This model utilized 3 different programs: Amapi 6, ZBrush1.5 and Lightwave 7.5. This tutorial will focus mainly on the Amapi portion of the creation process.

Amapi has an unusual interface and workflow that may be awkward for some to get used to at first. Once you do though, there are some powerful tools and a fast workflow paradigm at your disposal.

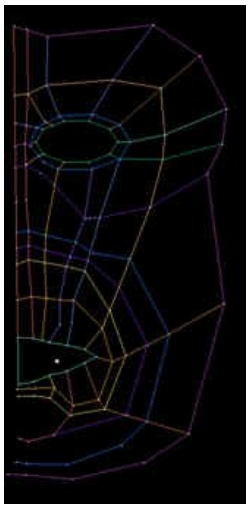
This tutorial also illustrates how you can utilize the best features of different programs. There is no need to slavishly stay in one piece of software.

For this character, I didn't have a solid design in mind to start with. This isn't usually the best way to proceed. A sketch or two can help out before starting.

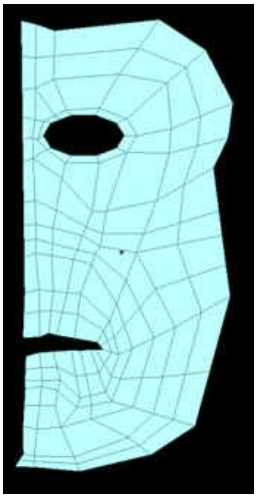
IN AMAPI:

I just dove in. First, I used the polyline tool 

to create a layout of the faces for the half the face of the character. I could have also done this with a drawing and imported it as a background image. This was done in the front view and kept 2-dimentional.

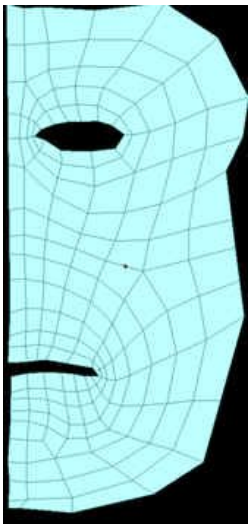


Next, I used this polyline shape as a guide to create faces with the face extraction tool  The edges of the polygons automatically snap to the points in the polylines. Return is pressed after each face is created, which were kept as quads.

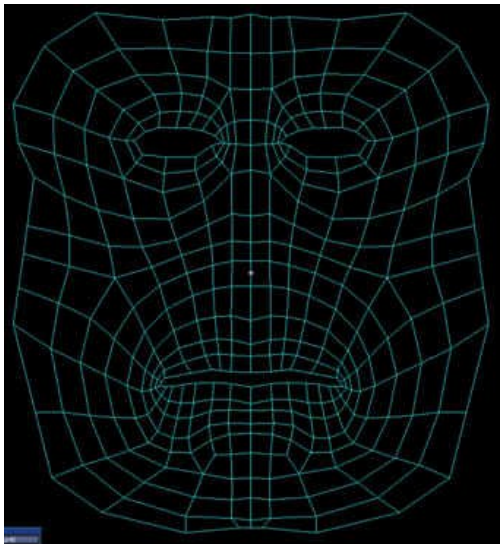


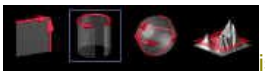
Add a slice  (Under the Tesselate options) is used to add some more geometry and the face are evened out with the Soften 

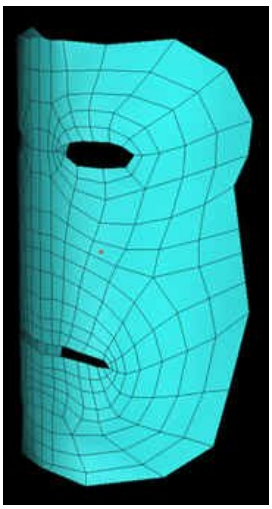
tool.



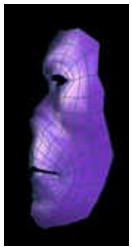
The symmetry tool  is used to duplicate the other half of the face, and the weld tool  is used to connect vertices in the center line



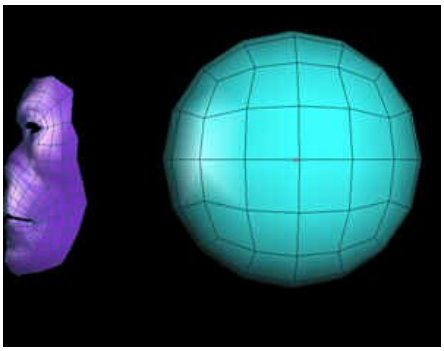
The cylindrical wrap tool  is used to give dimension to the flat face. The +/- keys are used to adjust the percentage of the wrapping.



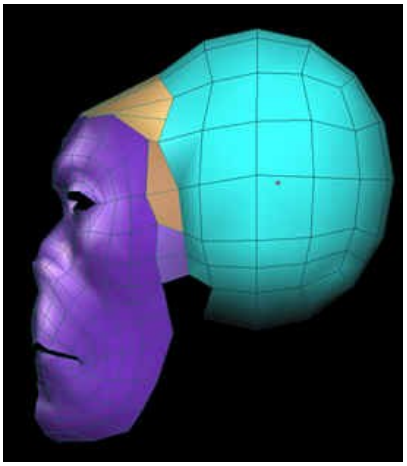
The face still needs some specific shaping, so the mold tools  help define the forms as well as the stretch tool. 



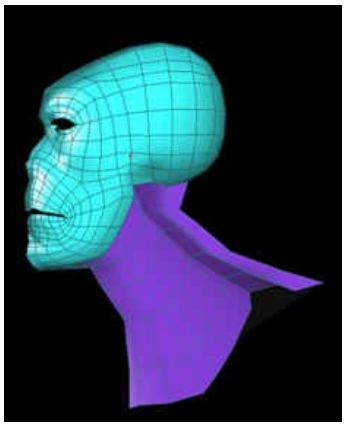
Obviously the head need some more geometry. To create the back quickly, a geodesic sphere is created



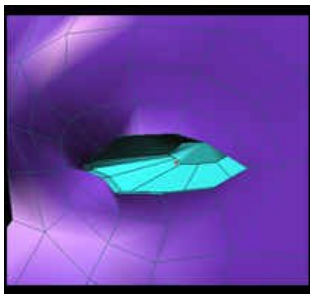
This sphere is cut in half down the centerline along the X axis and the front and bottom faces are deleted. The face extraction tool is used to connect the sphere to the face geometry. The object are welded together afterwards and the blended areas are smoothed and shaped.



A face is created in the bottom of the head, and extruded  to create the neck.

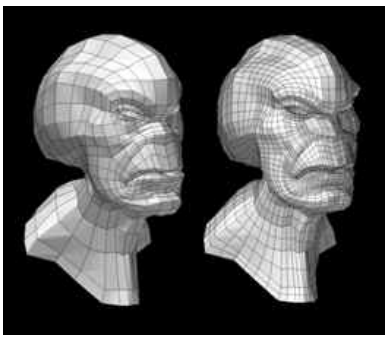


To create an eye socket, a face is created in the hole and extruded back.

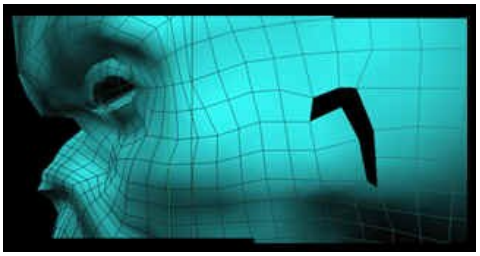


All the parts are welded together into one object.

This base geometry is then exported as an .obj file and imported into ZBrush. This program has very natural 3D sculpting tools that work well with a drawing tablet. Here I explored and experimented with the shapes. I also divided the geometry once to create more faces to work with.

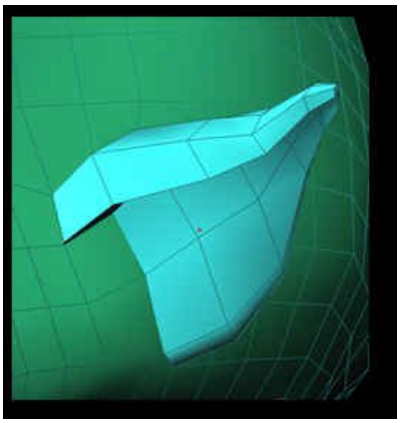


When I was happy with the model in ZBrush, I exported it back out in the .obj format and imported it back into Amapi. I decided to add some ears to this being, so the first step was to delete some faces in the general shape.

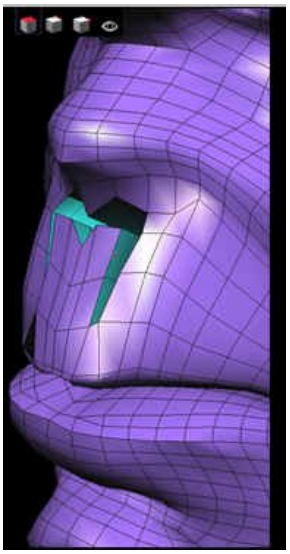


The curve extraction tool  was used to make a curve from the hole in the geometry. Then, the polyline tool was used to draw to curves in the shape of the ear.

The double sweep tool  was then used to created geometry from the curve created over the hole using the other guides to shape it.



This ear was welded to the head. A similar technique to the eye sockets was used to create the nose; a face is created over a hole, and extruded back into the head.



The model was then exported out again, but this time brought into Lightwave where additional tweaking was done. The mesh was also cleaned up and made lighter by removing extraneous faces.

The UV map coordinates were set up here too. The model was exported again and brought into ZBrush where the color map was painted using the Texture Master script.

To add the illusion of more detail, the technique of normal mapping was utilized. This involved modeling a high resolution head in ZBrush, putting in much more detail than is in the base mesh.

This model, at 97,000 polygons is too dense to animate. It was used as the basis for normal map creation. Once the normal map is applied to the low resolution head, the apparent detail of the high resolution head is rendered on it.

For those wishing to explore Normal maps in Lightwave, visit this site: http://amber.rc.arizona.edu/lw/normalmaps.html

Here is a stand alone application as well: http://www.soclab.bth.se/practices/orb.html

(Thank you to all who make them freely available)

The color map and a specular map was applied and rendered in Lightwave for the final image.