Student notes 060 – Refining a character

We have our character broadly constructed – the body, arms, and legs. But now we’re faced with holes for the top of the neck, the ends of the arms, and the ends of the legs.

The head mesh
There are endless ways to make heads that you can find described in YouTube videos. For a basic head make a cube in Object mode and give it a single degree subdivision surface modifier, then apply that modifier to create a basic quadisphere mesh with 96 vertices. In front view remove half the vertices to match the mirror side for the main figure then add it with Control_J, making sure the main mesh is selected last (ie: the Active object). Using Proportional Editing Connected (or you will move verts on the main body) pull out the chin and back of the head. Remove faces from the back of the head to match the number of edges in the neck edgeloop and then use Bridge Edge Loops from the Edge menu (Control_E) to connect them.

A better option, one that has good topology for expressions, is to create an edge extruded mask as shown by Darrin Lile in the first few videos of his YouTube series beginning with https://youtu.be/0QT1GNMeYfc. This mask can be saved as a generic starting point for future heads.

Finally, and most accurately but slowest, you can sculpt or 3D scan a realistic head and then retopologize it using the techniques described in https://users.soe.ucsc.edu/~yonge/02_PDF_guides/021_Retopology.pdf.

Hair
The simplest way to make hair is simply to paint it on the head as part of the texture map; the second simplest to create a scalp object from the existing geometry and then extrude appropriate faces from it using Extrude Individual in Tools in Edit mode. Each face will extrude along its own normal. Rescale them using Scale around Individual Origins from the Pivot Point pop-up menu in the toolbar.

A further technique of making locks of hair from Bezier curves is shown by Kent Tramell at https://youtu.be/Nn7mISvVzJk (thirty minutes). These would of course have to be turned into meshes when complete using the Alt_C command. And finally there are the particle hair systems supported by the Internal and Cycles renderers.

Ears
Ears can be as simple as bringing in a torus primitive, removing the lower front part of its geometry, and joining it to the head mesh.

Joshua Alger has a tutorial on making ears in Blender at https://youtu.be/rkvO0C5-Ths. The ear image link that he references no longer works but you can find the image at https://users.soe.ucsc.edu/~yonge/05_homework_resources/Alger_Ear_Guide.jpg.

Eyes, eyelids, and eyebrows
These are important for expression, character, and reactions. I recommend making separate UV
spheres for the eyes and joining them to the body mesh (we’ll look at rigging the eye direction later). Eyebrows can be painted or separate meshes in the main object; same with eyelids. Both can be controlled with either bones, shape keys, or both

The mouth, teeth, and tongue
It’s possible to create a usable and convincing character with just a line or slit for the mouth, but any scene where it has to talk, laugh, be surprised, or eat more is needed. Again, I recommend Darrin Lile’s video series referenced above, but David Ward also has a good 20 minute tutorial on this as part of his Tim character series at https://youtu.be/iNoplKge-5w.

Hands
Darrin Lile’s excellent series on character modeling in Blender includes a 14 minute video specifically on making a detailed four fingered hand at https://youtu.be/v_X9v29i-Iw. Ryan Kittleson, an excellent modeler and teacher, has a more advanced ten minute guide at https://youtu.be/J1mExXURsWk. It’s for Maya, not Blender, but the principles are the same.

Feet
The feet should be long and have vertical edgeloops that support flexing for foot peeling during the walk cycle. This is important for creating believability; without a foot peel the character appears to be wearing clogs and walks awkwardly. Always make socks and shoes as part of the main mesh; they count as close fitting clothing.

Chris Yonge – 20170119