

## Table of Contents

Introduction.....	2
Installation.....	2
Windows.....	2
Mac OS X.....	3
Linux.....	3
Default Mode.....	3
Controlling the Display.....	3
Toolbars.....	4
Anatomical Controls.....	5
Granularity Selector.....	5
MacroDetails Tab.....	5
Tetrawidget Toolbar.....	5
Ethnic Mixer.....	5
Details Tab.....	6
Tetrawidget Toolbar.....	6
Move, Scale and Symmetry Controls.....	6
MicroDetails Tab.....	6
Move, Scale and Symmetry Controls.....	6
Pose Controls.....	7
File Options.....	7
Rendering Options.....	7
Aqsis.....	7
Pixie.....	7
POV-Ray.....	8

# Introduction

This Alpha 1 release provides a subset of the features that will appear in the full 1.0 release later this year. **This is not a full-function release** and, most notably, does not provide functionality to allow the figure to be posed. It does illustrate the new mechanisms by which the figure can be modelled for ethnicity, gender and age. It also contains tools to allow the shape and size of key body parts and individual anatomical features to be modelled in detail. More complete releases are expected to follow soon. Please check back regularly for updates.

MakeHuman© is a free interactive modelling tool for creating custom 3D human characters. These characters can be modelled in minutes and can then be used with many other modelling and rendering programs to incorporate realistic human figures into computer generated images and animations. Features that make this software unique include the tetra-parametric GUI© and the Natural Pose System©, for advanced muscular simulation.

The home page for MakeHuman© is at <http://www.makehuman.org/> . The MakeHuman project is an open source project hosted on sourceforge at <http://sourceforge.net/projects/makehuman/> . This document is the **Quick Start** document. The MakeHuman Users Guide at [http://makehuman.wiki.sourceforge.net/UG\\_Introduction](http://makehuman.wiki.sourceforge.net/UG_Introduction) covers the same topics as this document but in greater detail.

## Installation

When the full release of MakeHuman is ready, installers will be available for Windows, Mac OS X and Linux. Full-blown installers will not be available until a later testing phase. Until then, compressed archives will be available for Windows and Linux which will need to be unzipped.

You will need 30 MB of disk space for the zipped archive and a further 100MB for the application code. Once installed you can delete the zip file to recover the disk space that it occupies. It is recommended that you run MakeHuman on a machine with at least 512MB of memory and at least an 800MHz processor.

If you don't have Windows or Linux, you may still be able to build, run and use this application by building the application from the SVN source code. This requires a bit more effort, additional knowledge and compilation tools. See the Developers Guide on the MakeHuman Wiki at [http://makehuman.wiki.sourceforge.net/DG\\_Introduction](http://makehuman.wiki.sourceforge.net/DG_Introduction) for more details. Unofficial nightly builds are also available (see the Wiki Home Page for more details).

### Windows

The Windows version of MakeHuman needs the Microsoft Visual C++ [2008 Redistributable Package](#) because MH is compiled with python 2.6 and without these libraries it can crash at startup. To check whether this package is already on your system open the Control Panel and select 'Add/Remove Programs' ('Programs and Features' in Vista). If not, download and install it from the Microsoft site.

To install the MakeHuman application, download the MakeHuman Windows archive file from the MakeHuman Web site and unzip it into a separate directory on your file system. Double click on *makehuman.exe* to start the application.

## Mac OS X

The Alpha 1 code is **not currently available** as a compressed archive for Mac OS X due to lack of maintainers.

## Linux

A zipped package is available for Ubuntu 8.10.

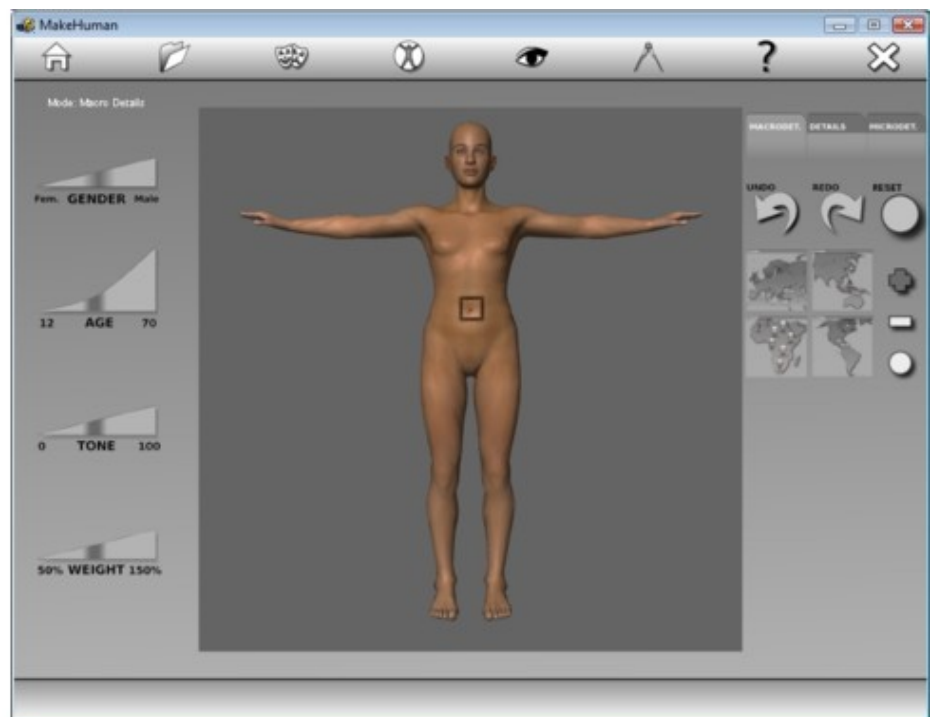
Download the archive and unzip it into a separate directory on your file system.

Double click on the makehuman binary to start the application.

Further information on the installation of MakeHuman can be found in the Installation section of the Users Guide at [http://makehuman.wiki.sourceforge.net/UG\\_Installation](http://makehuman.wiki.sourceforge.net/UG_Installation).

## Default Mode

When you first launch the MakeHuman application you should see the default human figure facing you with outstretched arms. As illustrated in this screenshot, the figure should appear in the centre of the window surrounded by a set of toolbar and toolbox controls.



## Controlling the Display

The human figure is displayed in 3D. You can rotate the figure, zoom in/out and pan around the window using either hotkeys on your keyboard or by using your mouse (or graphics tablet, etc.).

The numeric keys, along with the '+', the '-' and the '.' keys and the up, down, left and right keys on your keyboard are used as hotkeys (the number key settings make most sense if you have a numeric pad on your keyboard):



### Rotating the Figure:

- Left click the mouse and drag up, down, left, right or press 8, 2, 4 and 6 on the keyboard.

### Zooming In and Out:

- If you have a central wheel on your mouse this can usually be configured to zoom in and out, otherwise you'll need to use the '+' and '-' keys on your keyboard. Pressing the '.' character resets the zoom (and removes any panning to point the camera at the centre of the figure).

### Panning:

- Right click and drag or use the up, down, left and right keys to drag the contents of the viewing window around, effectively panning the camera. Pressing the '.' character returns the figure to the centre of the window (and resets any zoom).

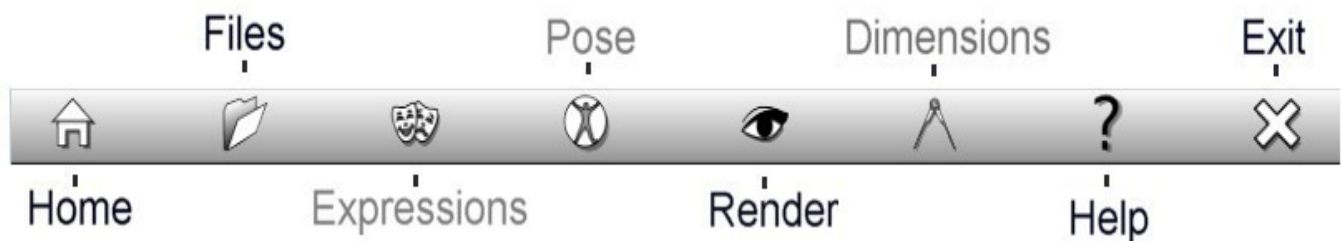
### Preset Positions:

- Pressing '1' returns to the default front facing view, '3' displays a side view and '7' an arial or top view. These keys do not reset the zoom, or panning, so press '.' if you need re-centre the camera.

### Undo/Redo:

- Pressing 'Ctrl Z' can be used to undo the previous operation (change to ethnicity, gender, age, etc.)
- Pressing 'Ctrl Y' redoes an operation undone by using 'Ctrl Z'.

## Toolbars



The menu bar along the top of the screen should remain visible at all times and is used to switch between different modes of operation. The currently selected mode is indicated by an enlarged icon. for example, the screen-shot above shows the default 'Home' mode, so the 'Home' icon is enlarged. The 'Expressions', 'Pose', and 'Dimensions' buttons are not active in this Alpha 1 release.

- The **Exit** button closes the MakeHuman application. Note that in this Alpha 1 release it exits without prompting you to save.
- The **Home** button takes you to the anatomical modelling screen which allows you to control the ethnicity, gender, age and muscle mass of the character that you are creating.
- The **Files** button displays controls that enable you to load and save files.
- The **Export** button takes you to a screen that allows you to export the model in various 3D file formats.
- The **Help** button opens a PDF copy of the Users Guide in your PDF viewer.

Other toolbars and control widgets appropriate to particular operations will appear when the application is in a particular mode. For example, when using the default 'Home'/'Modelling' Mode screen, you will see anatomical controls on the left and right hand side of the figure.

# Anatomical Controls

The Home button on the toolbar takes you into the modelling mode where you can model the anatomy of the figure. This mode provides controls to adjust the ethnicity, gender, age and physique of your character. A common modelling technique is to model generic attributes first, such as age, ethnicity and gender and then to work down into greater detail, modelling individual body parts and then specific detailed features. MakeHuman is structured to make it very easy to follow this pattern of working.

Changes made using the various anatomical controls can be reversed by using the *Undo* button on the right of the screen (or Ctrl-Z on your keyboard). Undone changes can be re-applied using the *Redo* button (or Ctrl-Y on your keyboard). Changes can be reset to their initial values using the *Reset* button.



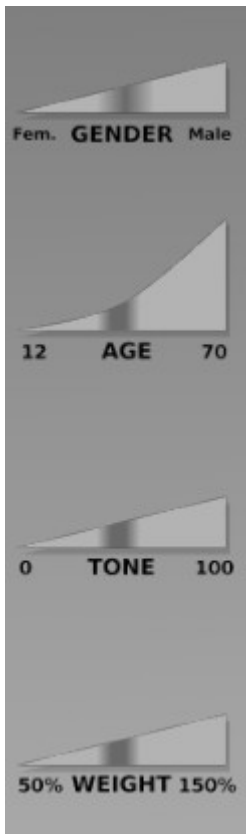
## Granularity Selector

MakeHuman provides course-grain and fine-grain anatomical controls. You can select the extent to which changes are applied using the 3 tabs located at the top of the right hand side of the Modelling page. Tools tailored to suit the granularity at which you are currently working are displayed.



Initially you will find the *MacroDetails* tab selected, which applies changes to the whole body, but you can select the *Details* tab to apply changes to discrete body parts, such as the head, the upper arm, the forearm, etc. or the *MicroDetails* tab to apply changes to individual anatomical features, such as the nose tip, the left nostril, the right cheek, the lower mouth etc.

## MacroDetails Tab



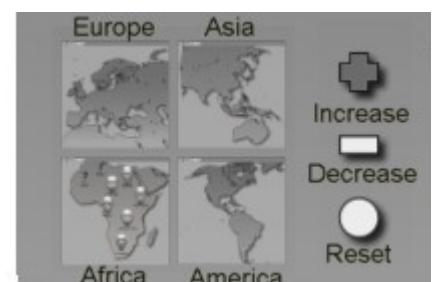
### Tetrawidget Toolbar

The controls on the left hand side of the Modelling page allow you to adjust the gender, age and the physique of the entire figure. Clicking on the slider for a control moves the setting to the position you click.

You can still use the mouse to rotate/pan/zoom, but in this Alpha 1 release you'll need to click the grey area around the figure to do this once a Tetrawidget tool has been selected.

### Ethnic Mixer

The world map on the right hand side of the Modelling page allows you to select and mix together traditional ethnic characteristics. Alpha release only contains a small collection of the ethnic groups that will be available in the full release. The groups available are in Africa and Japan.



When you click the continent of interest a larger map of that region is displayed listing the different ethnic groups available. Select the 'increase' or 'decrease' button then click on the ethnic group to increase or decrease the proportion of ethnic characteristics to inherit from that group. Click the 'reset' button and an ethnic group to reset the ethnic characteristics from that group to zero.

## Details Tab



### Tetrawidget Toolbar

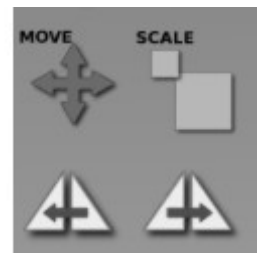
The controls on the left hand side of the Modelling page allow you to adjust the gender, age and the physique of individual body parts. Once you have selected a button you can click and drag the mouse on a particular body part to increment or decrement the selected feature. You can still use the mouse to rotate/pan/zoom, but you'll need to click the grey area around the figure to do this once a Tetrawidget tool has been selected.

The selected body part is shown using highlight colors.



### Move, Scale and Symmetry Controls

The buttons on the right of the screen enable you to move or scale individual body parts. Click the button then hold down the mouse button over a body part and drag the mouse to resize or move that part. The triangular buttons with the arrows on them allow you to apply right-to-left or left-to-right symmetry to the Move or Scale settings of the selected body part.



## MicroDetails Tab

### Move, Scale and Symmetry Controls

The MicroDetails Tab also displays buttons on the right of the screen to enable you to move or scale individual anatomical features and to apply right-to-left or left-to-right symmetry to an anatomical feature. To move or scale a feature, click the 'Move' or 'Scale' button then click and drag the mouse on the particular anatomical feature that you wish to resize or move. You can continue selecting different anatomical features, performing the same operation on them without selecting the 'Move' or 'Scale' buttons again unless you wish to change operations. The settings from the corresponding anatomical feature on one half of the body are mirrored across to the anatomical feature on the other half of the body.

Further information on MakeHuman Anatomical Controls can be found in the Anatomical Controls section of the Users Guide at [http://makehuman.wiki.sourceforge.net/UG\\_Anatomical\\_Controls](http://makehuman.wiki.sourceforge.net/UG_Anatomical_Controls).

# Pose Controls

This Alpha 1 Release does not provide any pose controls.

The default position has the human figure standing facing straight towards the camera with arms outstretched. Further information on Posing MakeHuman figures can be found in the Pose section of the Users Guide at [http://makehuman.wiki.sourceforge.net/UG\\_Pose\\_Controls](http://makehuman.wiki.sourceforge.net/UG_Pose_Controls).

## File Options

In this Alpha 1 Release the Load and Save buttons work.

The Export button is not active, but there are some export options available through temporary means until this Export feature is ready (see at [http://makehuman.wiki.sourceforge.net/UG\\_File\\_Options](http://makehuman.wiki.sourceforge.net/UG_File_Options)).



The *Load* button displays a file browser, showing images of MakeHuman 1.0 files from your 'models' directory. The first image in the chain is shown in the middle of the screen. Clicking on this image or pressing '*Enter*' loads that model into MakeHuman so that you can work on it. To step along the chain you can click the image to the right or press the right arrow on your keyboard. To move back along to the left, press the left arrow or click on the image to the left.

The *Save* button initially displays a text field into which you can type a name and tagging information that will help you to subsequently find your model. You then need to press '*Enter*' or click on the 'OK' button next to this field and MakeHuman will save the anatomy and pose of the current figure into a MakeHuman format file. The file will be saved into the 'models' directory on your file system using the first word you typed into the name/tagging field as the file name and an extension of 'mhm'.

## Rendering Options

Three rendering options are provided by a toolbar on the bottom left of the 'Rendering' mode screen.



### ***Aqsis***

Aqsis is an Open Source rendering application that implements the [Renderman®](http://wiki.aqsis.org/) standard. You can see examples of its capabilities and download the software from <http://wiki.aqsis.org/>. MakeHuman provides an option to directly render an Aqsis compatible Renderman format file containing a posed and morphed humanoid model.

The files generated by using this render option are written into the 'renderman\_output' directory on your file system.

### ***Pixie***

Pixie is an Open Source RenderMan renderer for generating photorealistic images released on a GNU Lesser General Public License ([LGPL](http://www.gnu.org/licenses/lgpl.html)). You can see examples of its capabilities and download the software from



<http://www.renderpixie.com/> . MakeHuman provides an option to directly render a Pixie compatible Renderman format file containing a posed and morphed humanoid model.

The files generated by using this render option are written into the 'renderman\_output' directory on your file system.

## ***POV-Ray***

The Persistence of Vision Raytracer (POV-Ray) is a popular and freely available rendering application capable of generating stunning images and animations. You can see some of the images that it is able to generate and download the software from <http://www.povray.org> . MakeHuman provides an option to directly render a POV-Ray 'include' file containing a posed and morphed humanoid model. This option also exports a pigment map and generates a sample 'scene' file that contains a series of examples illustrating a range of ways of using the model. These examples and further options for rendering are explained in more detail on the Wiki page at [http://makehuman.wiki.sourceforge.net/UG\\_POVRay\\_Export](http://makehuman.wiki.sourceforge.net/UG_POVRay_Export).

The files generated by using this rendering option are written into the 'pov\_output' directory on your file system.

Further information on MakeHuman Rendering options can be found in the Rendering Options section of the Users Guide at [http://makehuman.wiki.sourceforge.net/UG\\_Rendering\\_Options](http://makehuman.wiki.sourceforge.net/UG_Rendering_Options). Information on exporting MakeHuman figures can be found in the Export Options section of the Users Guide at [http://makehuman.wiki.sourceforge.net/UG\\_Export\\_Options](http://makehuman.wiki.sourceforge.net/UG_Export_Options).

Copyright MakeHuman© Team 2009.

Permissions are given to reproduce, modify and redistribute this document in accordance with the licensing statements at <http://makehuman.wiki.sourceforge.net/Licensing>