Human Ear

This is an extremely difficult section and will need some time before it's truly mastered, we recommend spending time between sections to ensure you're happy with your geometry. The ear at first glance appears to have geometry cropping up all over the place and can be difficult to gauge a starting point.

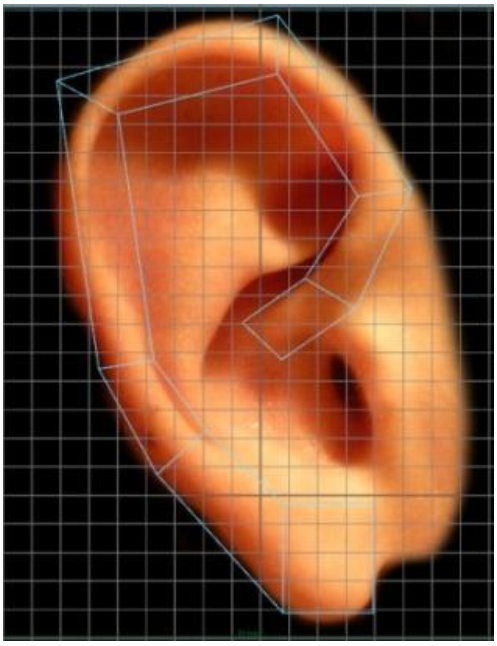
Before we begin:

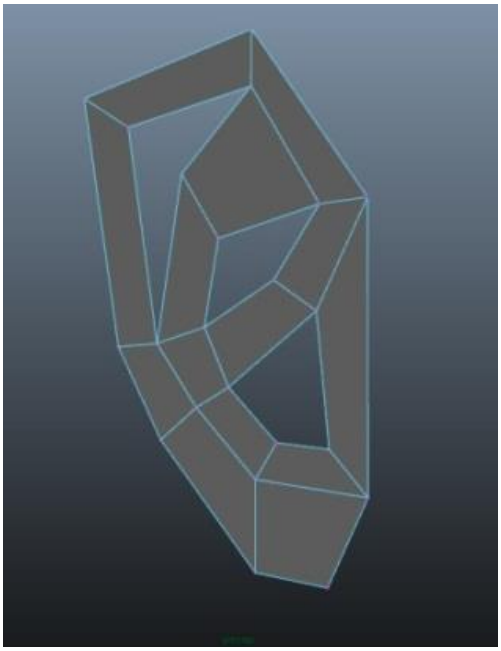
Familiarise yourself with the starting edge flow we are working towards (two interlocking curves almost like an *e & c*)

Either acquire some pictures or take some of your own for use as references. It is important that you are confident with basic modelling techniques for this section in particular.

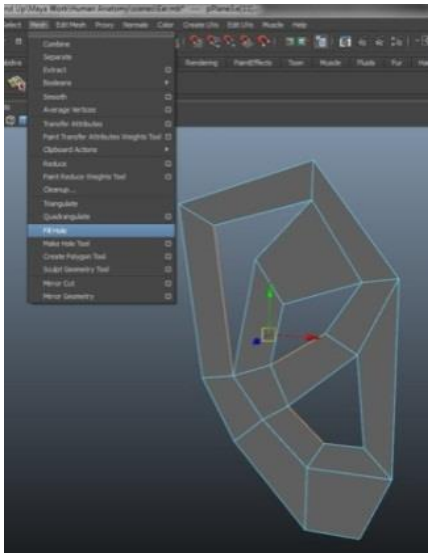
Step 1: Base low-res geometry

- *Create > Polygon Plane*, position it upright over the earlobe base.
- Extrude the LHS then rotate and position them in accordance to the below illustration.
- Extrude the top RHS into the centre (creating similarities to above) and then down alongside the geometry you just created, then up around what will be the ear cannel.
- Snap the vertices to the ones they run alongside and merge together.





Step 2: Depth and shape

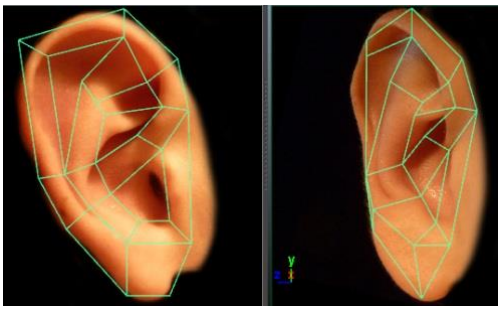


Select one edge from each of the three sections that contain a hole *Mesh > Fill Hole*

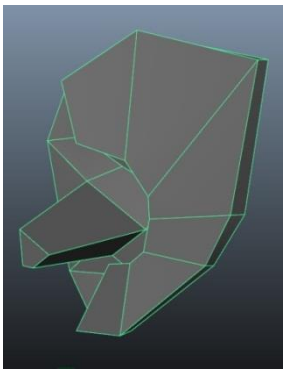
- Split the inner ear poly to create the fork like shape illustrated on the edge flow picture.

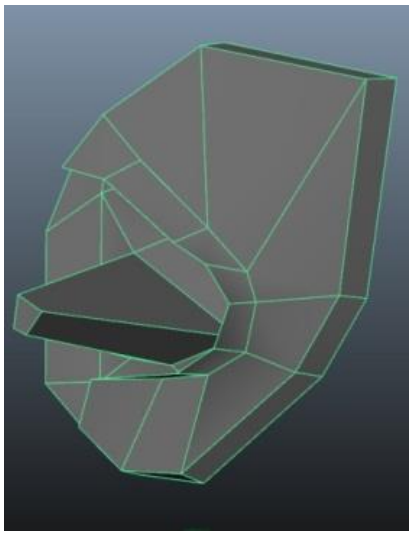
Note: *At this point it leaves a 5 sided shape but this will be addressed in step 3.*

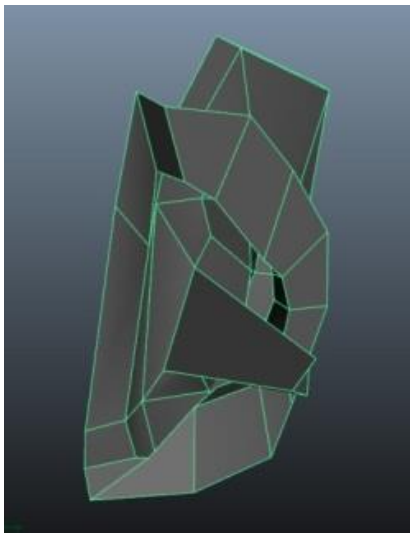
- Align your vertices in the side panel to help shape your ear and select the face over the ear cannel and extrude in and back.

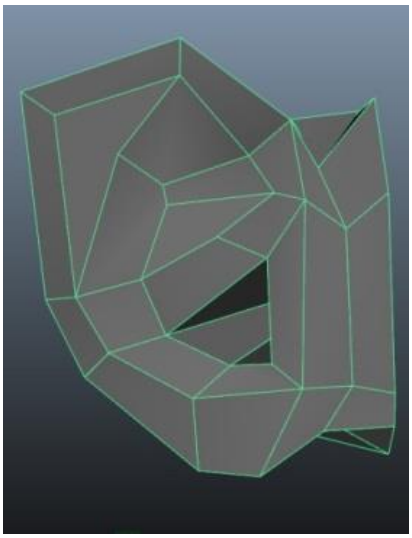


- Starting at the bottom select all edges until you reach the split that you recently added. Extrude back then repeat (g) and extrude inward giving it depth and creating the back of the ear
- Continue by selecting the edges you missed of last time as well as all the edges you've just made on the back of the ear and extrude again
- Spend some time shaping the extrusions one at a time using both the front and side perspectives.
- Select the Edge tool and double click on any of the inside edges to select the entire loop, extrude one last time, and fan out the edges.



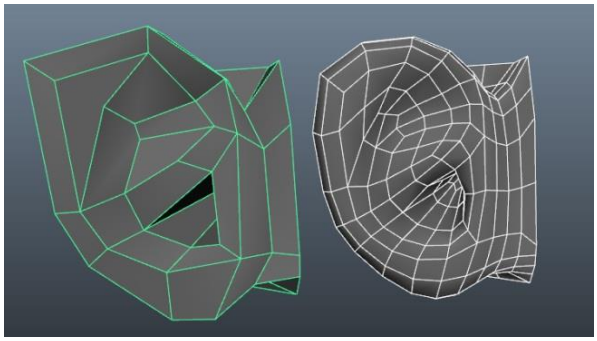


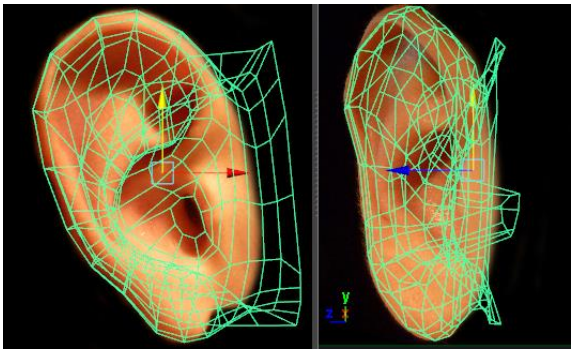




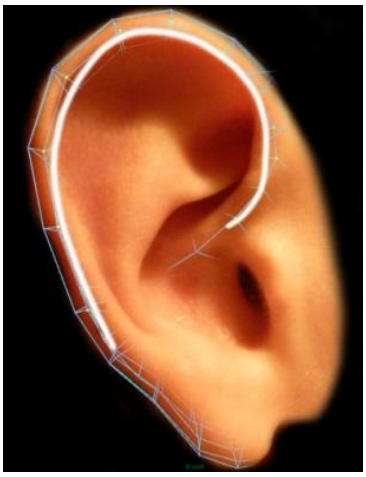
Step 3: Defining the ear and accentuating the lip

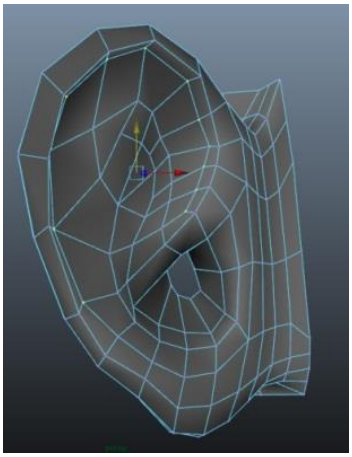
- The first issue we'd like to address is the rectification of our 5-sided polygon. Using low base meshes initially provide us with a little leniency to create such shapes due to the fact when we smooth (effectively cutting every polygon in half) the issue is automatically rectified. Now we have achieved a suitable edge flow as well as a sufficient amount of geometry, it allows us to go back in and tweak our ear into a more accurate representation of our images
- Spend a little time aligning your newly smoothed mesh to the outer contours of your image reference before we begin to shape it internally.

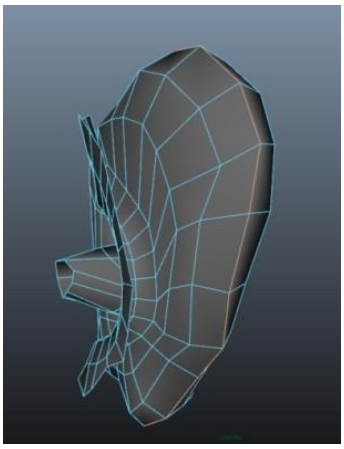




- The next step would be to accentuate the inner lip at the top of ear, therefore select the appropriate vertices, pull out and scale inward, as far as you feel necessary.
- Next move the topmost row of vertices towards the ones you have just scaled to help define the edge and move the next row of vertices located on the back to be the new highpoint.
- Select the next row of vertices in, enlarge the section and sink back into the ear as far as it will go without protruding out of the back.

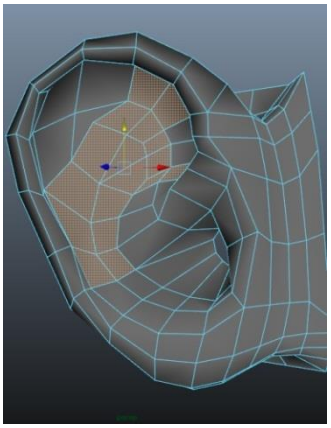
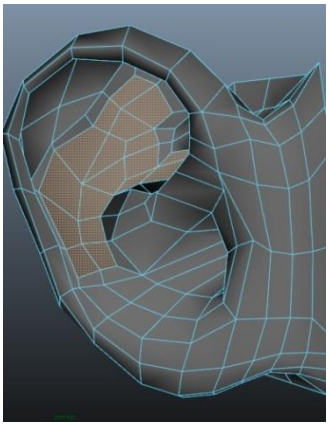
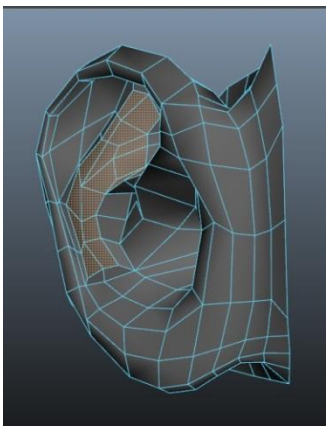






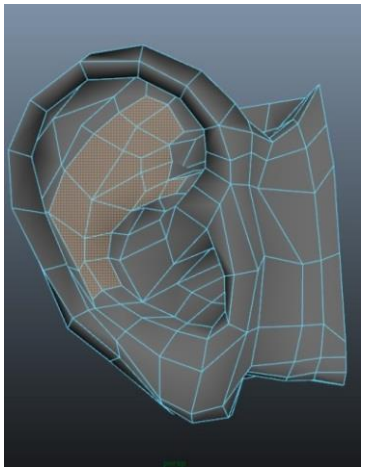
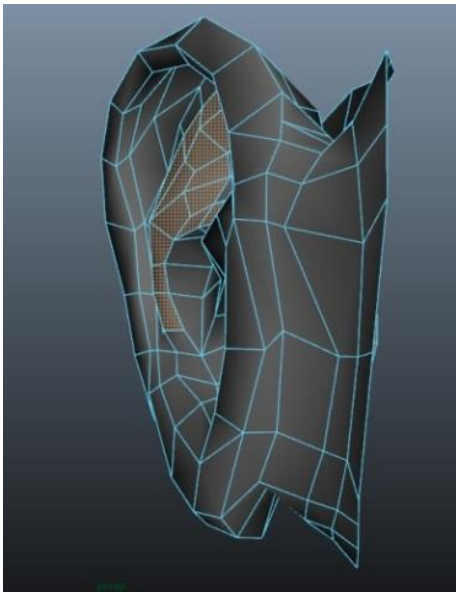
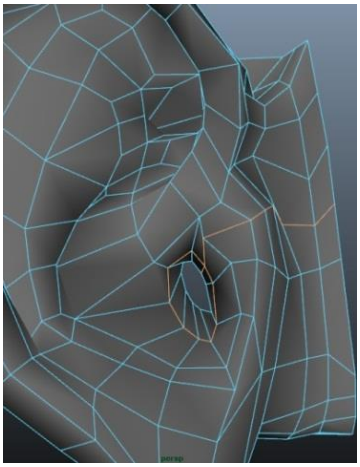
Step 4: Push, pull and re-shape:

- Pay particular attention to where the indents are in the ear and manipulate what geometry you have to position it as best as possible.
- Select the faces of the inner ear that appear raised and extrude them up, and inward slightly.

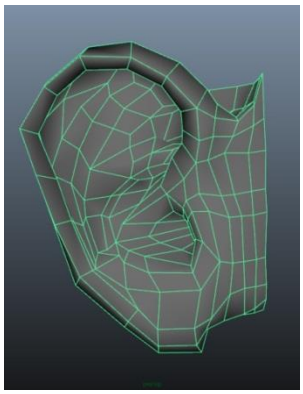
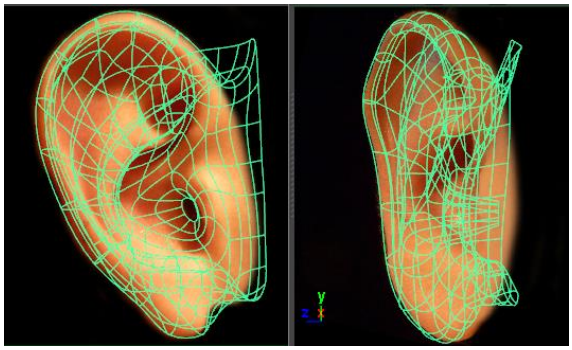
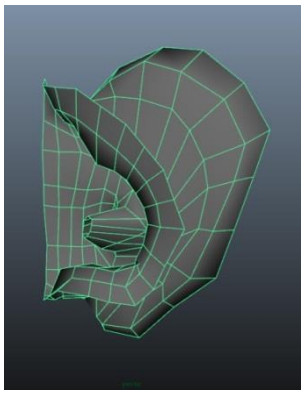
- The next step will involve you levelling out the edges of the extrusion so it flows into the geometry we had before.
- We also added in an edge loop in the ear cannel and on the upper RHS of the ear cannel to aid in deformations around that area, more specifically to help differentiate (from the original drawing) the outer and inner ear curve

Note: *Don't worry if it's taking a long time, ensure you save incrementally and you can always jump back to a previous version should you need.*

Step 5: The earlobe

- To finish off we're going to restructure the earlobe slightly to give it the round padded appearance they usually have.

Conclusion:

The technique which we have just guided you through has a relatively straightforward structure as it derives from the initial fundamental edge flow we outlined from the introduction. The appearance of the ear at this stage may still need some modification especially when aligned with your own image reference and/or characters head, but these adjustments will be minimal and amendments will literally be tweaks.