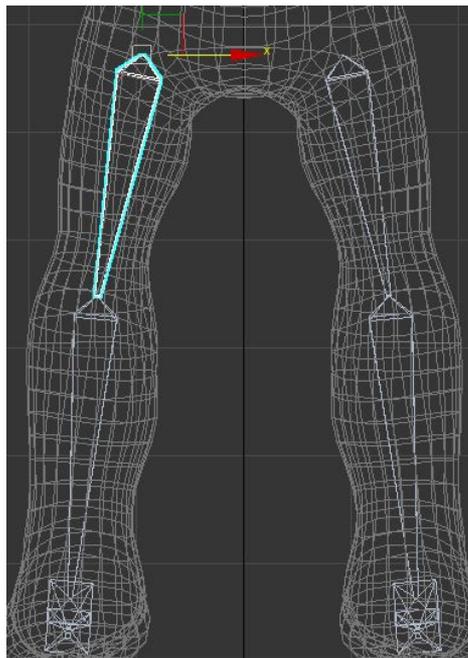


Character Rigging

Callum Davies

A dark blue diagonal gradient bar that starts from the bottom left corner and extends towards the top right corner, covering the lower half of the slide.

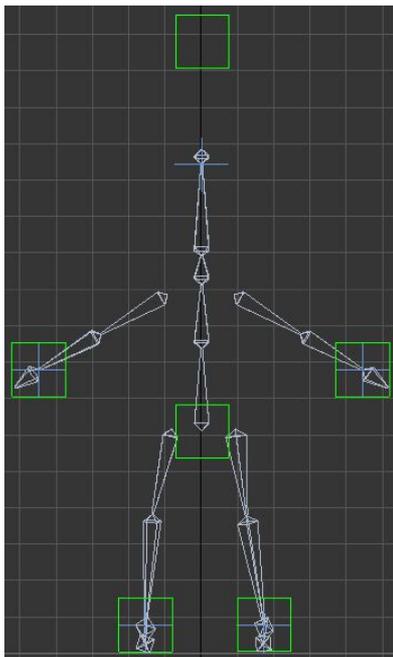
Adding Bones To The Character



Adding bones to the character is simple. To do this you must

- Open a character you want to animate using bones.
- Go to the systems tab and select "Bones".
- Add the bones to the character.
- To further refine them you go to the Animation tab and click "Edit Bones"
- This opens a window, when Bone Edit Mode is on, you can move individual bones.

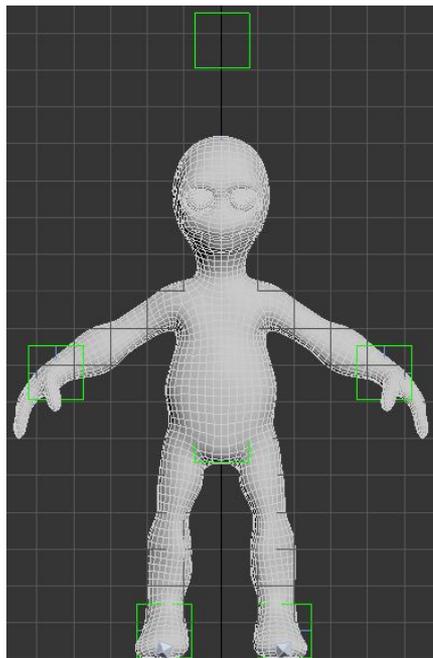
Adding Helpers To The Character



Once all the bones are added, you can add helpers. These are attached to the bones and make moving the bones easier in the model. To do this you must:

- Add a new Dummy in the Helpers tab.
- Using the hierarchy, assign the helpers to a bone structure.

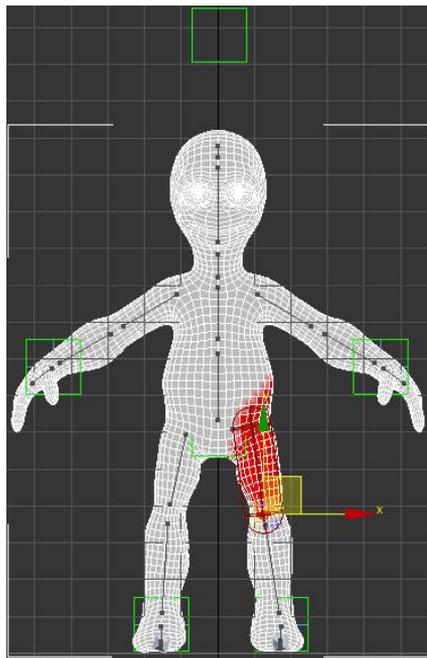
Skinning The Character



Skinning the character means that the bones actually affect the model underneath. To skin the character you must:

- Add the skin modifier to the model.
- Add all of the bones to skin modifier.

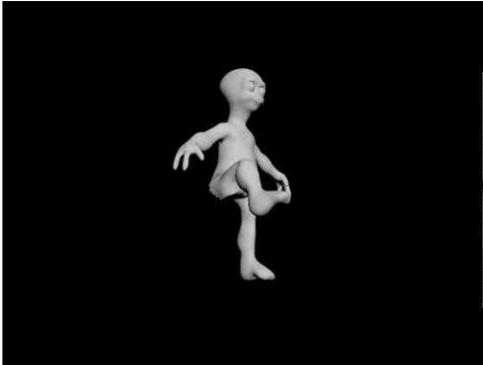
Refining The Skin



Refining the skin helps when animating the character. Although the software - 3DS Max - is good at what it does, sometimes, it does get things wrong. This means that sometimes, when I want to move the head, part of the arm might also move. The red area shown in the image is the amount of weight on them polygons which are affected by the selected bone. To refine the skin you must:

- Click “Edit Envelopes” in the parameters section.
- Select the bone you want to change the weight on.
- You can draw the weights on by selecting the vertices and applying a weight.

Animating



Once the character is fully rigged, you can begin animating it. Animation can be done in a variety of ways, from keyframe animation to using IK solvers and constraints. For my simple, leg movement animation, I used a path constraint defined by an arc. To do this I,

- Created an arc.
- Set the path constraint of the foot helper to the newly created arc.

Video: <https://youtu.be/popDuhuyPK4>