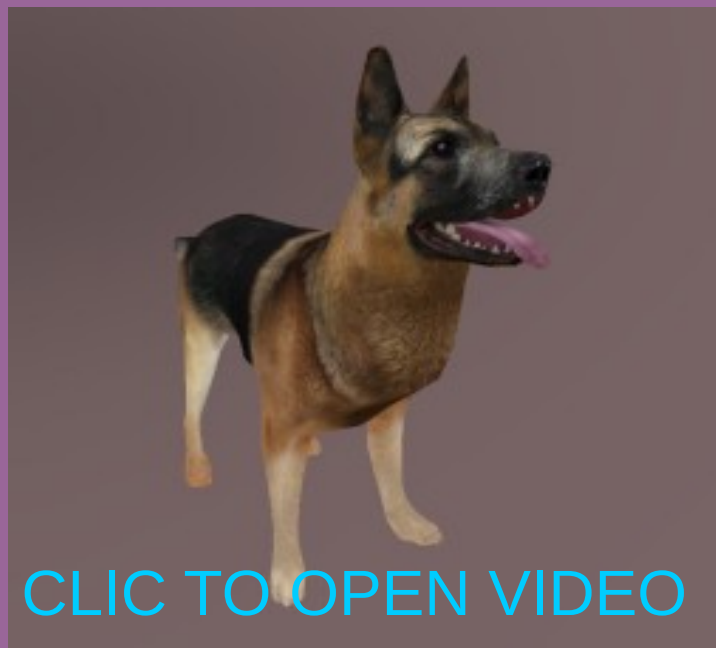
What about  
poses?

So I can do stand,  
claw, tail wag, sit  
sleep, be nice !!!!

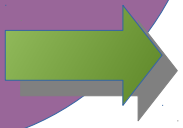
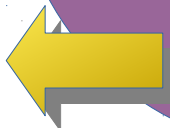
Use the link on the  
image to see the video  
of the result inworld.



Poses only  
difference is it  
has only one  
frame.



CLIC TO OPEN VIDEO





# ~BENTO~ amature

## SUMMARY

- Starting from the REX BENTO rig project.
- Make sure you turn REX X -90degree for animation.
- Find a model of animation (gif )suitable for your project.
- Use gimp to decompose the gif into frames.
- Use EMPTY object to post you gif image so you can copy the poses for you armature location.
- Use animation screen presentation and insert animation keyframes for ROTATION only .
- play you animation to validate that it look good . Correct as needed.
- Export the BVH file out from blender.
- Edit the file to change the frame time.
- Import inword as animation with loop and priority set.

GiMiSa 180407

