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Introduction

This Pre-Alpha release is intended to provide users with a technical preview of those features that have been redesigned following feedback resulting from the Nov 2007 MakeHuman release candidate. **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. 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 covers the same topics in greater detail.

Installation

In the full release of MakeHuman installers will be available for Windows, Mac OS X and Linux. Installers will be not available until the Alpha testing begins. Until then, compressed archives will be available for Windows and Linux which will need to be unzipped. You will need about 30 MB of disk space for the zipped archive and a further 50MB of disk space for the application code. Once installation is complete 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 a 800MHz processor.

If you don't have Windows or Linux, you may still be able to build, run and use this application. The MakeHuman source code is available to enable you to perform a build on your own. This requires a bit more effort, additional knowledge and compilation tools. Considerable information on building a copy of MakeHuman can be found in the Developers Guide on the MakeHuman Wiki at http://makehuman.wiki.sourceforge.net/DG_Introduction.

Windows

The Windows version needs the Microsoft Visual C++ 2008 Redistributable Package, because MH is compiled with python 2.6. Without these libs, the app can crash at startup. Download the Windows archive file and unzip it into a separate directory on your file system. Double click on makehuman.exe to start the application.

Mac OS X

The Pre-Alpha code is **not currently available** as a compressed archive for Mac OS X

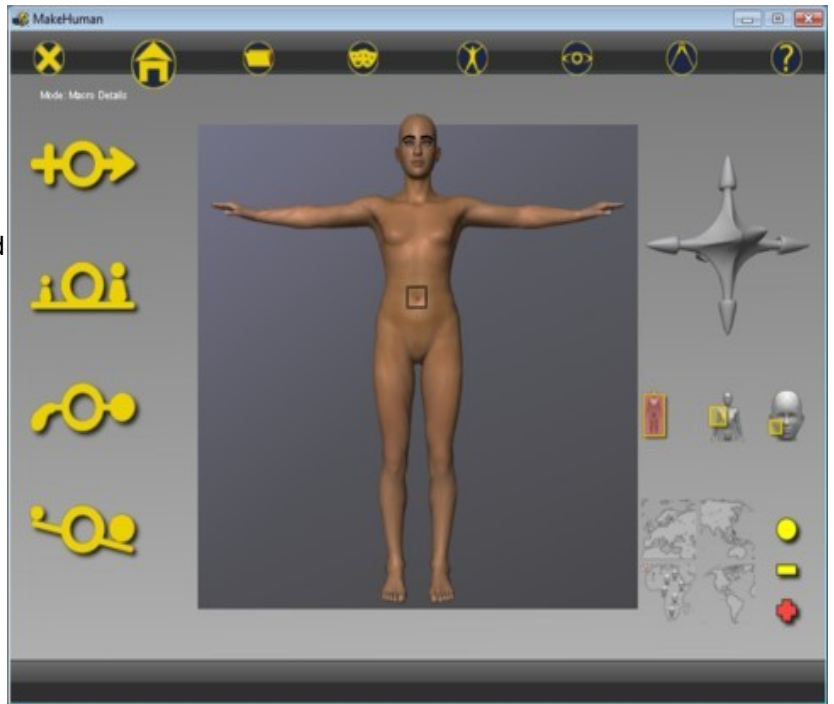
Linux

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.

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 toolbox panels.



Controlling the Display

The human figure is displayed in 3D. You will need to get familiar with how to turn it, zoom in/out and pan around the window. You'll be doing this a lot as you design and pose (pose functions are not active in this Pre-Alpha technical preview) your human figure. These basic display functions can be performed 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:

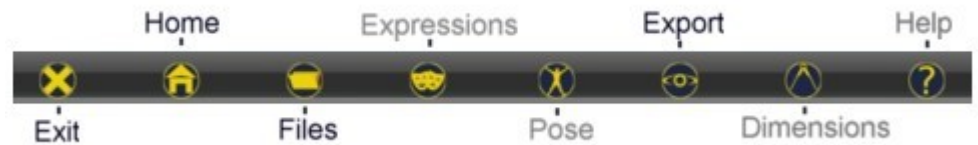
- Pressing '1' returns to the default front facing view, '3' displays a side view and '7' an arial or top view. These keys do not reset the zoom, or panning, so press '.' if you need re-centre the camera.

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', 'Dimensions' and 'Help' buttons are not active in this Pre-Alpha technical preview.

The **Exit** button closes the MakeHuman application. Note that in this Pre-Alpha technical preview 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.

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.

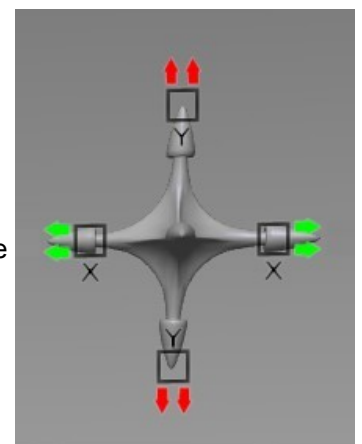
Anatomical Controls

The Home button on the toolbar takes you into a mode that enables you to model the anatomy of the figure. This mode provides you with controls to adjust the ethnicity, gender, age and physique of your character.

Transformer Tool

This tool is displayed but is not active in this Pre-Alpha release.

The transformer tool is a all-in-one tool to quickly scale and translate the mesh parts. It's orientation follows the current orientation of the mesh, so it's very easy and intuitive to identify the axis to act on. Clicking on the point of arrow will enable translations mode, while clicking on the inner part, will enable the scale mode, on the specified axis.

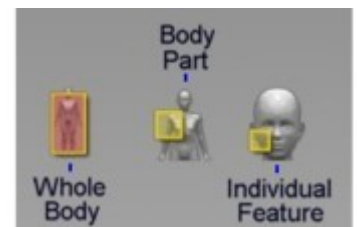


Granularity Selector

The granularity selector is not operational in this pre-release.

MakeHuman will provide course-grain and fine-grain controls for defining the anatomy of your figure. You will be

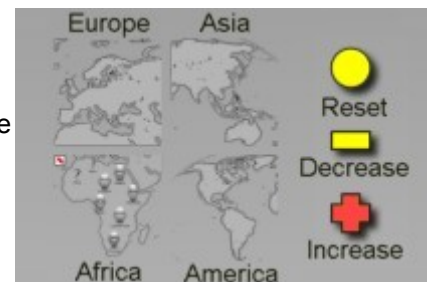
able to select the extent to which changes are applied using the 3 buttons located on the right hand side of the Modelling page between the Transformer tool and the Ethnicity map.



By default, changes are applied to the whole body, but you can elect to apply them to discrete body parts, such as the head, the upper arm, the forearm, etc. or to individual anatomical features, such as the nose tip, the left nostril, the right cheek, the lower mouth etc.

Ethnic Mixer

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



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

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 figure. Pressing the left or right side of each button activates a '-' or '+' icon. Clicking the mouse on the figure then reduces or adds to that setting. Note that you have to click on the figure rather than the space around the figure.

To deselect the tools from the toolbar so that you can revert to using the mouse to rotate/pan/zoom you'll need to open and closer the ethnicity map in this Pre-Alpha release.

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

Pose Controls

This Pre-Alpha technical preview 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.

File Options

In this Pre-Alpha Technical Release the file options on the 'File' mode screen do nothing.



This Pre-Alpha does include an experimental 'obj' export capability that can be run from any mode by pressing the "e" key on your keyboard. This exports a wavefront object (and the corresponding material layer). It also exports a BVH file (a BioVision Hierarchy file) that can be imported on Blender to build a skeleton. All of these files are saved using hard-coded file names in the same folder as the MakeHuman executable is stored. In the full MakeHuman application the File Mode screen and the options presented on it will be used to control the opening and saving of files. Further information on MakeHuman file options can be found in the File Options section of the Users Guide at http://makehuman.wiki.sourceforge.net/UG_File_Options.

Export Options

Three export options are provided by a toolbar at the bottom left of the 'Export' mode screen.

Aqsis

Aqsis is an Open Source rendering application that implements the Renderman® standard. You can see examples of its capabilities and download the software from <http://wiki.aqsis.org/>. MakeHuman

provides an option to directly export an Aqsis compatible Renderman format file containing a posed and morphed humanoid model. The files generated by using this export 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). You can see examples of its capabilities and download the software from <http://www.renderpixie.com/>. MakeHuman provides an option to directly export a Pixie compatible Renderman format file containing a posed and morphed humanoid model. The files generated by using this export 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 export 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 the exported object are explained in more detail on the Wiki page at http://makehuman.wiki.sourceforge.net/UG_POVRay_Export.

The files generated by using this export option are written into the 'pov_output' directory on your file system.

Further information on MakeHuman Export options can be found in the Export Options section of the Users Guide

at http://makehuman.wiki.sourceforge.net/UG_Export_Options. Information on rendering MakeHuman figures can be found in the Rendering Options section of the Users Guide at http://makehuman.wiki.sourceforge.net/UG_Rendering_Options.

FootNotes

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Earlier versions of the software and the corresponding documentation are available from the MakeHuman web site .