

Okay there are a couple things I'm terrible at, and this is a big one. I've spent a fair amount of time researching and figuring out the best method for producing animations for Skyrim. Hopefully this tutorial doesn't suck and is as cohesive as possible. I might do a video one later on down the line, but I'm still on the fence about it. In this tutorial I'm going to cover exporting the assets from the bsa's converting them into a usable format heavily modifying them and putting them into a format the game can use. We're using the hagraven in this example.

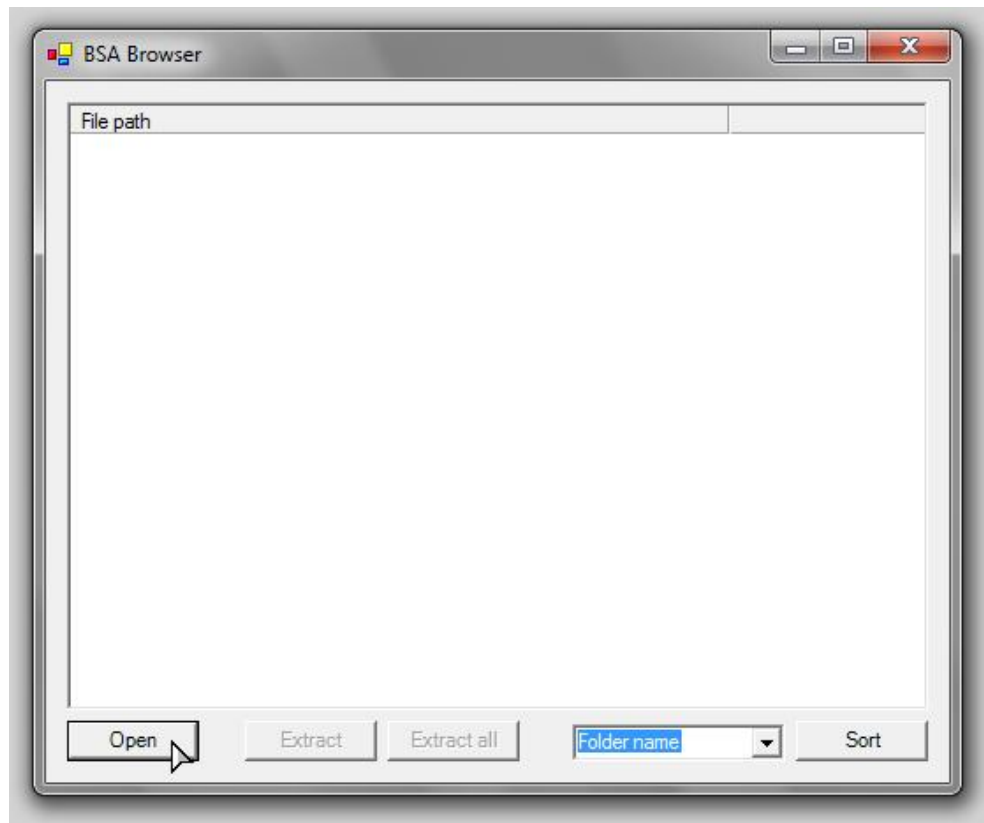
I will not be covering the installation of the tools and plugins.

Tools you're going to need in no particular order, no links will be provided because Google is so convenient

- hkxcmd
- a bsa unpacker
- the nif import-export plugin for 3ds max (any version)
- 3ds max 2010
- 3ds max 2011-2014 (optional)
- The havok creation tools

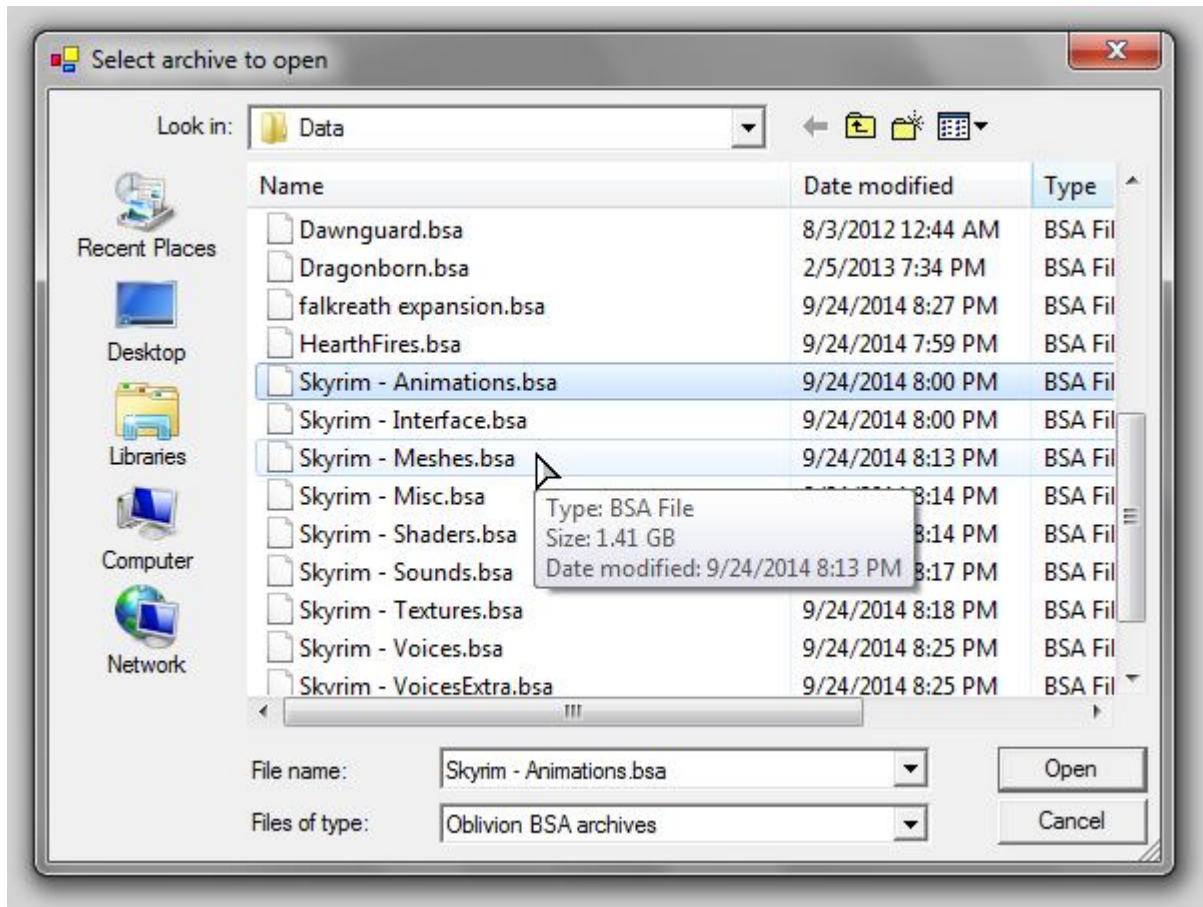
So the first thing we're going to do is export our animations from the bsa. I'm still using the bsa utility from oblivion but you can use which ever works for you.

Open up your utility and hit the open button. Which changes from package to package

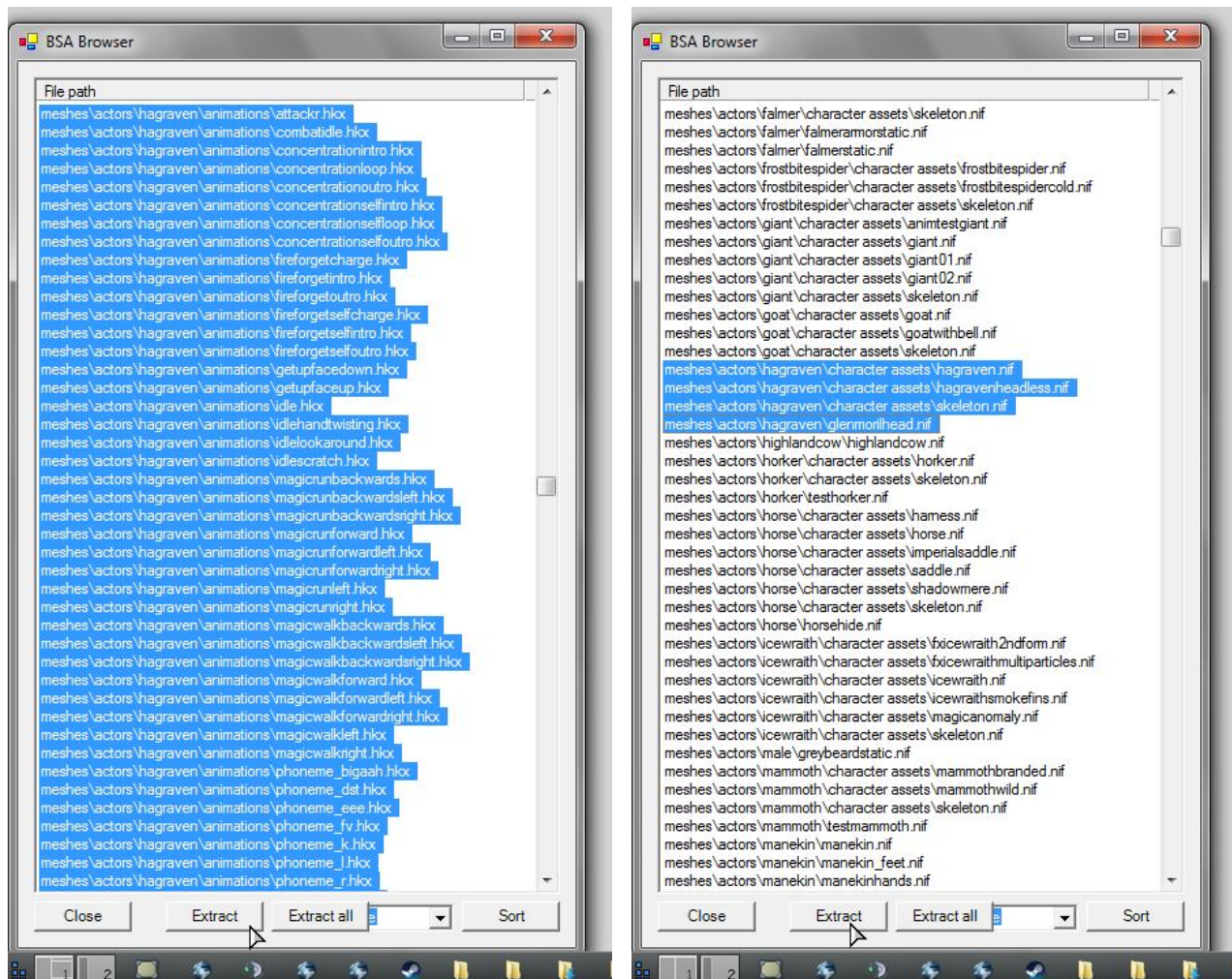


After that you'll want to brows to the Skyrim data directory ../skyrim/data

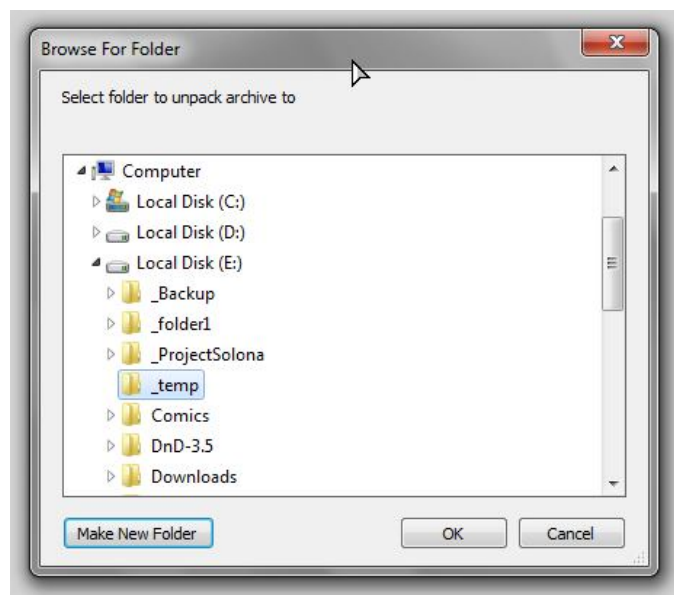
There you need to open the meshes.bsa and the animations.bsa for your core assets.



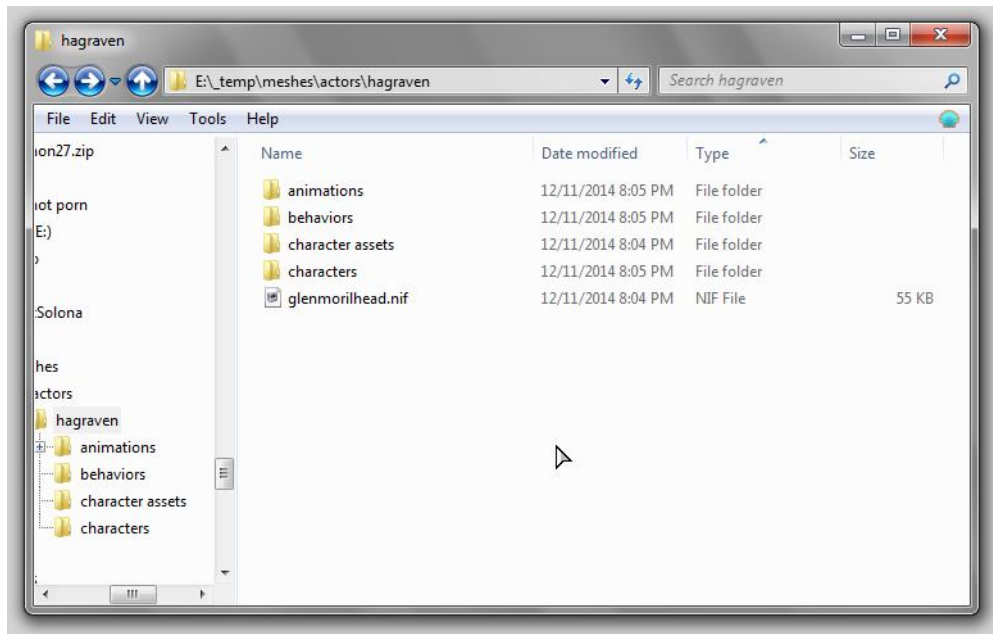
Select all the assets animations/meshes pertaining to the actor you want, Hagraven, Human, Wolf, etc, and hit the extract button. Not extract all we only want that one creature.



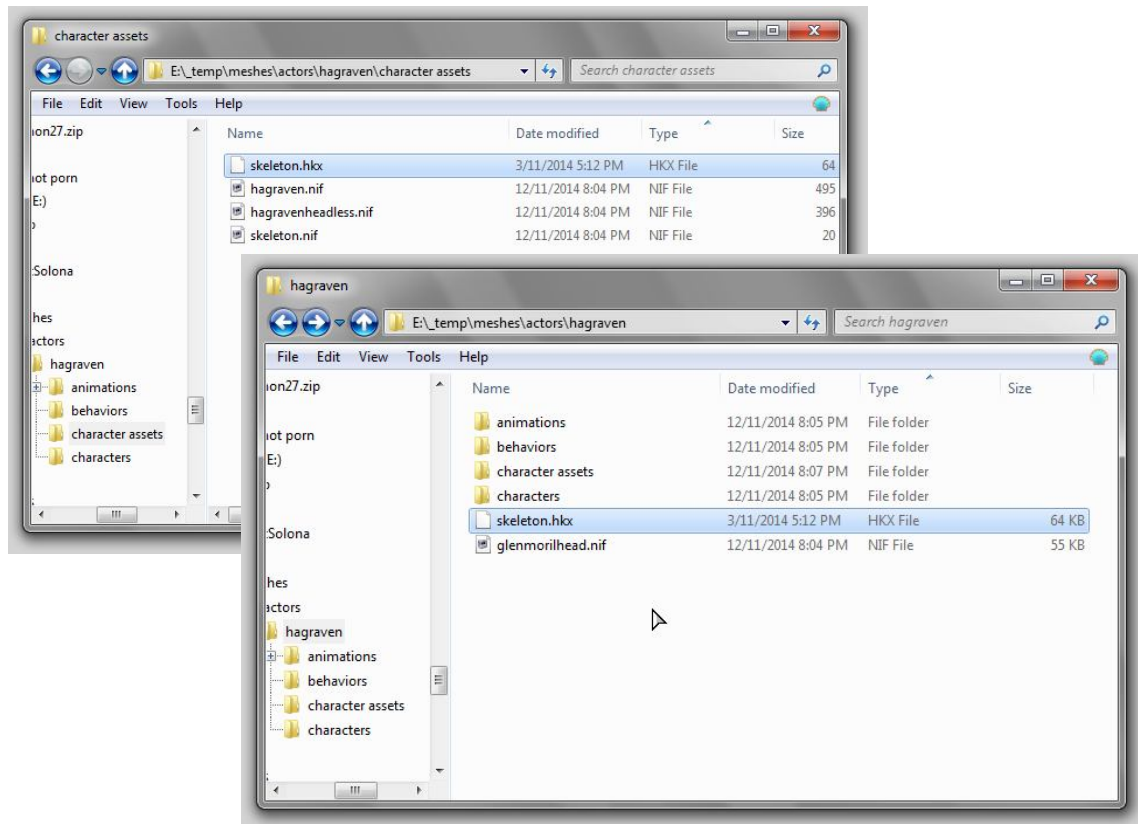
I'm going to extract the contents to a temporary folder on my drive E for this



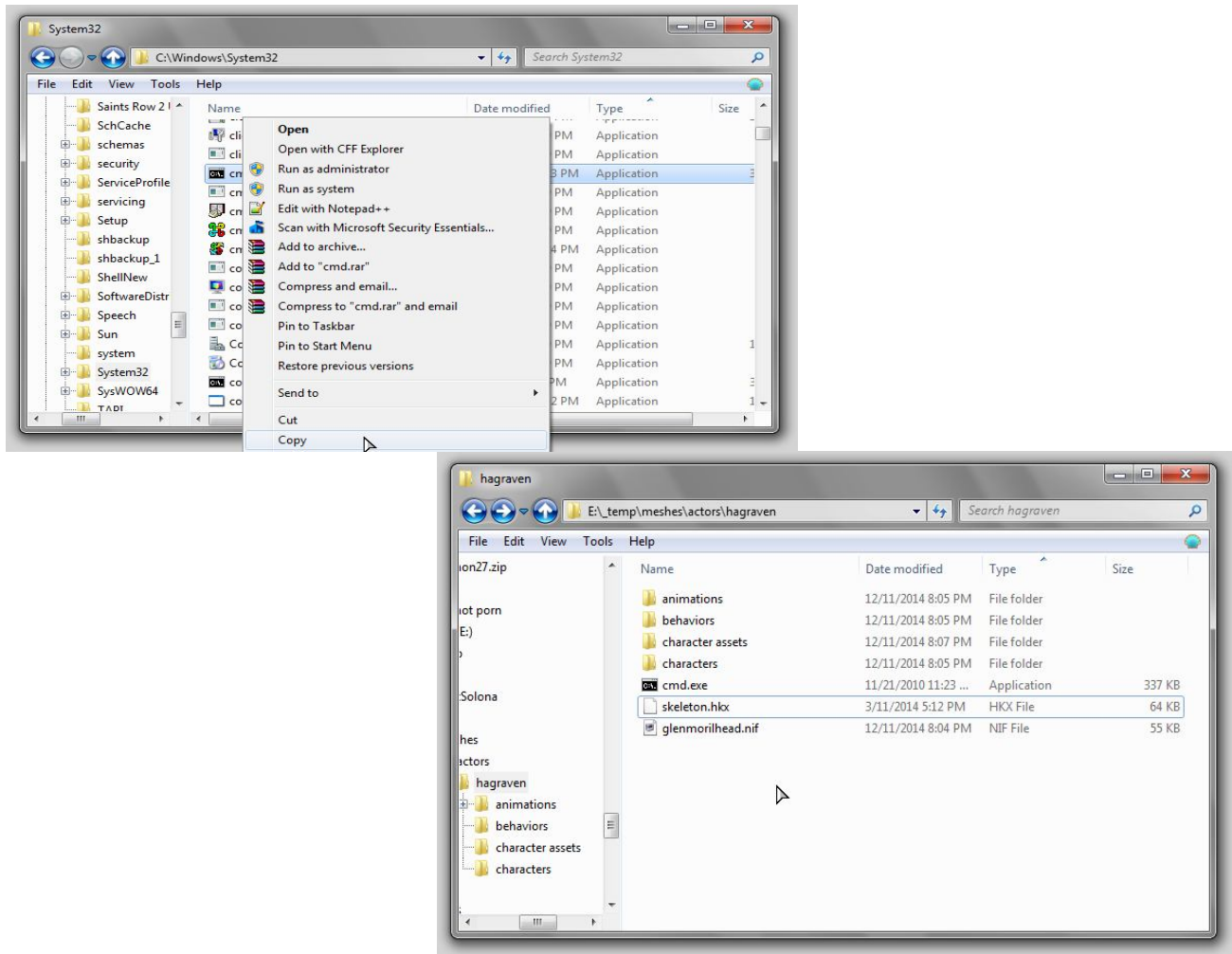
Once that's all said and done you should end up with a file structure that looks like this



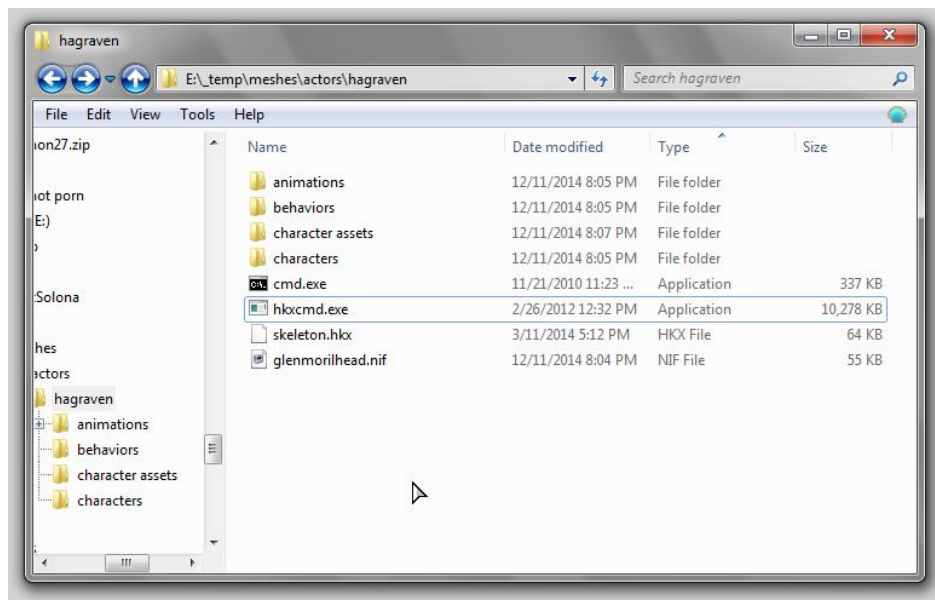
Now we need to go into the “character assets” folder and grab “skeleton.hkx” and pull it back out to the hagraven root directory. Open up your system



Now open up your system32 folder and copy cmd.exe to the hagraven directory C:\Windows\System32



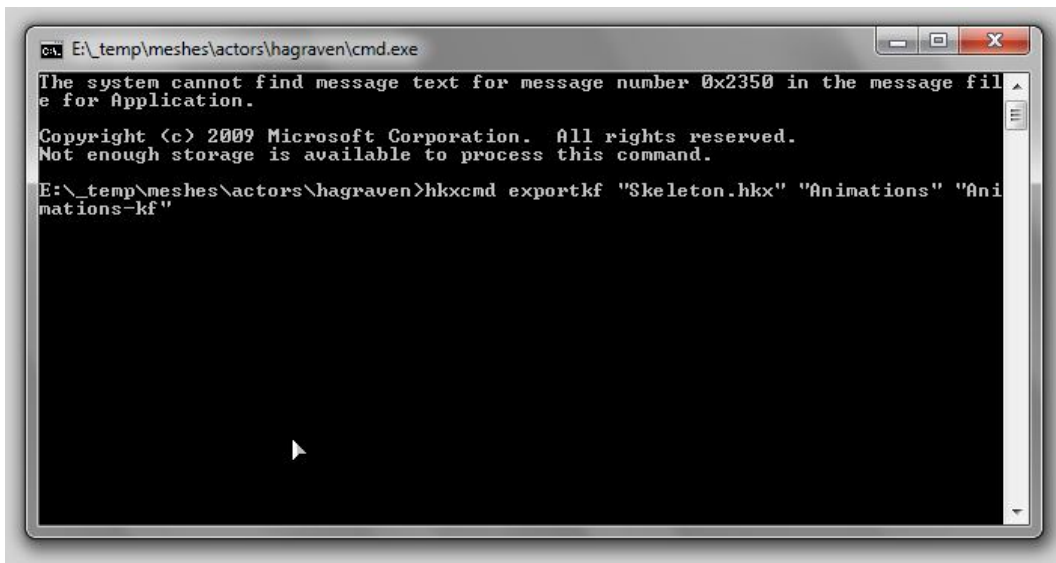
Then extract hkxcmd to that directory as well.



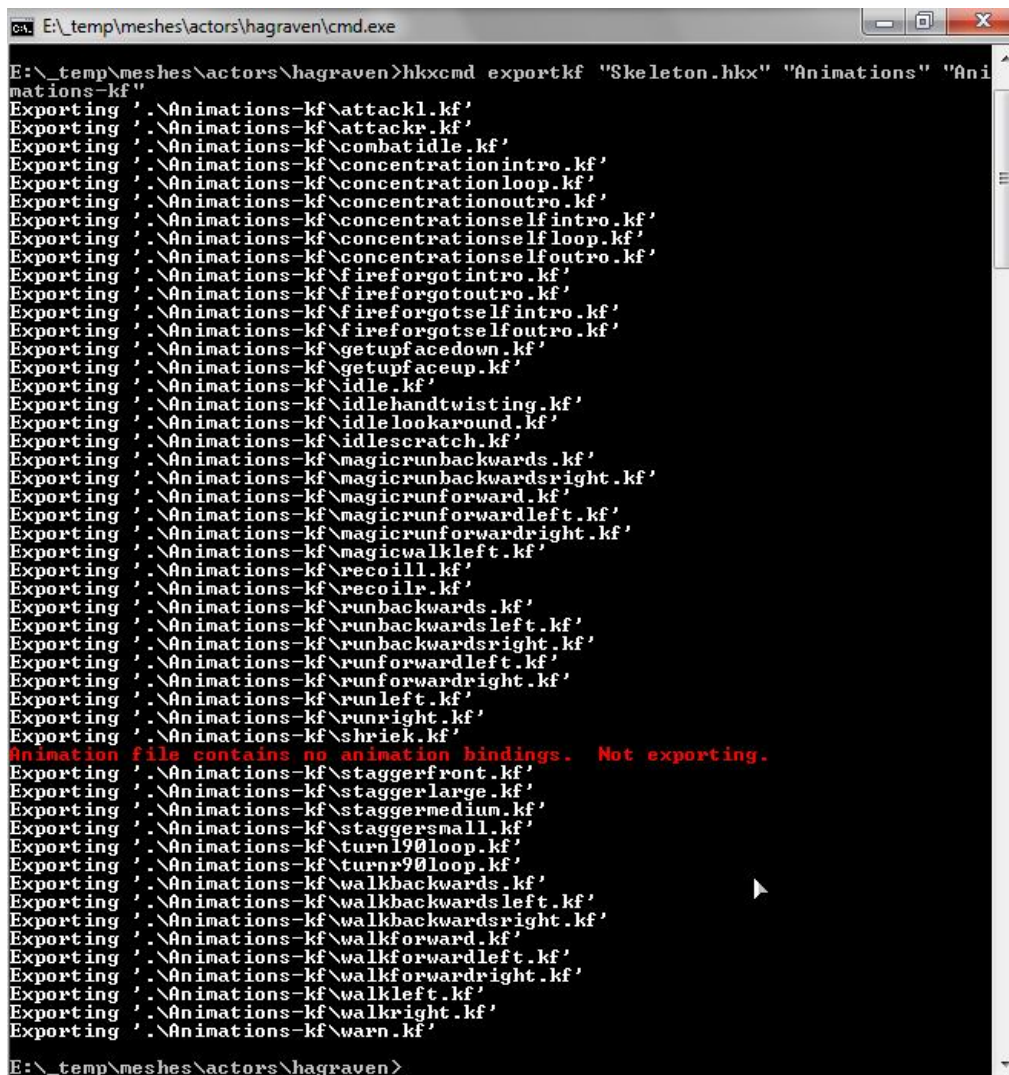
Now we have everything to get started.

Run cmd in that location and type in

```
[hkxcmd exportkf "skeleton.hkx" "Animations" "Animations-KF"]
```

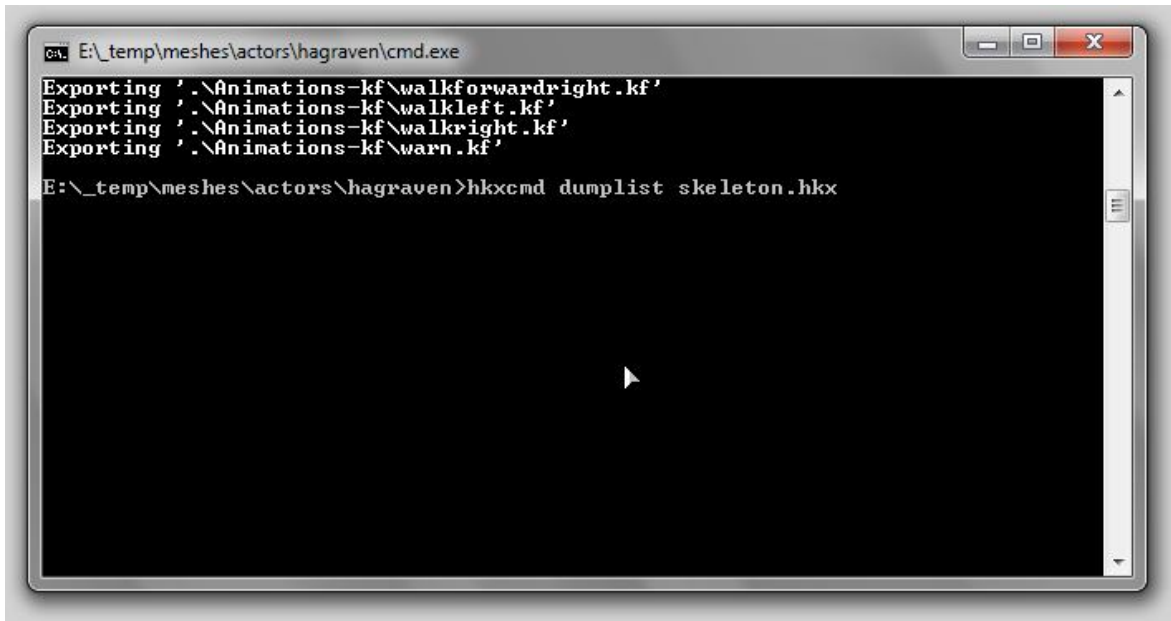


If you did it right it should return something that looks like this



Congrats you now have animations you can import into 3ds max, but before we close out of command prompt we need to do one more thing with hkxcmd for later on.

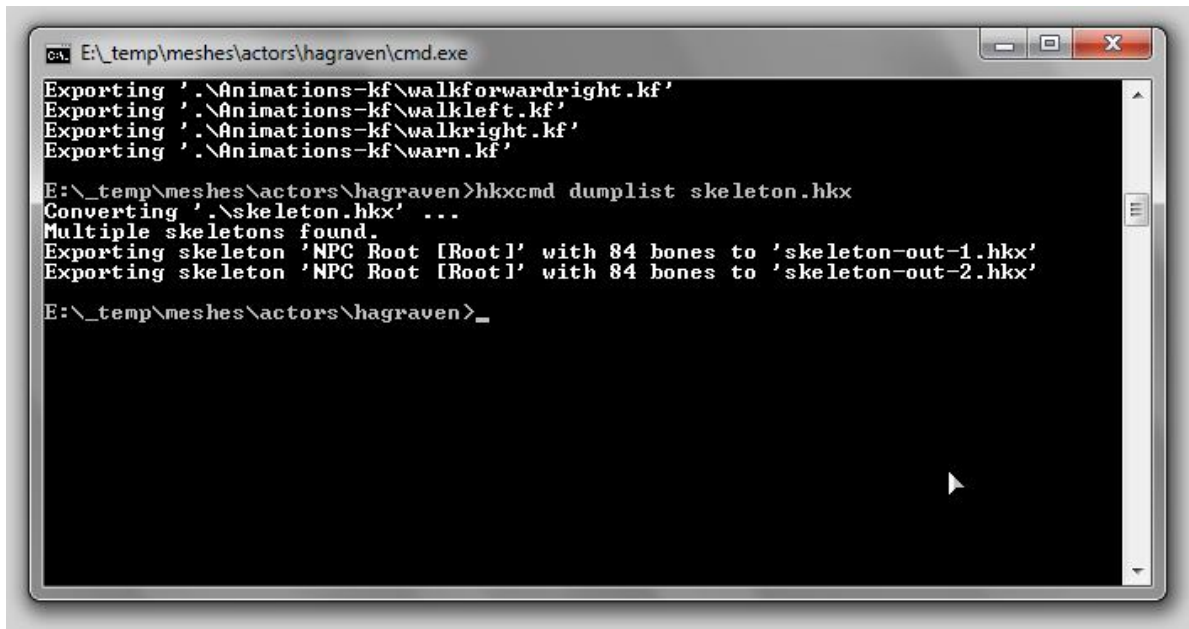
Run [hkxcmd dumplist "skeleton.hkx"]



```
cmd: E:\_temp\meshes\actors\hagraven\cmd.exe
Exporting '.\Animations-kf\walkforwardright.kf'
Exporting '.\Animations-kf\walkleft.kf'
Exporting '.\Animations-kf\walkright.kf'
Exporting '.\Animations-kf\warn.kf'

E:\_temp\meshes\actors\hagraven>hkxcmd dumplist skeleton.hkx
```

The result should be something similar to this



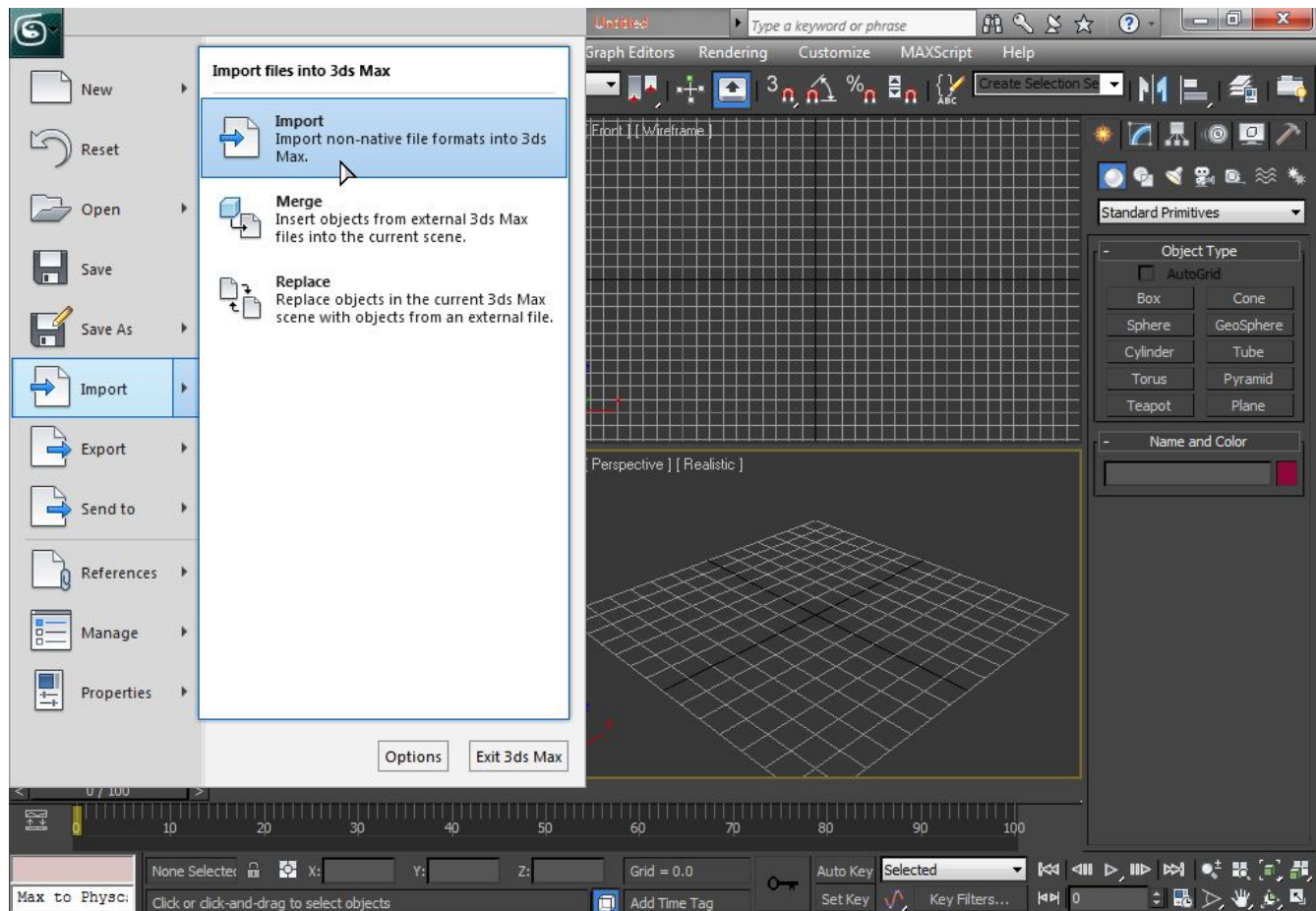
```
cmd: E:\_temp\meshes\actors\hagraven\cmd.exe
Exporting '.\Animations-kf\walkforwardright.kf'
Exporting '.\Animations-kf\walkleft.kf'
Exporting '.\Animations-kf\walkright.kf'
Exporting '.\Animations-kf\warn.kf'

E:\_temp\meshes\actors\hagraven>hkxcmd dumplist skeleton.hkx
Converting '.\skeleton.hkx' ...
Multiple skeletons found.
Exporting skeleton 'NPC Root [Root]' with 84 bones to 'skeleton-out-1.hkx'
Exporting skeleton 'NPC Root [Root]' with 84 bones to 'skeleton-out-2.hkx'

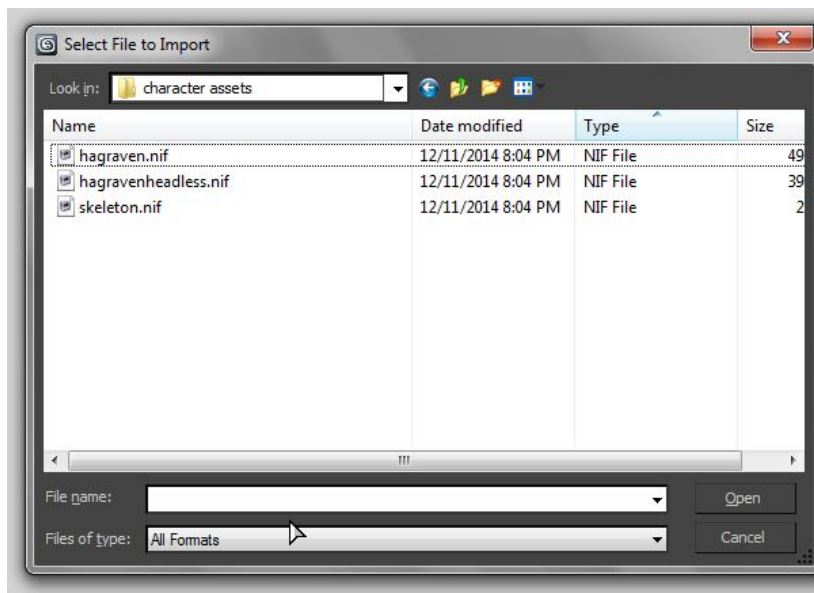
E:\_temp\meshes\actors\hagraven>
```

I'll explain what those files are for later on.

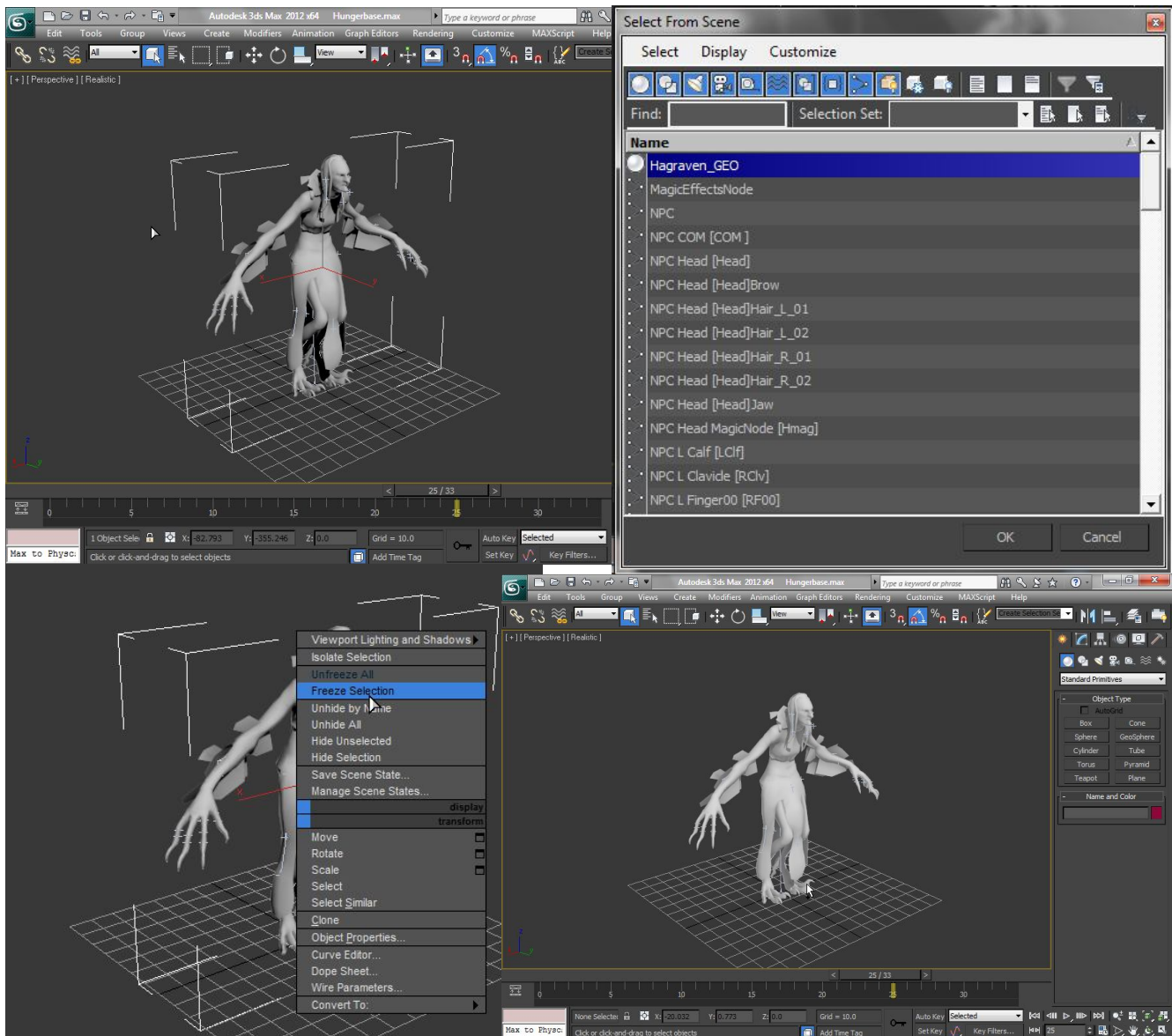
Next up we're moving into 3ds. I'm going to be doing some IK animation. I'll be skipping over most of the more powerful things you can do with IK constraints because they're really not needed in this example.



Hit the import button with your nif plugins installed and navigate to the directory you're using for your assets. First we import our skeleton.nif then our hagraven.nif These settings work fine for importing everything you need



Okay now we have our base in the software, but we don't want to be able to click on the mesh. So clearly the answer is to freeze anything we don't want to select. We should save this so we can open it up at any point in the future and import an animation over it.



Now we can proceed to make the animation a bit more efficiently. Now as for the animation itself I decided to do a video segment as it's quicker than going over each step of the animating process one at a time.

<http://youtu.be/l2722gnfMq0>

I forgot to mention at a good point in the video is if you want the character to be able to move their center of mass at any point, and they don't just float there doing whatever, you have to disable "bone on" for the "NPC Com" bone. "NPC Com" is the only bone you can apply translation to, ie move around, and have it work. Doesn't matter what skeleton you're working with that's how it is.

Considering I covered the export process in the video I think I'll leave this at that for now. I'll come back at some point and finish this up. I'm also going to look into using Maya to export animations.