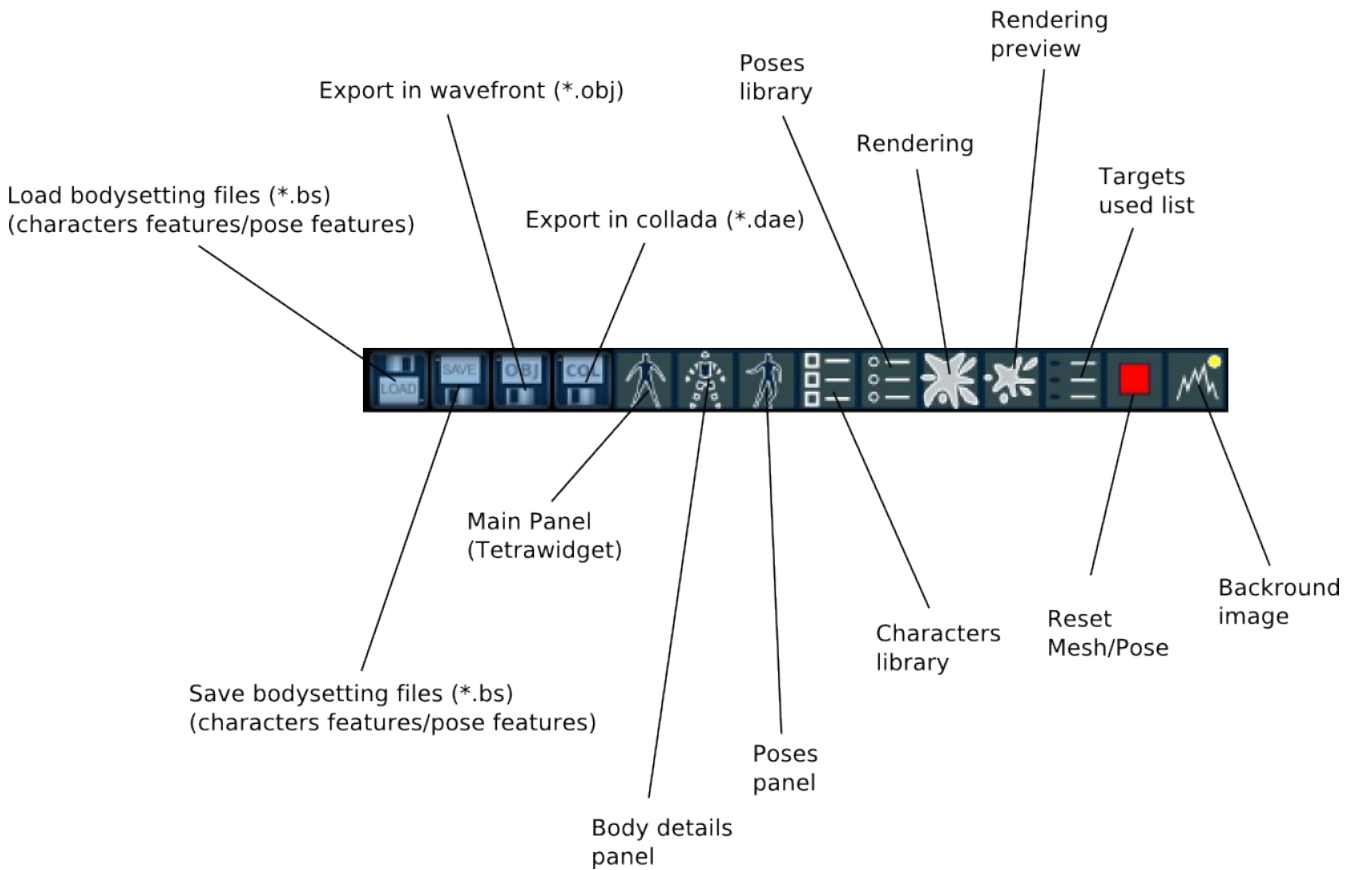
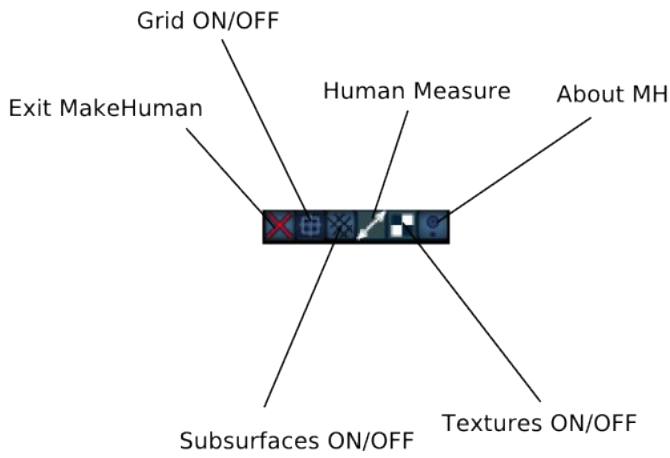




**MakeHuman 0.9.1
(Release Candidate)
overview**

Uncorrected proof

Toolbar overview



Tetrawidget panel

In MH 0.9.1 introduced the very innovative idea of “Tetrawidget”, a very intuitive way to model the character body using only 4 mouse clicks.



Fig.1: age/sex channel

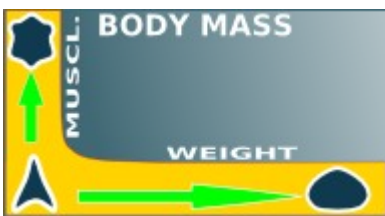


Fig.2: body mass channel



Fig.3: breast shape channel

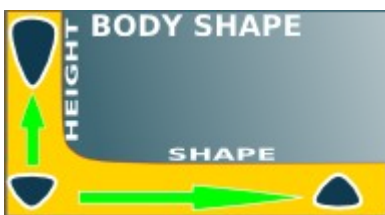


Fig.4: body shape channel

The four widgets are intelligents: in example, if you select, in first channel, “woman, 30 years old”, in the second widget, the weight factor will act on “female fat zone (fig.5) and not on “male fat zone”, and the muscle mass will use the “female muscle structure” instead “male muscle structure”.

In the same way, if you, in third channel, select a big, round breast shape, it will be different depending the age and the weight of characters.

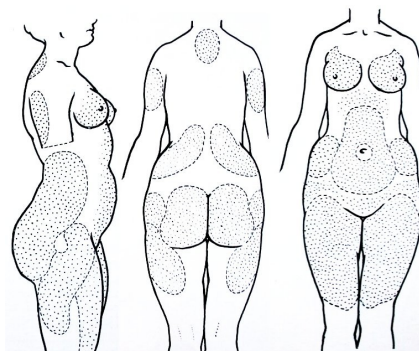


Fig.5: An example of widget “intelligence”: the “female fat zone” is automatically used if the character is a female

To use widget just click on it: the cursor position will represent the body features (fig. 6) and the character will be modeled in real time.



Fig.6: The red cursor indicate a character mainly male, over 70 y.o.

Details panel

Using the tetrawidget panel you can set about 90% of body features. Using the details panel you can refine your work.

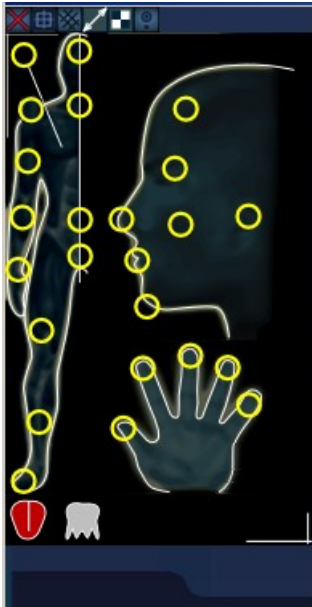


Fig.7: The details panel.

Clicking on the part of the body you want to model, another panel will appear on right screen (fig.8) and the view is automatically zoomed to the body part to edit.

You have two way to modify parameters value: left-click and horizontal moving the mouse, or just use the mousewheel on the icon to modify. The value is between 0 and 1. Right click on a icon set the value to 0 (the same for pose panel too).



Fig.8: An example of details parameters: the nose parameters

Pose panel

The pose panel functionality is very similar to details panel. In this case, you have the articulations scheme on the left (fig.9) and, depending the joint you click, the rotations on the right (fig. 10).

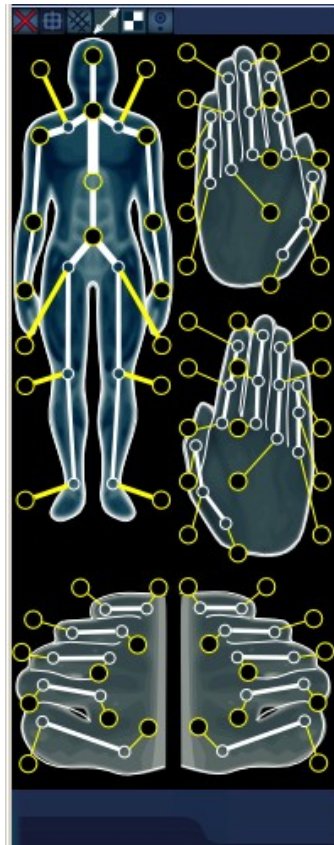


Fig.9: The pose panel

Important note:
During a work session, **only the first time** you open pose panel, MH must do a series of calculations, that require about 30 sec.

Moving the mouse on rotations icons, a simple button animation will suggest you the limb movement.

Important note:
You can't mix two rotations that have a red point on the icon.

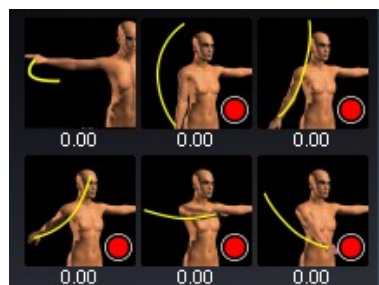


Fig.10: An example of rotations parameters: some actions of right shoulder. Note the red points on 5 icons.

Save and export your work

Actually you can save your work in 4 formats using the first 4 buttons of main toolbar (fig. 11):

- MHmorphology body-setting (*.bs)
- MHpose body-setting (*.bs)
- Wavefront obj (*.obj)
- Collada dae (dae)



Fig.11: Load/save buttons

Important note:

MakeHuman GUI is optimized to have a low number of elements, so some buttons are multifunctional. In this case, if you are in tetrawidget or details panel, both "load" and "save" buttons will work with MHmorphology files, while if you are in pose panel, the same buttons will work saving and loading a MHpose files.

Pose and morphology are separate elements so you can save and use them separately. To easy handle files we suggest to use the default MH directories:

morphology bs files

home/makehuman/mybs/

pose bs files

home/makehuman/myposes/

wavefront obj files

home/makehuman/myposes/

collada dae files

home/makehuman/mycollada/

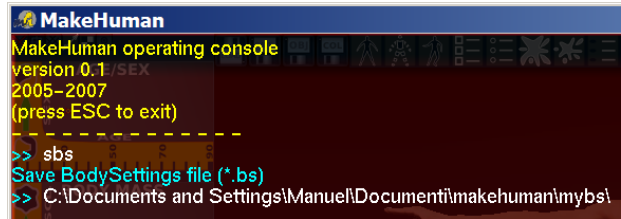


Fig.12: An example of saving files in default mh directory: in this case "home" = C :\Documents and Setting\Manuel\Documenti\.

Don't worry to write this by hand: MH automatically retrieves it.

Important note:

Wavefront obj exports what you see on the screen: if you are in tetrawidget or in details panel, the model will be exported in "Da Vinci" pose, while if you are in pose panel, the model exported will be in your custom pose.

Collada actually work differently: because it exports skeleton too (fig.13), the model is always in "Da Vinci" pose.

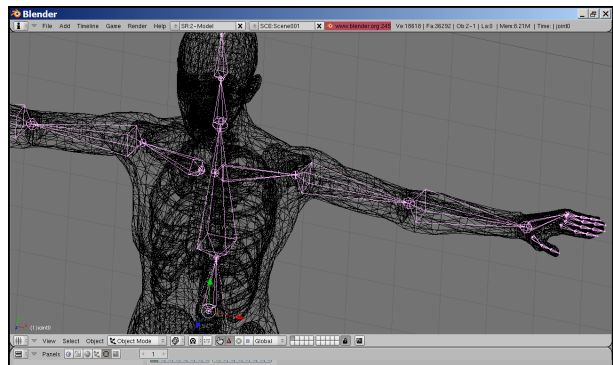


Fig.13: MH export in Collada 1.4 dae, with automatic skeleton generation. This is the result imported into Blender. For this version we have disabled the verts weights because they are not fully supported by Blender and XSI.

Working with libraries

MH has a simple and quick interface to handle poses and characters libraries. Unfortunately, in MH 0.9.1, you will find only a little subset, just as an example of libs functionality. We will add a lot of elements in next release.

To open characters or pose libraries, just click on the buttons in main tool bar (fig. 14). They work in very similar way of details and pose panels (we have worked a lot to have a more simple and easy GUI, and use the same procedure for all panels is a good solution to have the max user friendly level): on the left you have the characters (or poses) categories (fig. 15); clicking on them, on the right you have the subset of characters (or poses) (fig. 16).

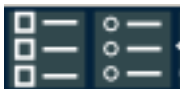


Fig. 14: Characters and poses libraries buttons

To load a pose or a characters, just click on relative icon.



Fig. 15: Characters library panel. Actually only "characters base" category is active, with few examples. In next releases a lot of elements will be added. Note "My characters" category.

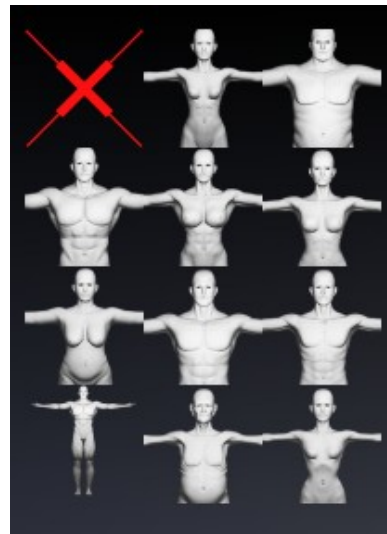


Fig. 16: Elements from "Characters base" category. They are just an example of libraries usage. Clicking on the icon the character is applied.

Custom libraries

In both characters and pose libraries panels there is a red icon, "my character" in the first case (fig. 15) and "my poses" in the second case.

These two buttons read the files that are in a special folders, that are:

custom character dir

`home/makehuman/mybs/lib/`

custom poses dir

`home/makehuman/myposes/lib/`

Saving your work in these directories you can use them as usual libraries.

Note that the special path is just "default path" + "lib"

Rendering

MH support rendering using external renderman compliant engines. When you press "rendering" (or "preview") button (fig. 17) MH save a standard rib files that can be used with PRMan, Air, 3Delight, Pixie and Aqsis.

We officially support only Aqsis, because it's Open Source, his team offers a good support and the rendering quality is very good. Unfortunately Aqsis rendering is very slow (a closeup rendering can require over 15 minutes), but Aqsis team is working to improve the speed (expected in Aqsis 2.0). In next release a full support for Pixie should be added too.



Fig.17: Rendering and rendering preview buttons

Important note:

*if the executable of aqsis is not included in the system path or is not found by MH for any other reason, it's possible to set the correct path using the MH operative console:
press 'O' to open the console, type 'aqs' (without apexes) and then type the path where the directory "bin" that contains the executable file of aqsis is located.*

In example, if your aqsis executable file is located in "any_path/bin/", you must type only the "any_path" part of the path.

The generated rib and the rendering output image when the render is complete are stored here:

home/makehuman/rendering/

The textures used by aqsis are located here:

makehuman/data/rib_data/

There are a lot of rib parameters that can be set using the MH operating console in order to optimize the render output image.

In example the parameter "sssScale" allows to change the value of the Sub Surface Scattering used by aqsis.

The default value is 0.02 and is probably the best for the rendering of close-ups, but for full-figured renderings this value should be decreased to avoid "wax effect".

Press 'O' to open to MH operative console and type 'set name_of_the_parameter new_value_of_the_parameter' (without apexes).

In example the command 'set sssScale 0.002' will set the value of the Sub Surface Scattering to 0.002.

The values of these parameters are stored into the file "makehuman.parameters" located in *home/makehuman* and are reloaded by MH when started.

This is the complete list of the rib parameters can be set (parameter – brief description [default value]):

rendpath – output image path [home/makehuman/rendering]
texpath – output texture path [makehuman/data/rib_data/textures_data]
headcol – head color texture [head_color.tx]
bodycol – body color texture [body_color.tx]
headbump – head bump texture [head_bump.tx]
bodybump – body bump texture [body_bump.tx]
eyescol – eyes color texture [eyes_color.tx]
eyebcol – eyebrows color texture [eyebrows_color.tx]
eyelcol – eyelashes color texture [eyelashes_color.tx]
headspec – head specular value [head_specular.tx]
bodyspec – body specular value [body_specular.tx]
eyesalpha -
eyebalpha -
eyelalpha -
headalpha -
bodyalpha -
Km -
Veins -
Wrinkles -
oilVal -
sssScale – Sub Surface Scattering value [0.02]
Ka -
ColorR -
ColorG -
ColorB -
DisplayX -
DisplayY -

So, to use your custom textures, instead makehuman default, you set them using a series of MHconsole command, like:

```
set headcol CUSTOMPATHERE  
bodycol CUSTOMPATHERE  
etc..
```

Anyway, **as quick alternative, you can simply replace the tif images placed into**

```
makehuman/data/rib_data/textures_data
```

just rememeber to make a backup copy of originals before overwrite...

View and navigation

Subdivided mesh

Subdivision are not fully implemented yet (not textures enabled) but they are already usable.

To use subdivision model, just press “S” key. Even without textures, subdivided mesh is very useful to better understand the morphing actions, so we suggest to enable it.



Fig.18: With and without subdivision surfaces

Camera navigation

Mouse:

RMB: Pan the model
 LMB: Rotate the model.
 Wheel: Zoom IN/OUT

Keyboard:

The camera is controlled by numpad keys (fig.19)

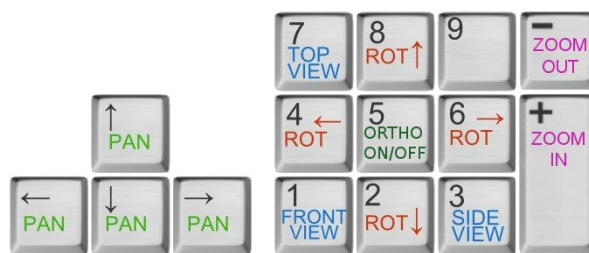


Fig.19: Keys used to pan, rotate and zoom the model.