

# Blender and MakeHuman

How to use MakeHuman and Blender to create characters that can be animated with Mocap data from Motive, FaceRig, PerceptionNeuron etc..

## Install MakeHuman

- Download the makehuman release from <http://www.makehumancommunity.org/content/downloads.html>
- Unzip and move the folder to your applications directory

## Install Blender

- Download and install from <http://www.blender.org>

## Install the MHX2 addon in Makehuman

- Download MHX2 Plugin for Makehuman from <http://www.makehumancommunity.org/content/plugins.html>
- Move the 9\_export\_mhx2 directory to the MakeHuman plugins directory. On osX probably: /Applications/MakeHuman.app/Contents/Resources/plugins/ On Windows C:\Program Files\Makehuman\makehuman-1.1.1-win32\plugins (or wherever you've installed Makehuman)

## Install the MHX2 plugin in Blender

- Download the MHX2 Plugin for Blender from <http://www.makehumancommunity.org/content/plugins.html>
- Move import\_runtime\_mhx2 to the Blender addons directory C:\Program Files\Blender Foundation\Blender\2.79\scripts\addons
- Enable the MHX2 importer in Blender. Open Blender, Select File > User Preferences. In the window that opens, select the Addons tab and then the MakeHuman category. Enable MakeHuman: Import-Runtime: MakeHuman eXchange 2 (.mhx2)
- In the File tab, enable Auto Run Python Scripts and Save User Settings.
- Save User Settings

## Import a Makehuman character into Blender

- Open MakeHuman and design you character.
- Select the Pose/Animation tab and set Rig Presets to Default No Toes.
- For facial Animation you probably want your character to have teeth, toung, eyebrows and eyelashes. To do this enable the parts by selecting the Geometries tab...
- In the Files > Export tab, select MakeHuman Exchange (mhx2), select the export path, and press export.
- Open Blender Select File > Import > MakeHuman (.mhx2), and navigate to the mhx2 file

exported from MakeHuman.

- By default, the exported character is imported into Blender as it appears in MakeHuman. However, if Override Export Data is selected, the character will be rebuilt according to the options that appear.

### **Import MakeHuman character from Blender to FaceRig (UNTESTED!)**

Follow the documentation by

[FaceRig](<https://drive.google.com/file/d/0B9A2HzJCWwFWYnN6SFRPbW1mRWM/view>)

Here's an indicator of what is probably important and what part of the documentation can probably be ignored:

Geometry : Important

Geometry Naming : Important

Default pose : Should be ok with MakeHuman characters

Geometry rules : Should be ok with MakeHuman characters

UV Mapping : Should be ok with MakeHuman characters

Deformaton : Important

Fur : Can be ignored

Shader (materials) naming : Important

Shader Types : For visual fine tuning

Texture maps : Should be ok with MakeHuman characters

Texture Types Sufxes : Important

Additonal skins for avatars and props : Can be ignored

Skeleton : Important

Pseudo-physics driven bones : Can be ignored

Animatons and expression poses : Important (this step is probably the most time consuming. We might be able to reuse the animations once they're done for the first time)

Avatar confguraton fle : might be important, but try ignoring this at first

Full Body Animaton Specifcatons (Studio only) : Important if working with PerceptionNeuron for body capture

Skeleton hierarchy : Important

## Synchronizing Makehuman and Blender

This might be useful to make a makehuman character have similar proportions as a 3D scan..  
<https://www.blendernation.com/2016/07/10/add-sync-makehuman-mesh-pose/>

## Makewalk and other Blender Tools

Makewalk is used for retargeting of Bvh in Blender.

[http://www.makehumancommunity.org/wiki/Documentation:Getting\\_and\\_installing\\_BlenderTools](http://www.makehumancommunity.org/wiki/Documentation:Getting_and_installing_BlenderTools)

<http://www.makehumancommunity.org/wiki/Documentation:MakeWalk>

### not sure if this is needed any more

- Download blender plugins  
[http://download.tuxfamily.org/makehuman/releases/1.1.1/blender\\_plugins\\_for\\_1.1.1.zip](http://download.tuxfamily.org/makehuman/releases/1.1.1/blender_plugins_for_1.1.1.zip)
- Add the directories makewalk, maketarget, mkeclothes and import\_runtime\_mhx2 directory to the blender addons folder. On osX probably: ~/Library/Application Support/Blender/2.79/scripts/addons
- In blender go go File/User Preferences..
- Select Add-ons, then in Categories select MakeHuman
- Check MakeHumna: Import-Runtime: MakeHuman Exchange 2 (.mhv2)
- Check MakeHuman: MakeWalk
- Save User Settings

Now export an mhv2 from makehuman, import it into blender using the “Override Exported Data” and select Rig type: Game. Now open the MakeWalk Tab in the Tool Shelf and click Load and Retarget to load a .bvh file exported from motive. In MakeWalk: Edit Actions use GlobalEdit to make set the animation onto the ground,...

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