

Questions & answers

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iClone character animation with Autodesk

“How can I make a rigged character model and animate it with the iClone Animation Pipeline?”



Whether it's for previsualisation or production, sometimes you need a speedier solution for character design and animation.

The combination of the Autodesk Character Generator and Reallusion's iClone Animation Pipeline is the perfect duo to quickly create a 3D character and bring it to life. Furthermore, the iClone Animation Pipeline goes full-circle and exports your animated characters back into Autodesk 3ds Max or Maya.

The process begins with generating a custom character, which we will use the web-based Autodesk Character Generator to achieve. These characters can be quickly customised, dressed and exported as an FBX file. Subscribers to Maya, Maya LT, 3ds Max, Mudbox or MotionBuilder have access to premium export features that add face bones or blend shapes. Exporting the FBX file from the Autodesk Character Generator costs five Cloud Credits per high-quality character export, which is about £3 or \$5. While free exports are available for low-poly, they do not include the face bone or blend shape data, but are a good character source for crowds or anywhere that you only need a lower level of detail.

The iClone Animation Pipeline is designed to drastically reduce the time necessary to animate your custom characters. There is no need to script custom controls or slowly animate frame by frame with iClone as all the tools for face, body and lip-sync are ready to animate your character. Before the imported FBX characters are ready to animate, they need to be set up for use with iClone using 3DXchange. Part of the iClone Animation Pipeline series of tools, 3DXchange can import any FBX, 3DS, OBJ or SKP model. FBX files are loaded into 3DXchange with all the bones visible for retargeting to the integrated HumanIK inside iClone. HumanIK makes it possible to quickly associate your Autodesk character to the iClone animation system. 3DXchange is also where your custom character facial data is assigned to utilise the iClone facial-puppeteering and lip-sync mechanisms. Once the 3DXchange character setup is complete, you can begin animating in iClone.

iClone animation has lots of ready-to-animate options for breathing life into your character – face and body-motion puppeteering, 3D mo-cap files, keyposing and lip-sync are all included. Record your

voice or import audio to make characters talk, then get instant access to every keyframe on the Liptrack timeline for precision editing. Create fast performances to accompany your voice with the library of mo-cap files or quickly build a motion with the Puppeteering tools. iClone also has traditional animation tools blended with HumanIK to make posing characters and keyframe editing intuitive and easy for animators, no matter what skill level. The Facial Puppet tools make use of all the facial bones and blend shapes your character includes to give animators a true hand on their performance. Once the animation is complete, the character and its animation is transferred back into 3DXchange where it can finally be exported as an FBX file to return to your production tool of choice.



01 Generate a character

Access the Autodesk Character Generator at <http://charactergenerator.autodesk.com>. It has over 100 body types, clothing and other distinguishing features to build your own custom 3D actor. Autodesk provides full use royalty-free of the generated actors in commercial or non-commercial projects, including games, apps and videos. Select two source characters to blend their appearance, then style the facial and body attributes to your liking. It's easy to achieve both human and creature character types. Feel free to dress your character however you like. When your design is complete, generate and download the character FBX.

02 Convert your character

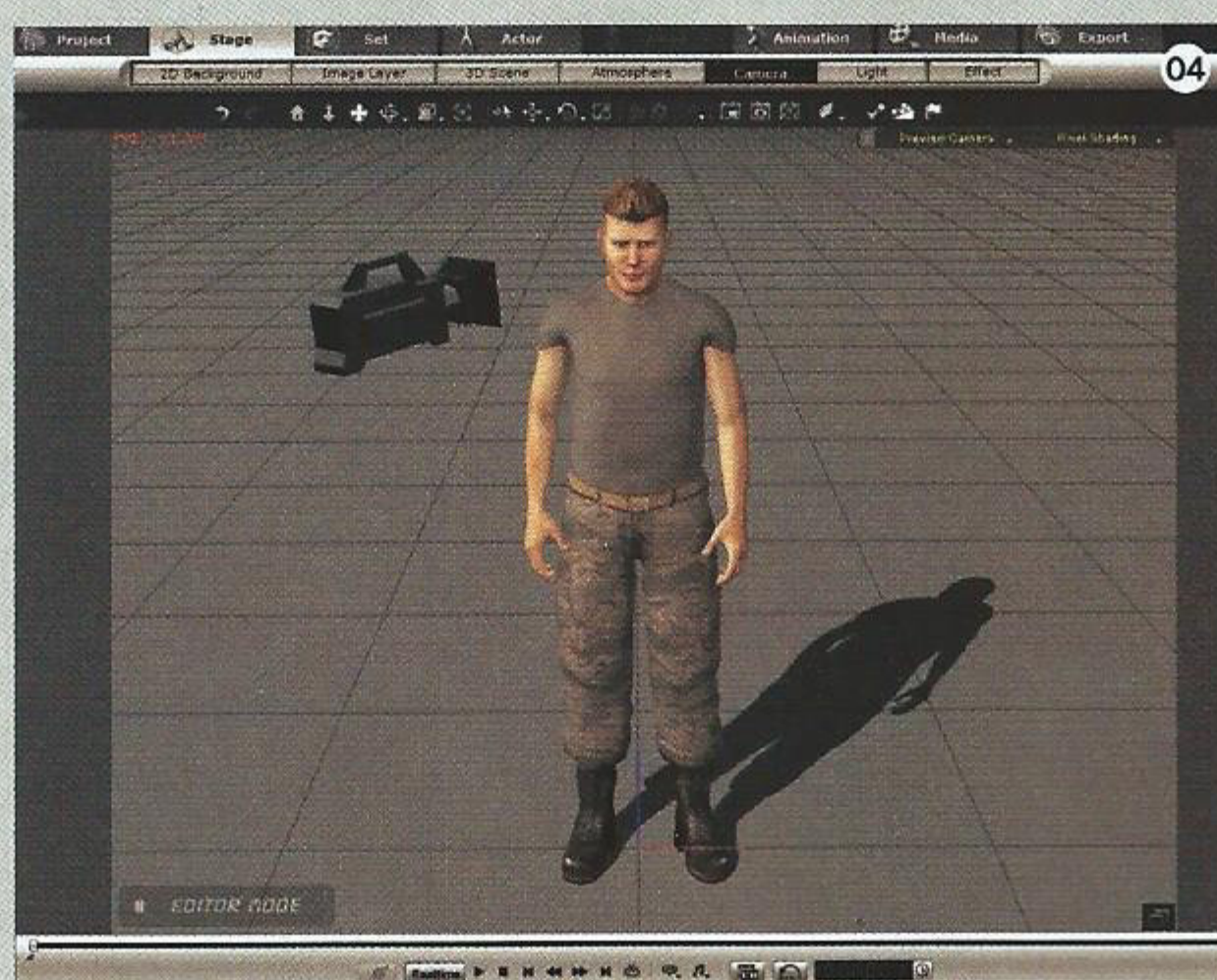
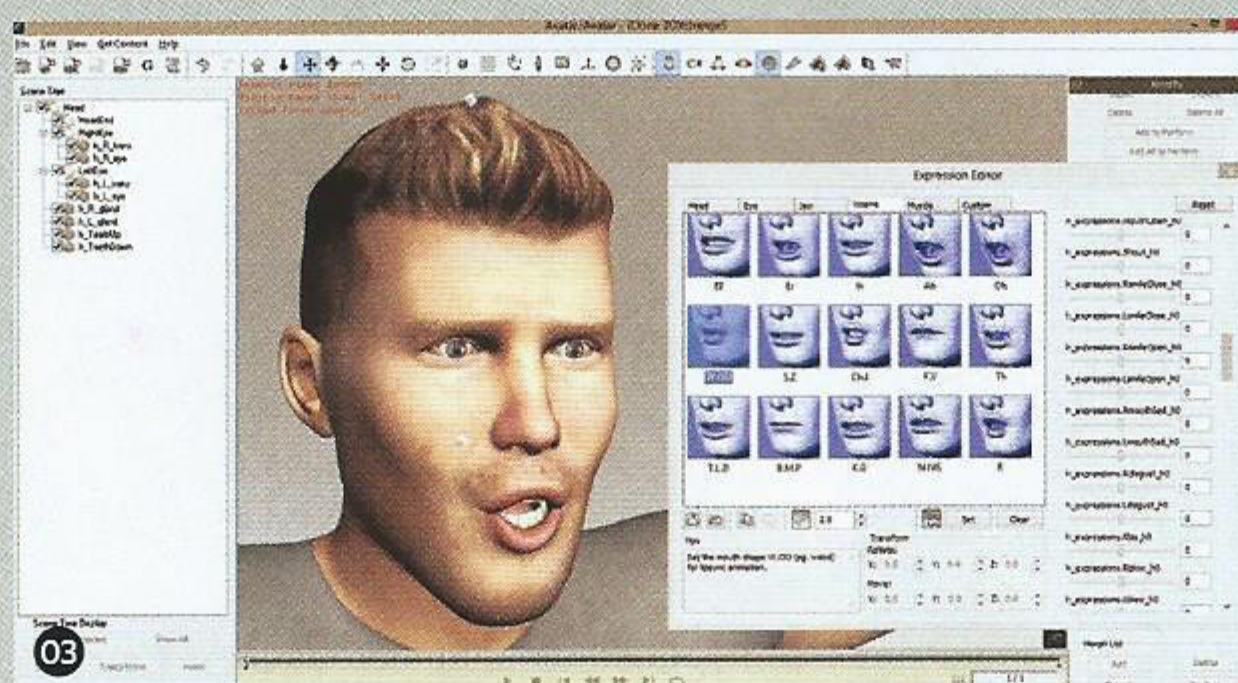
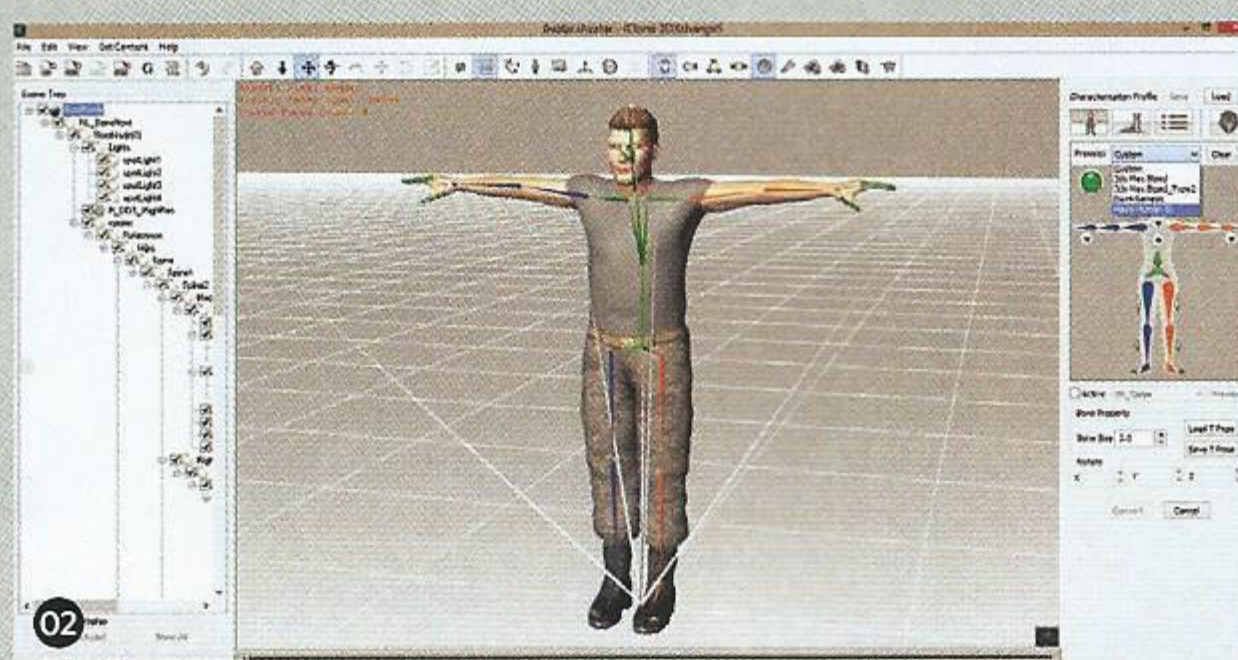
Autodesk FBX is loaded into 3DXchange where the conversion process prepares your actor for iClone. Once loaded, the FBX appears with bones visible so that they can be retargeted or easily selected. Select to convert the FBX file into a Non-Standard iClone character. Non-Standard means that the character originated somewhere other than iClone. In the dropdown menu on the right-hand side of 3DXchange, select the Maya HumanIK option to instantly retarget the FBX character bones to iClone. A green light will appear if this is successful. Finally, associate the face bones, eyes and jaw to prepare for the Expression Editor.

03 Set up the facial expressions

After you have converted the FBX file into a Non-Standard character, the next step is to open the 3DXchange Expression Editor and set up the face for puppeteering and lip-sync. This process steps you through head, jaw, eye, blinking, viseme and puppeteering setup. The head and eyes are easily updated, but the majority of time spent in the entire process is associating the viseme and muscle movements with your blend shapes. However, once this step is complete your character is fully capable of performing complex facial movements and lip-syncing to achieve a range of emotions.

Animate your FBX

The iClone Animation Pipeline works with any Biped FBX from 3ds Max, Maya, DAZ3D or other tools. Import and set up your own FBX character to create animation for faces, body and to lip-sync with ease. This tutorial demonstrates the Autodesk Character Generator characters, but you can import and animate a rigged character from any 3D program.



04 Export into iClone

Once the character conversion and setup is complete with 3DXchange, it's time to export your character into iClone. By exporting your character, it will create an iClone file that loads into the iClone Avatar/Custom folder. In iClone, find your actor and load it onto the stage by double-clicking to add the actor to 0,0,0 or click and drag the actor to put it anywhere in the iClone scene.

05 Animate and lip-sync the character

Animating your actor in iClone can start with either the face, body or lip-sync and all can work with your ideas in a non-linear fashion so you can start where you feel inspired to. Animation in iClone begins with the Animation tab, where you will find Motion, Facial Animation, Hands and Path. The Motion area replaces the iClone Modify Panel with body-motion options for animation. Pick from Motion Puppeteering, which does customisable idle motion, walks, runs and emotive gestures, or choose to animate with HumanIK-assisted keyposing or use the 3D mo-cap motion library. The Idle Motion Puppeteering is a great choice if you are working on character dialogue or monologue and need a simple motion that can add effective behaviour. Select Facial Animation to enable the Modify Panel with the Facial Puppet and Lip-sync Animation tools. Select Puppet to puppeteer the face with any combination of facial features and muscles. To create a lip-sync, record or import an audio file from the Modify Panel. Complete your animations to then prepare the character for exporting again.

06 Finalise and export your animation

Inside iClone go to the Avatar tab and then from the Modify Panel, select Edit in 3DXchange. The character model will reload into 3DXchange. Inside iClone, select F3 to open the Timeline and view your character's animation tracks. Next, use the Collect Clip track to select the area of time that you want to export. Click and drag the Collect Clip area of interest to export it, then right-click the area to select Add MotionPlus To 3DXchange. The MotionPlus file will then collect the character's facial and body animation into one file. This MotionPlus animation file is then loaded back into 3DXchange. Once opened in 3DXchange you can export your newly animated custom character as an FBX file back to Maya, 3ds Max or any other production tool. To do this, go to Export>Export to Other 3D Format, then check the FBX settings and features you'll need.