

Character Modelling



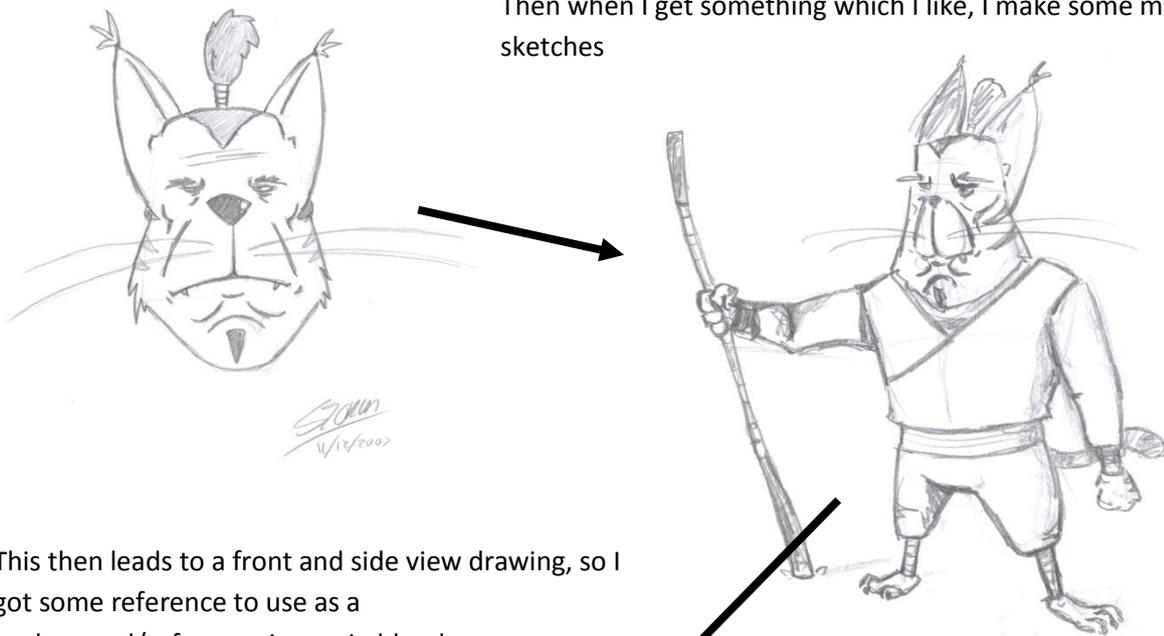
by
Frederik Storm

A few words about this tutorial/walkthrough, I made this to show how I get my ideas from my head, to the paper and then to 3D. When you read this tutorial/walkthrough I don't want you to say, "So that's the right, the only way of doing it", because it isn't. This is made to show how I do it, and hopefully give you some knowledge, and ideas on how you might do it next time. Just keep in mind my way, might not be the best way for you. In this tut I will use a few words you might not have heard before if you are new to 3D, like an "edge loop" is, but this is very simply a loop formed by edges, in blender they are added by pressing "Ctrl+R", if you need further explanation, look it up on Google. Also I use "extrude" a lot; this is simply done by pressing "E", and to fill holes you select four vertices and press "F", also use "X" when you want to delete points, and "W" is also a very useful shortcut, it contains many useful tools.

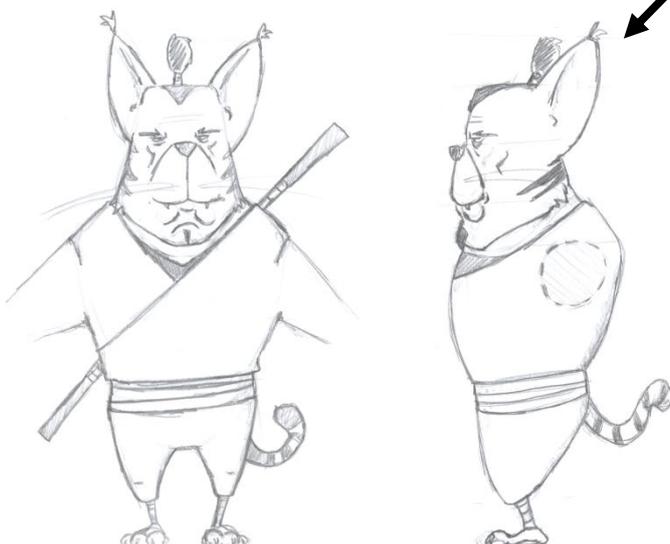
Well let's get started

I start with a pencil and some paper, and I just start drawing.

Then when I get something which I like, I make some more sketches



This then leads to a front and side view drawing, so I got some reference to use as a background/reference image in blender.

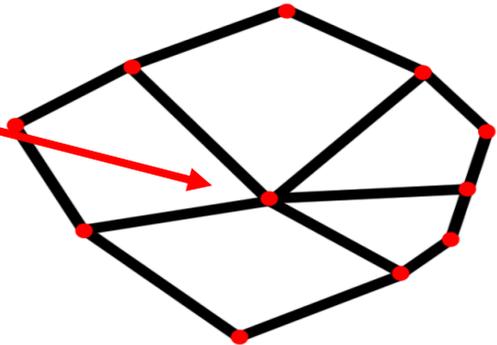


The design changes a lot, and these sketches are only used as guidelines, because when I get into the 3D program you might see that some things just don't work that well.

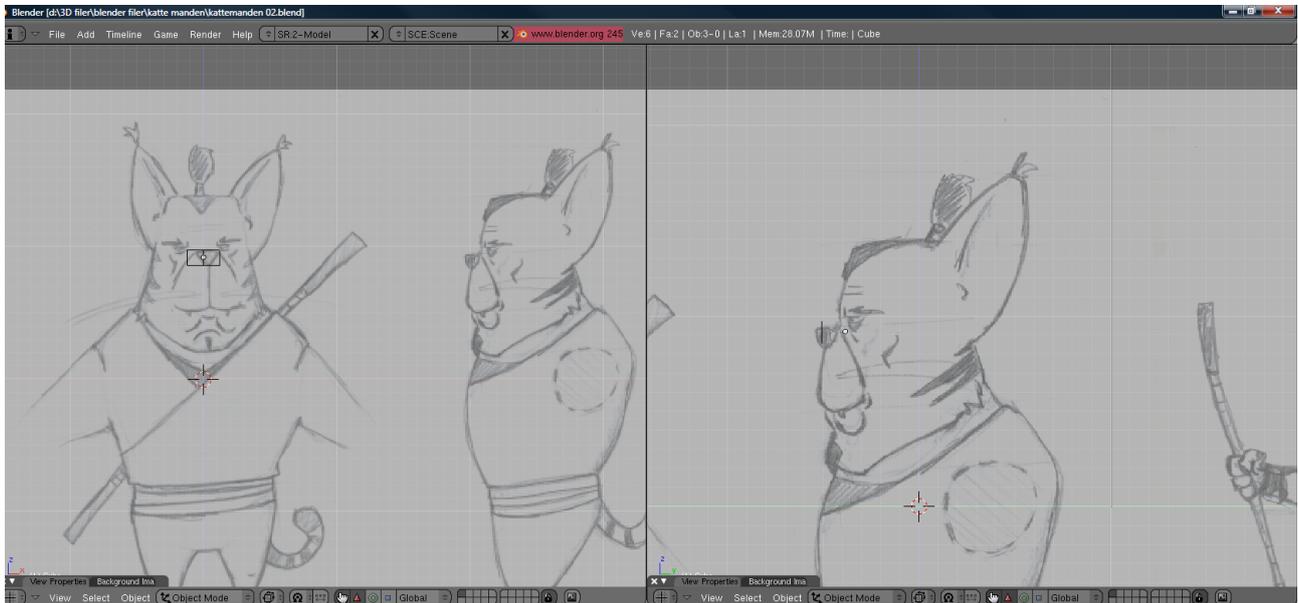
Now I had no plans about animating this character, but I do want to pose him later on, so instead of modelling his body I only modelled his clothing, since that would make posing a lot easier. So let's get on to the modelling part.

A few things to think about when modelling don't be afraid to step a bit away from your concept. Think about your edge loops, use them to support you shapes, and this is the most important, don't think too much about whether they form a spiral instead of a circle, as long as they support and builds the shape you wants. Avoid triangles when ever possible, and point were too many edges meet, like this point

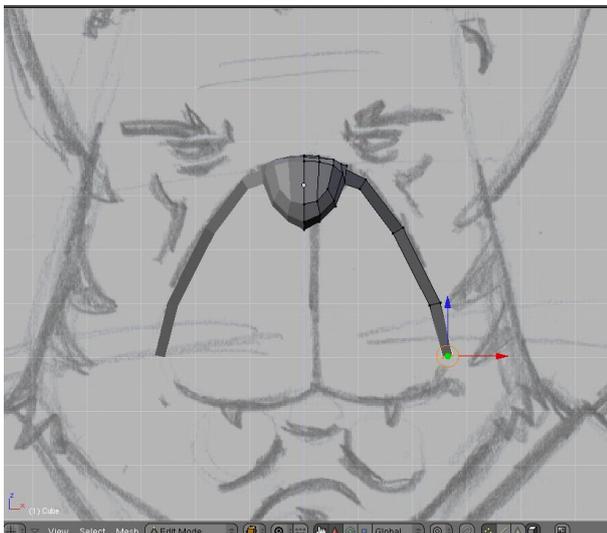
Also to many polygons can be a real pain in the ass, so try to keep you number of polygons as low as possible. A very good advice when ever you start on something new, look at other peoples work, see how they do it, and learn from it.



Well enough talking let's get some picture, from the process.

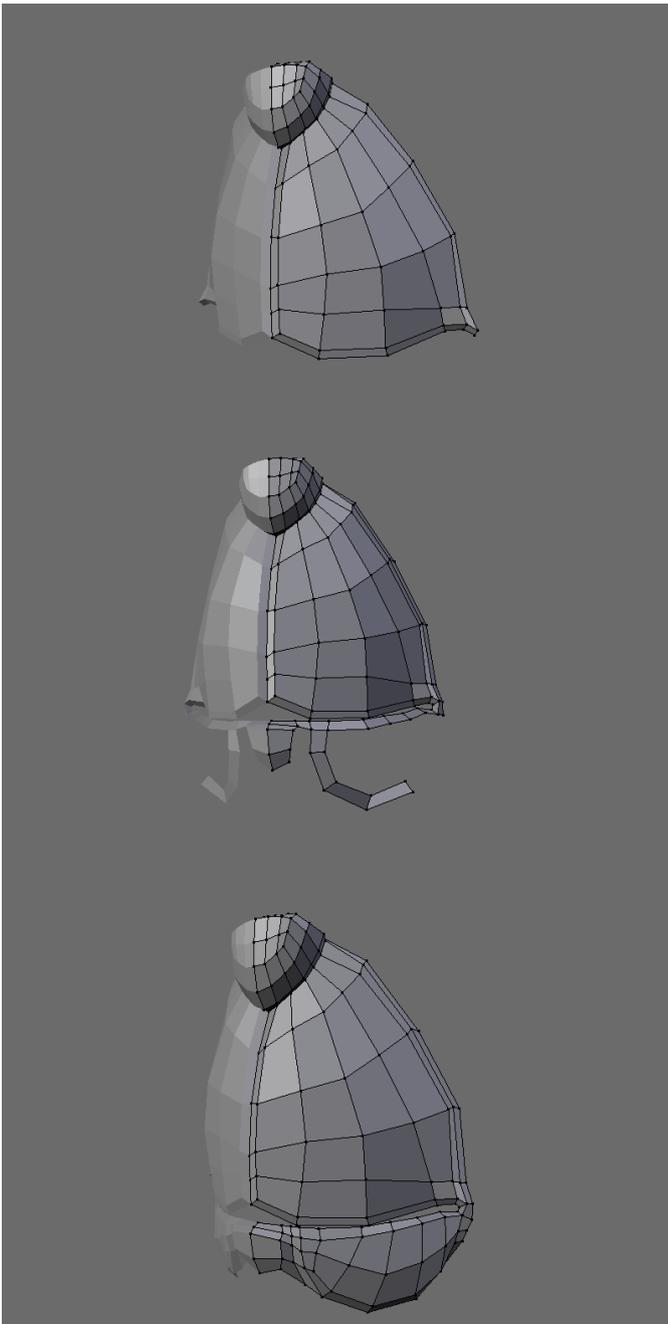


I start with a plane with a mirror modifier, and my concept as a background.



I then start to extrude along some of the lines, to get the shapes right.

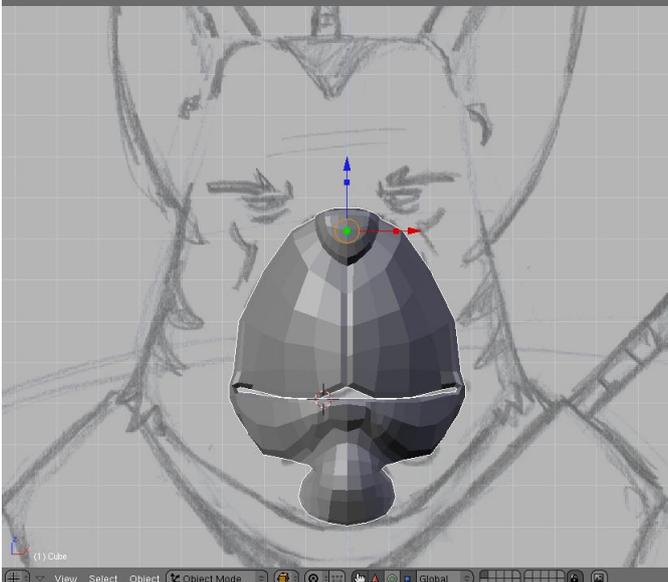




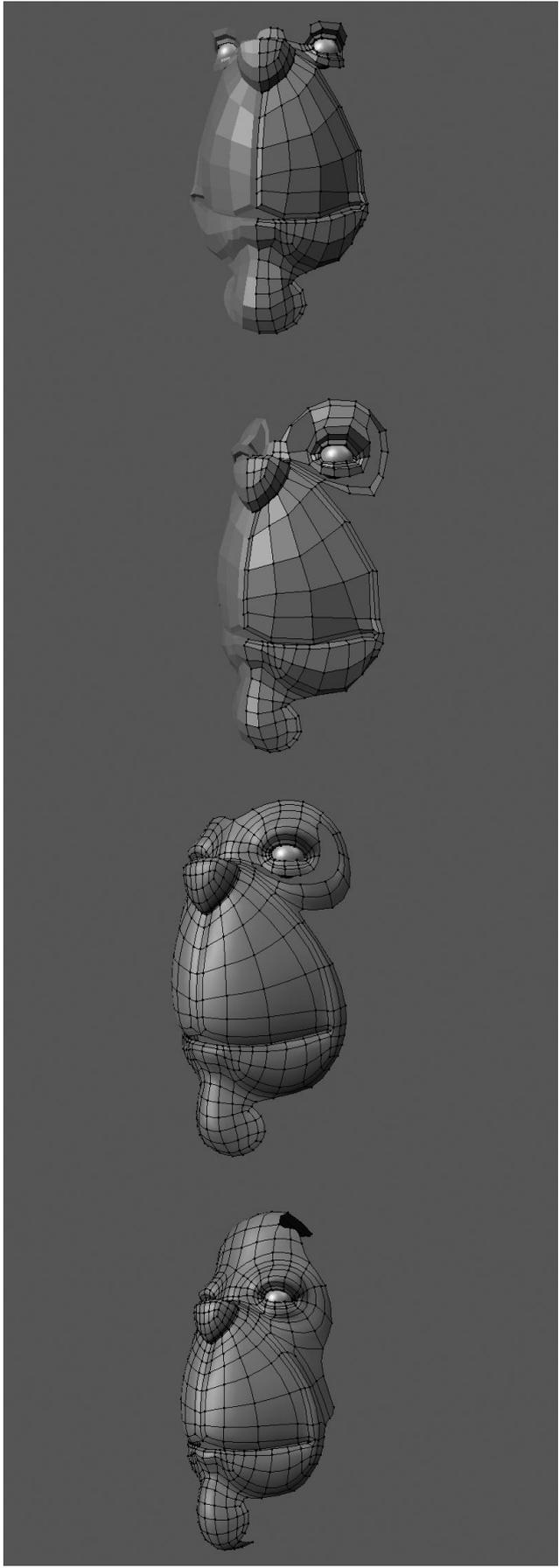
I continue to extrude along the lines, and I start to fill out the holes, I keep an eye on my concept and try to stick to it.

You can see how I make sure my loops supports the shapes that I want, and really make them clear without using too many polygons.

So the mouth part is almost done.



I add the last bit to the mouth part, and have a look at how it looks, what I got sticks fine to my concept, and my loops seams fine. A great tip would be to fix any problem you might find as fast as possible, instead of leaving them, because then they are very likely to cause problems later on in other parts of your mesh.

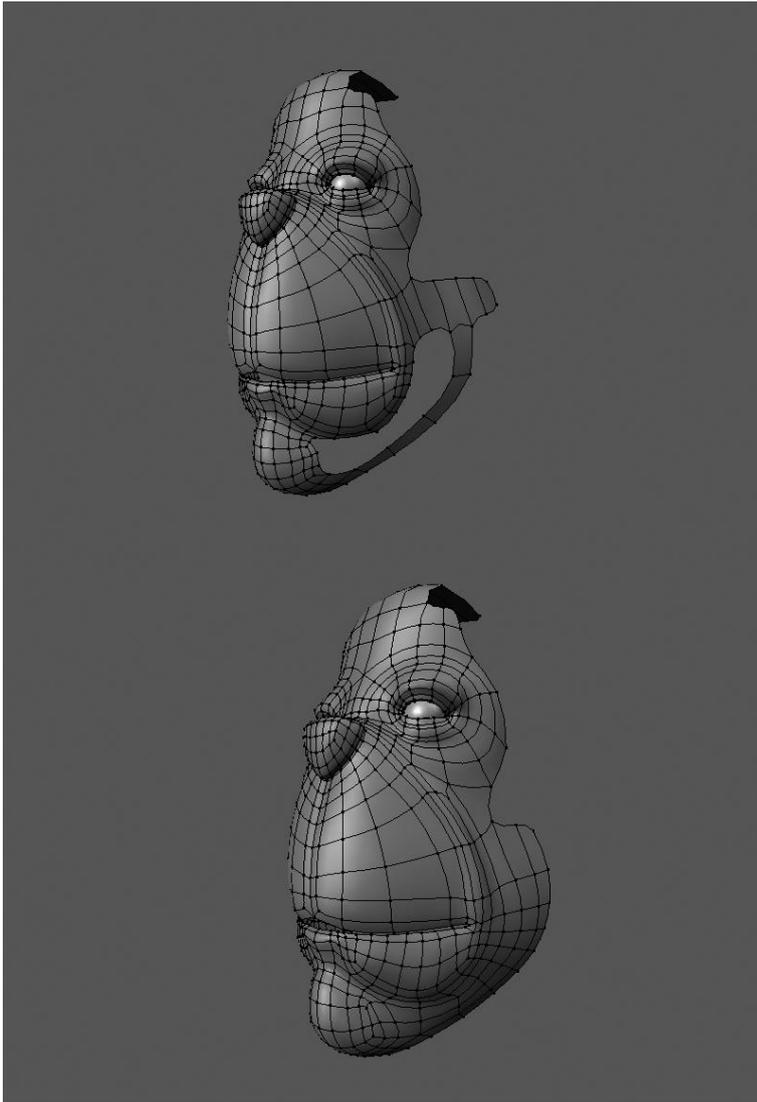


So time to add the eyes, I do this by adding a pair of circles and then extruding bigger circles from them to form the eyelids, also I add the eyeballs to make everything fit.

I start to form the eyebrows; again I make sure my loops support my shapes.

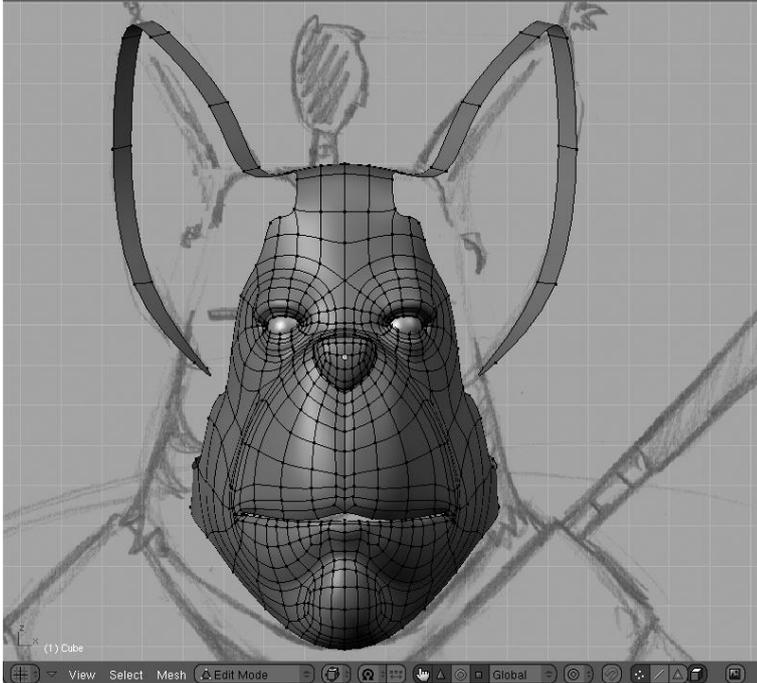
I add a subsurface modifier, and start to create the final loops around the eyes; I also have to add more loops in the part just under the nose, to get the right amount of polygons.

I extrude to form the upper parts of the head.

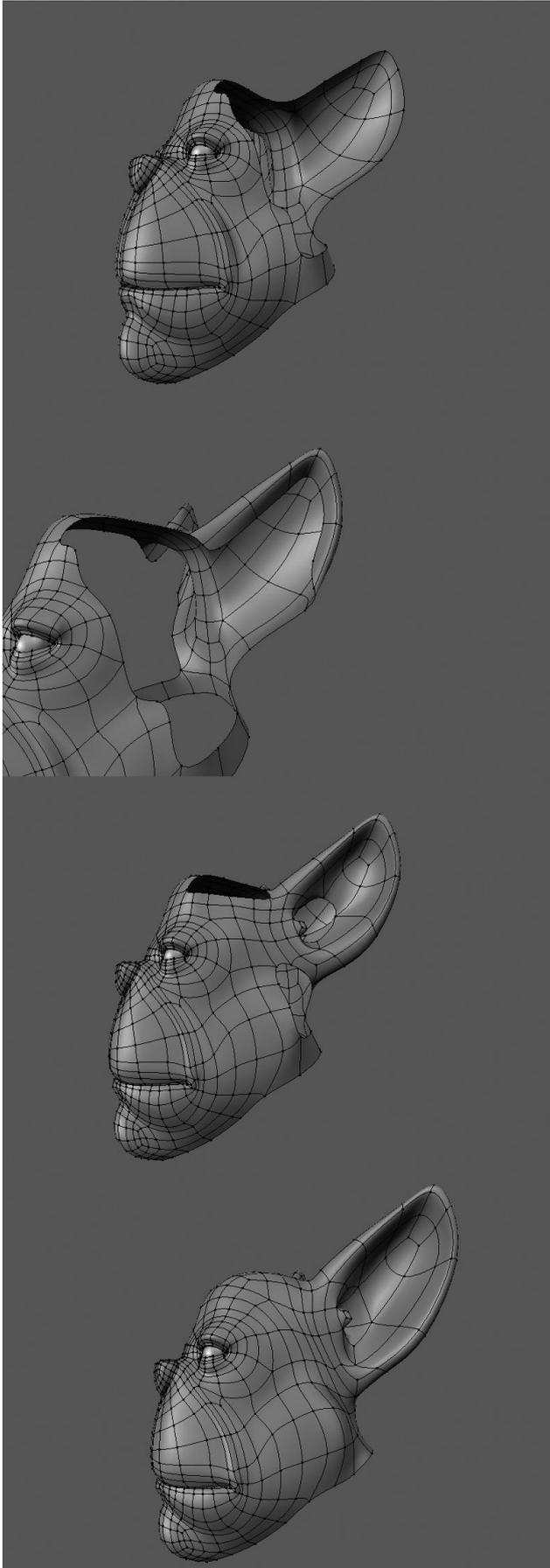


Continues to fill the holes, and follow my shapes.

I delete an edge loop at the chin to reduce my total number of polygons, and avoid weird shapes and folds.



I extrude the outline of the ears, and make a loop which goes around the neck.

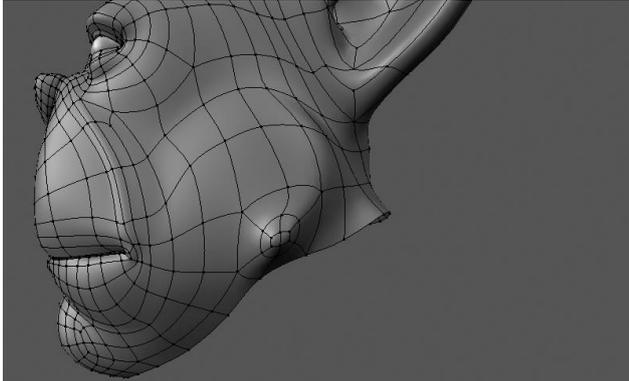


Now I get started on the ears, and the back of the head. To form the back of the head I extrude the part from the forehead along the lines on my concept. Then I connected the outline of the ears, and then started filling out the hole on the back of the ear.

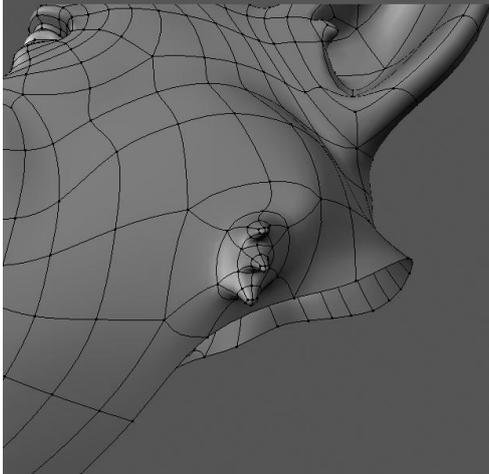
I extrude some of the ear outline.

Then I start to fill the hole, and give it the right ear shape.

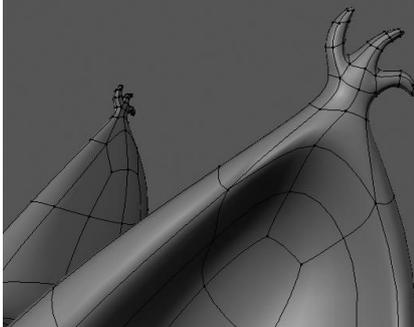
Now with the ears in place I fill the hole in the head, I had to add a few extra loops down along the ears and cheeks to get the amount of polygons needed to fill the holes without getting any triangles.



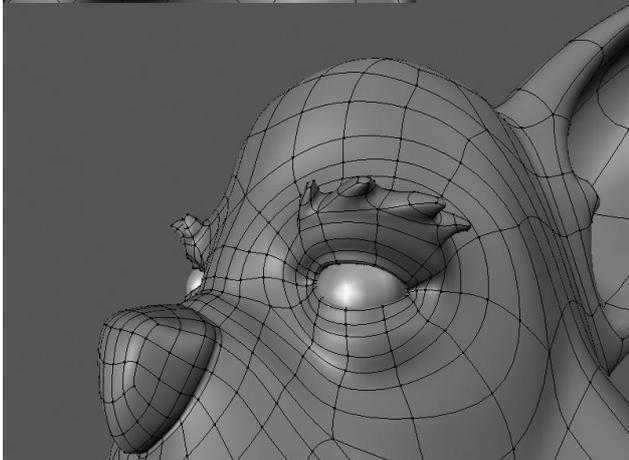
Now the head is almost done, just need to add some details. I start off by extruding two polygons.



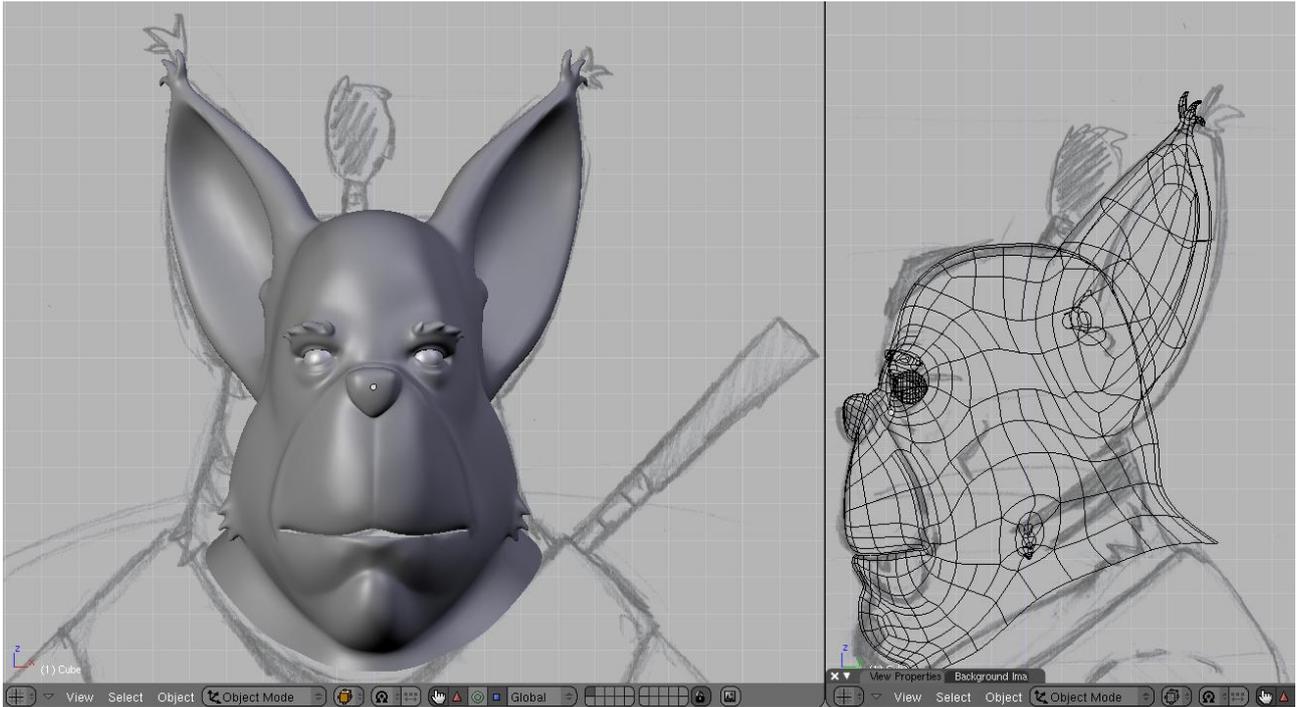
Then I extrude from the newly formed polygons, to get the wanted effect.



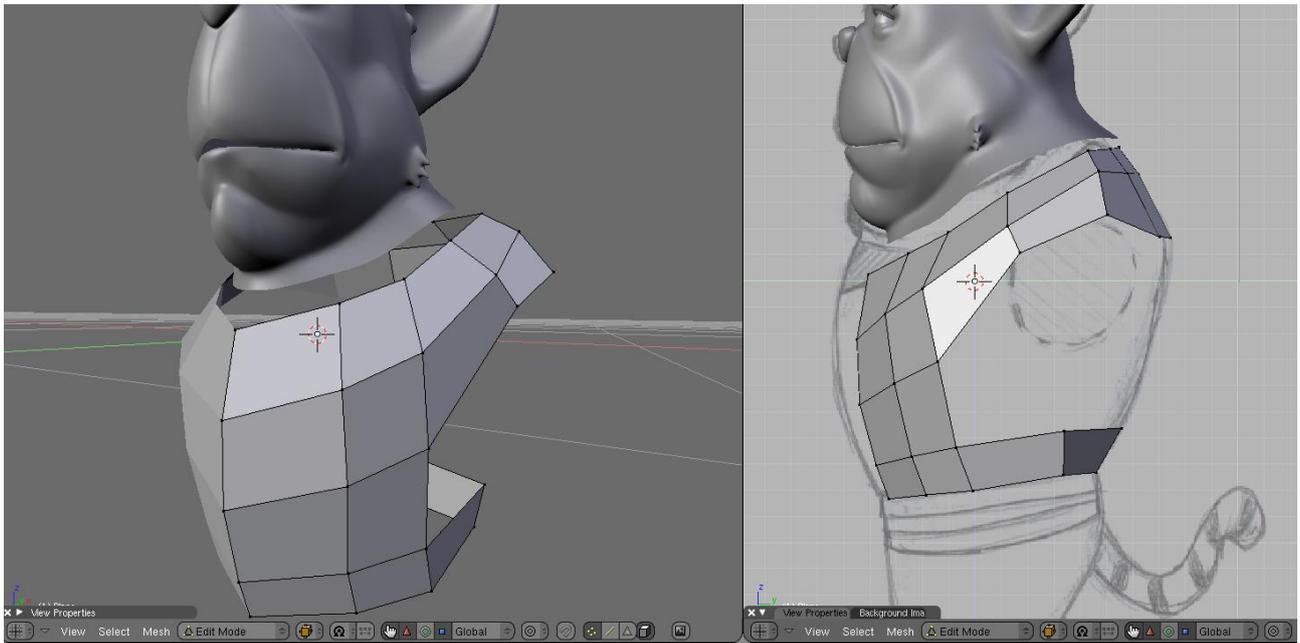
Here I just copied the fur things, from the cheeks, and connected them to the ears.



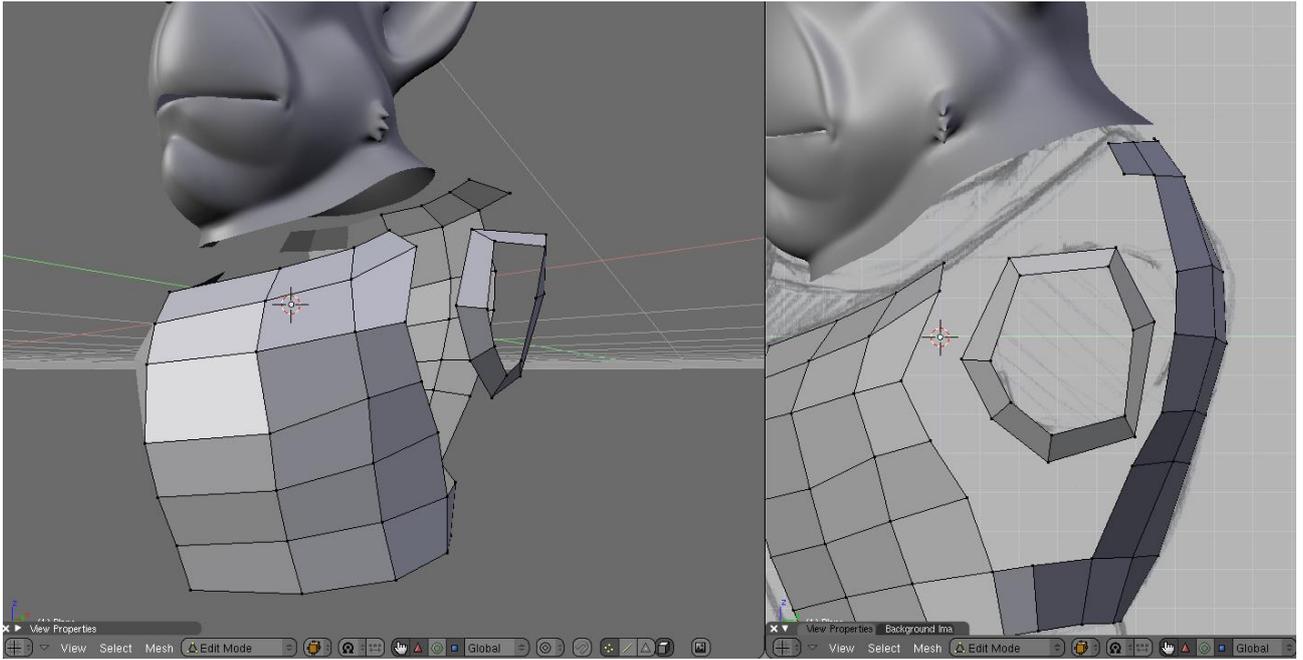
Now I only need the eyebrows, I use the same technique as with the cheek fur.



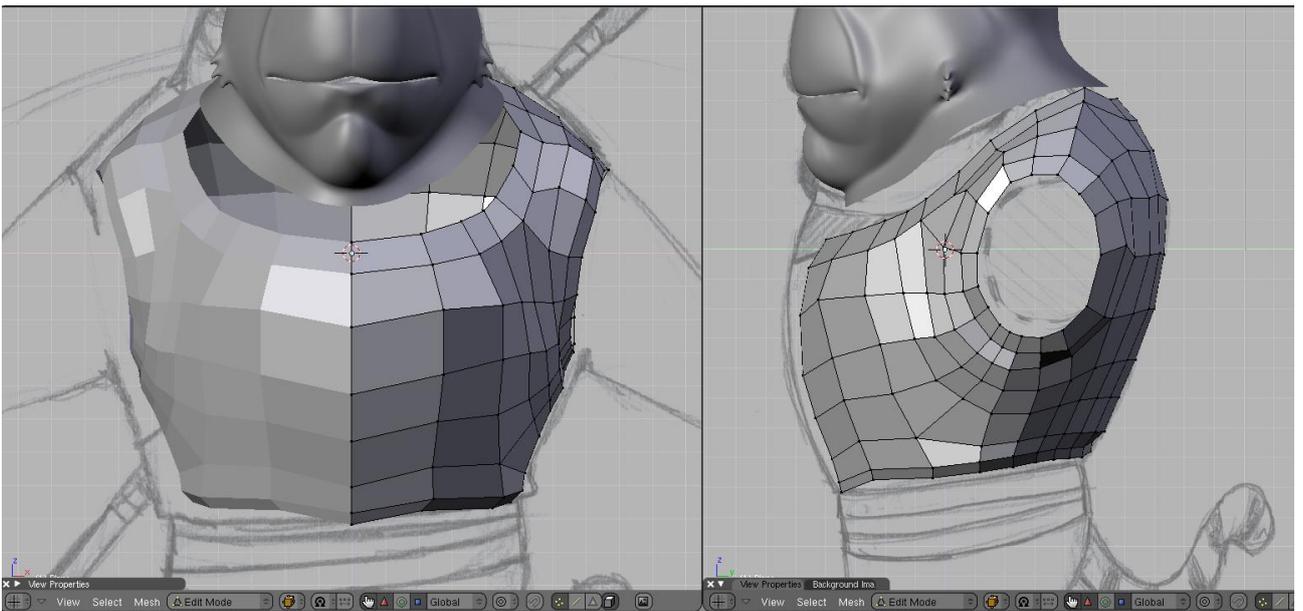
So for now I am done with the head, let's get on to his clothing.



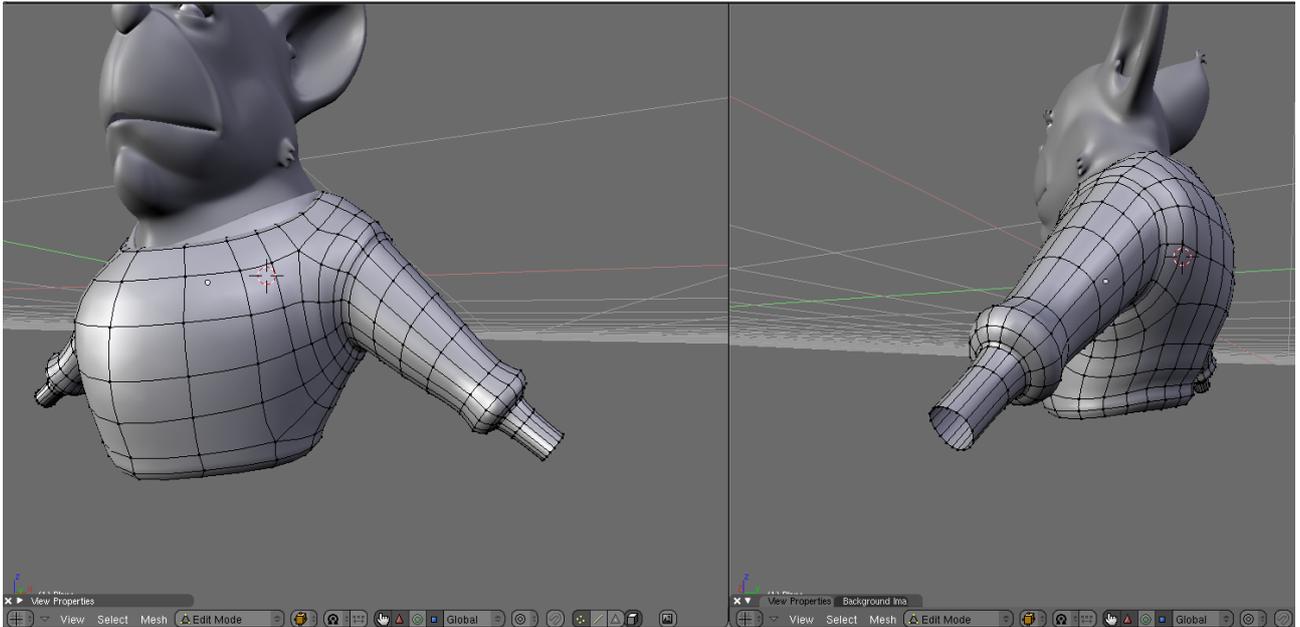
I start off by forming the basic outline of the upper part, try to put your loops where they will help you form folds the right places.



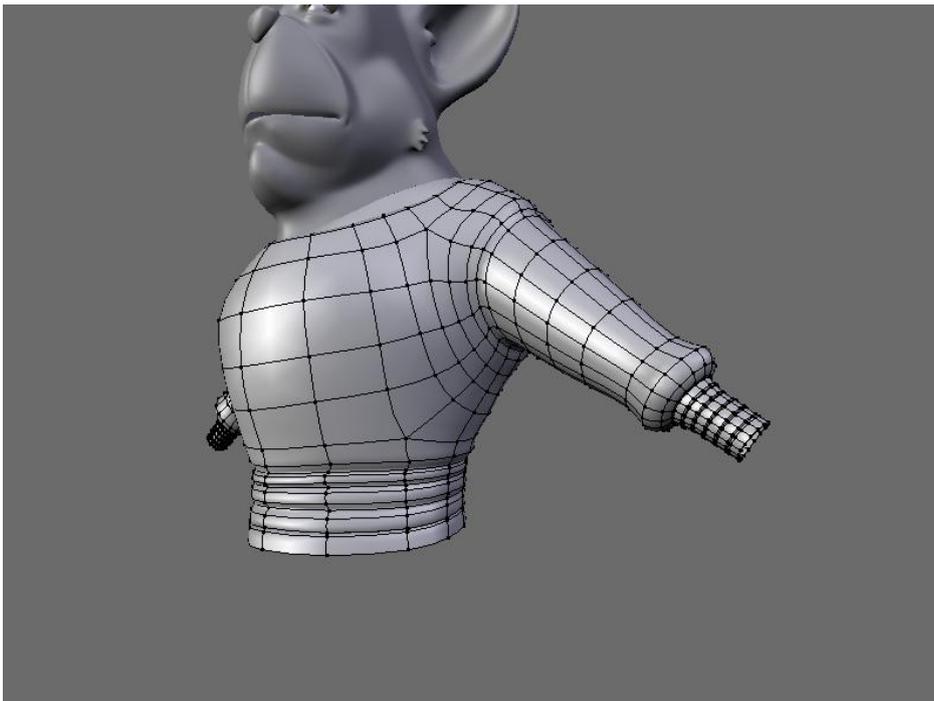
I delete and create new loops to get the right shape.



Fill out the holes, and all that is left to do, is to extrude the arms.



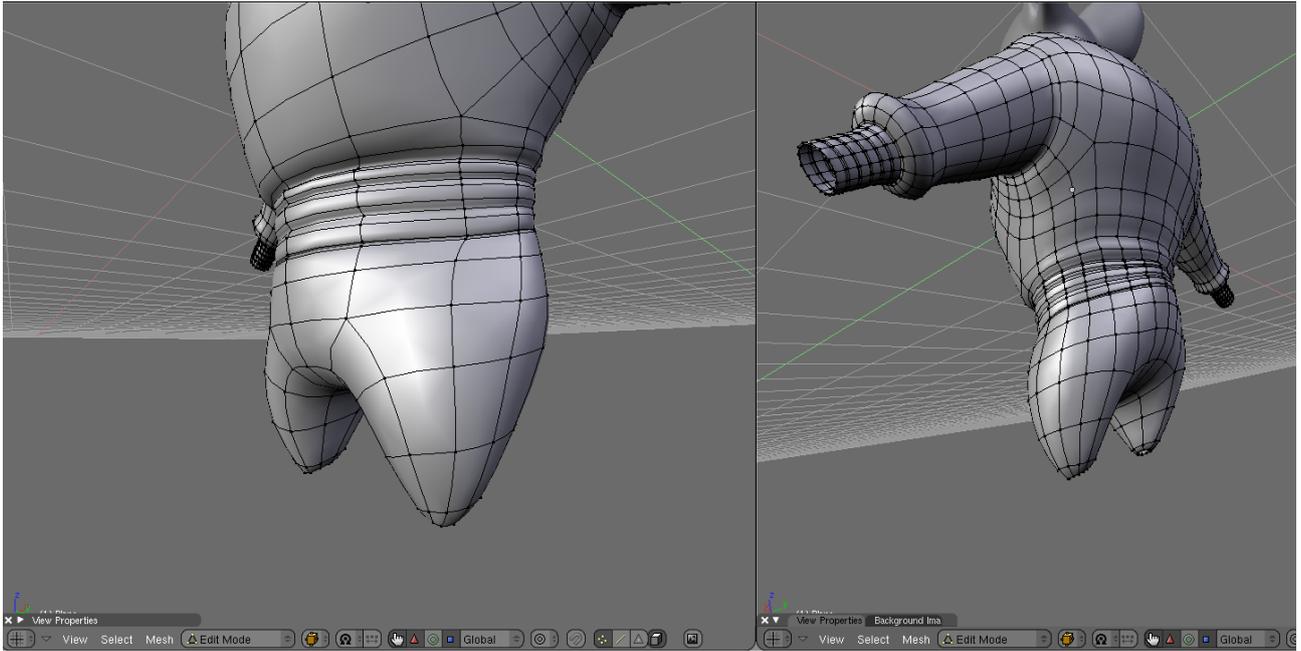
So now it is time to add the final detail to the arms.



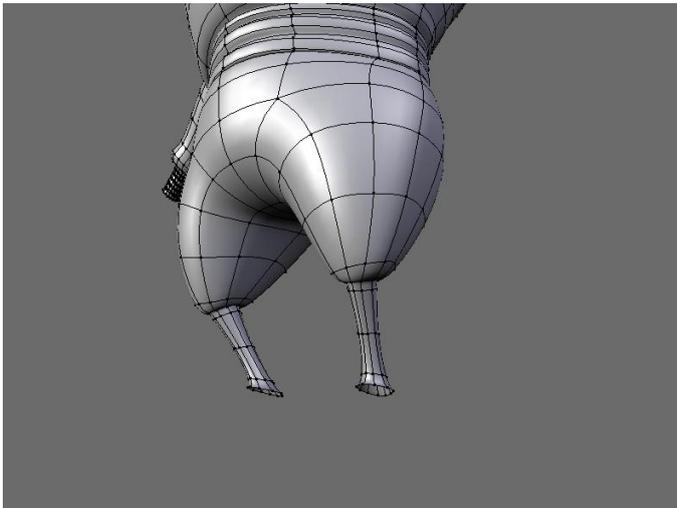
To create those folds, I very simply add some more loops, and then extrude by scaling so they become just a tiny bit bigger, and there by gives the right effect.

Also I decided to do the whole suit in one mesh, since that would make rigging and posing a whole lot easier.

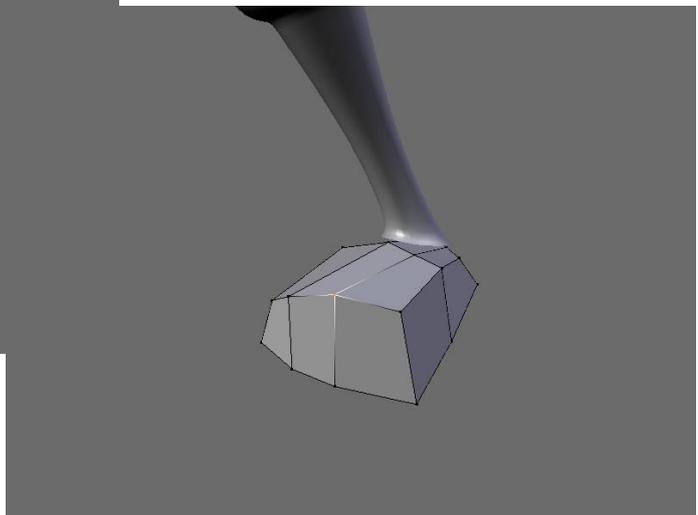
And now, on to the legs...



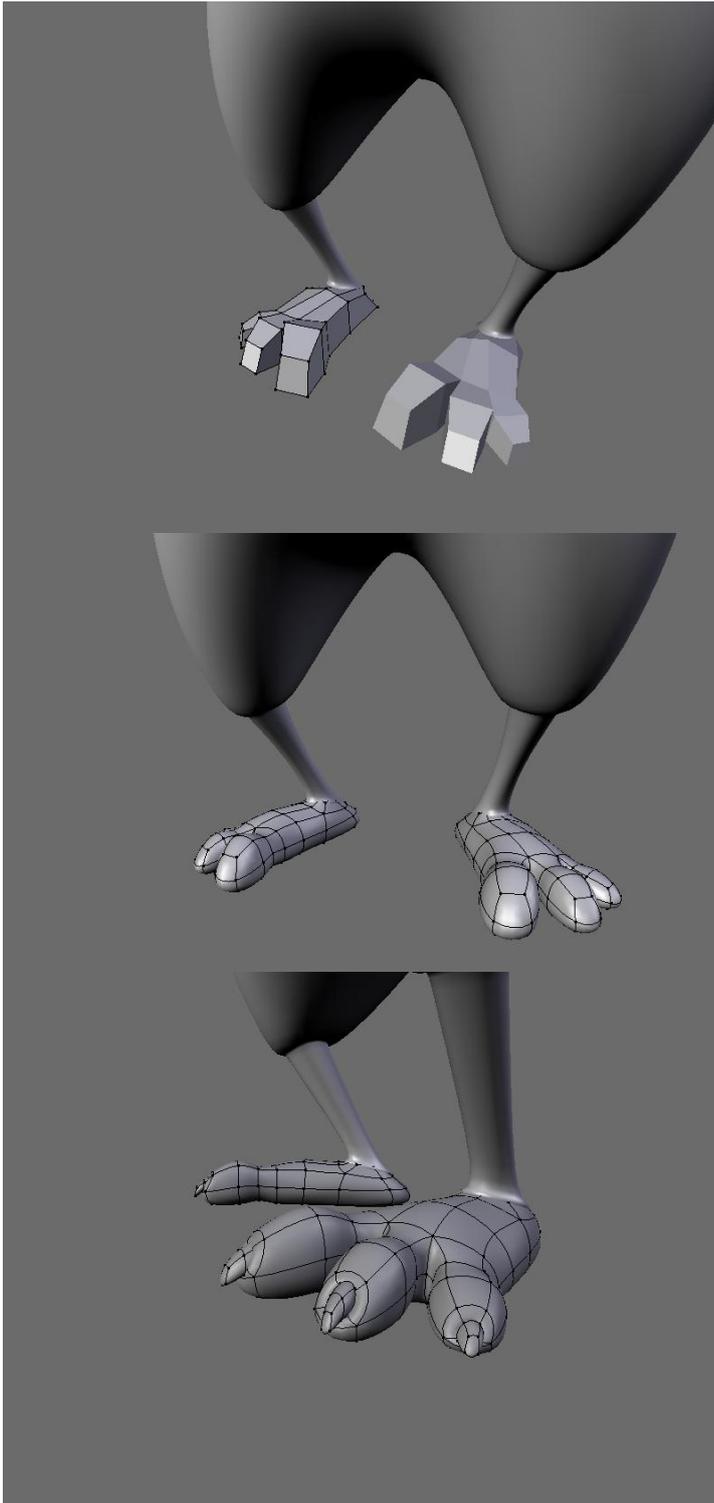
Much the same progress as in all the other images, I take an edge and extrude the outline, and then starts to fill the holes.



So I add the last part of the pants, later I will add the details. But now it is time to add the feet.



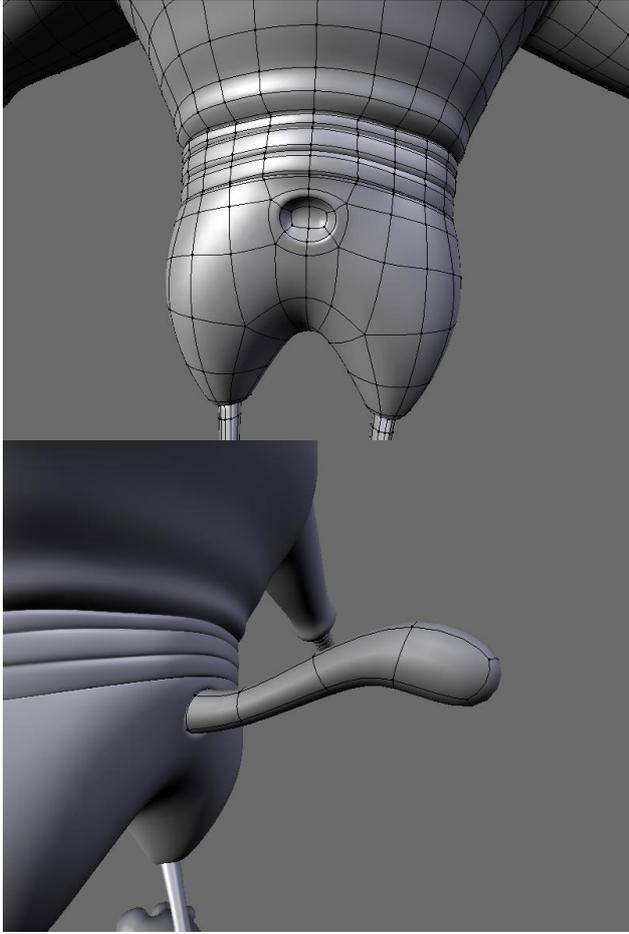
I simply add a box, ad a few loops and start to shape it, and make sure that I will have the right number of polygons in the front to form the toes.



So the toes are added, and the most basic shape seems right.

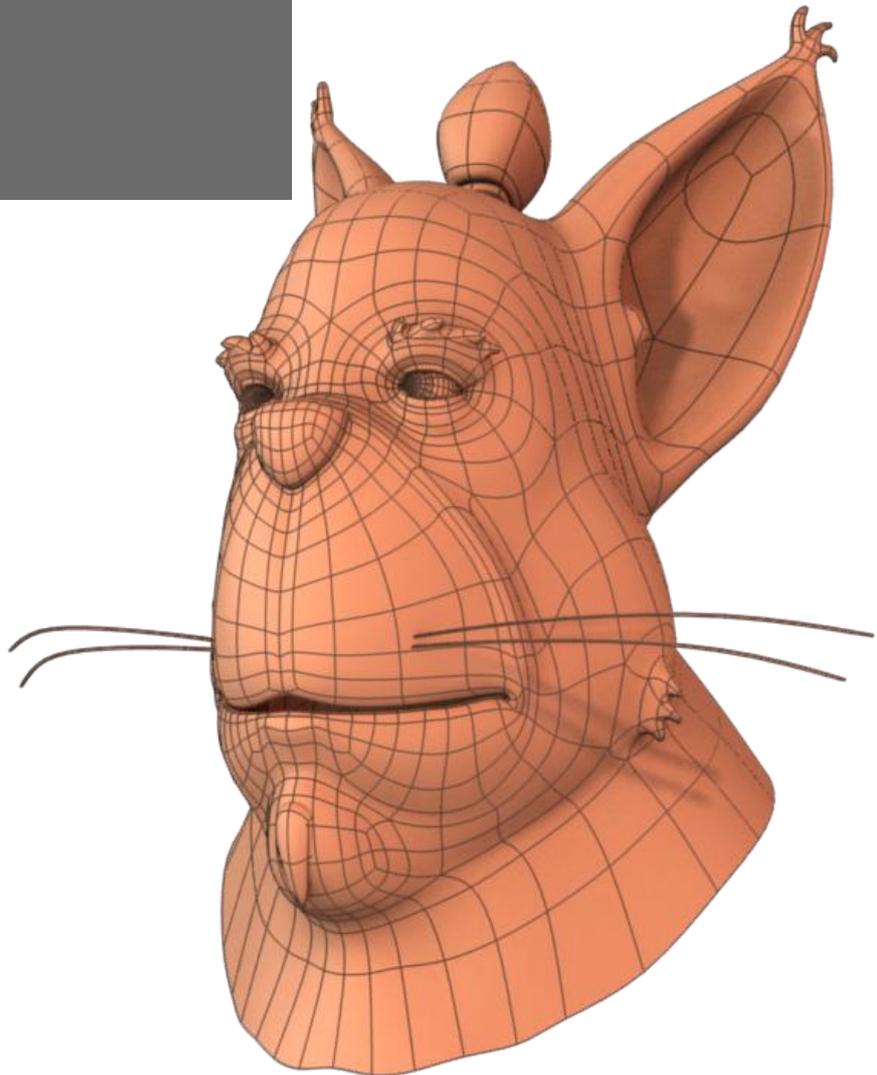
So I add a subsurface modifier and add an extra loop around the foot and toes. Also I extrude a part up in the pants.

I add some sharp claws by extruding the faces at the top of the toes. I then add on loop around them so I can bend them a bit downwards.

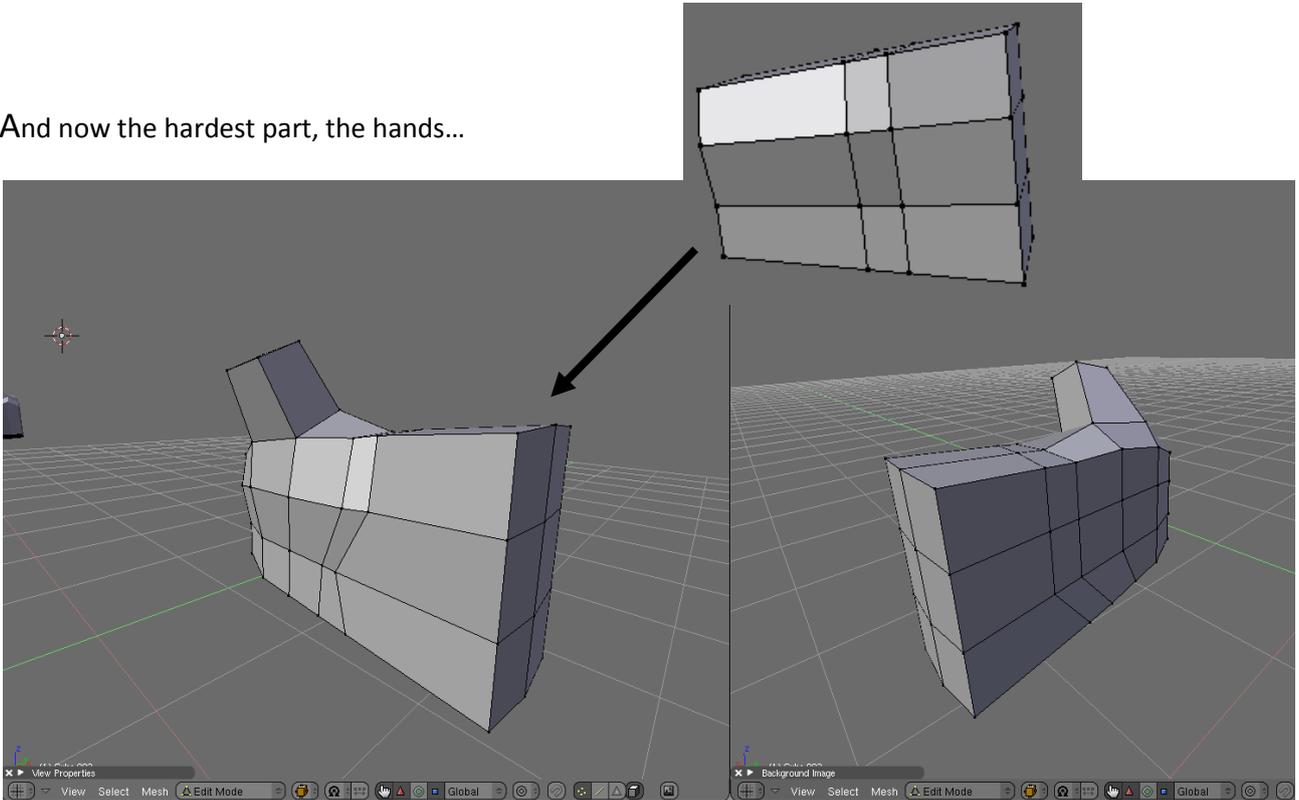


Time to add the tail; I make a hole in the pants.

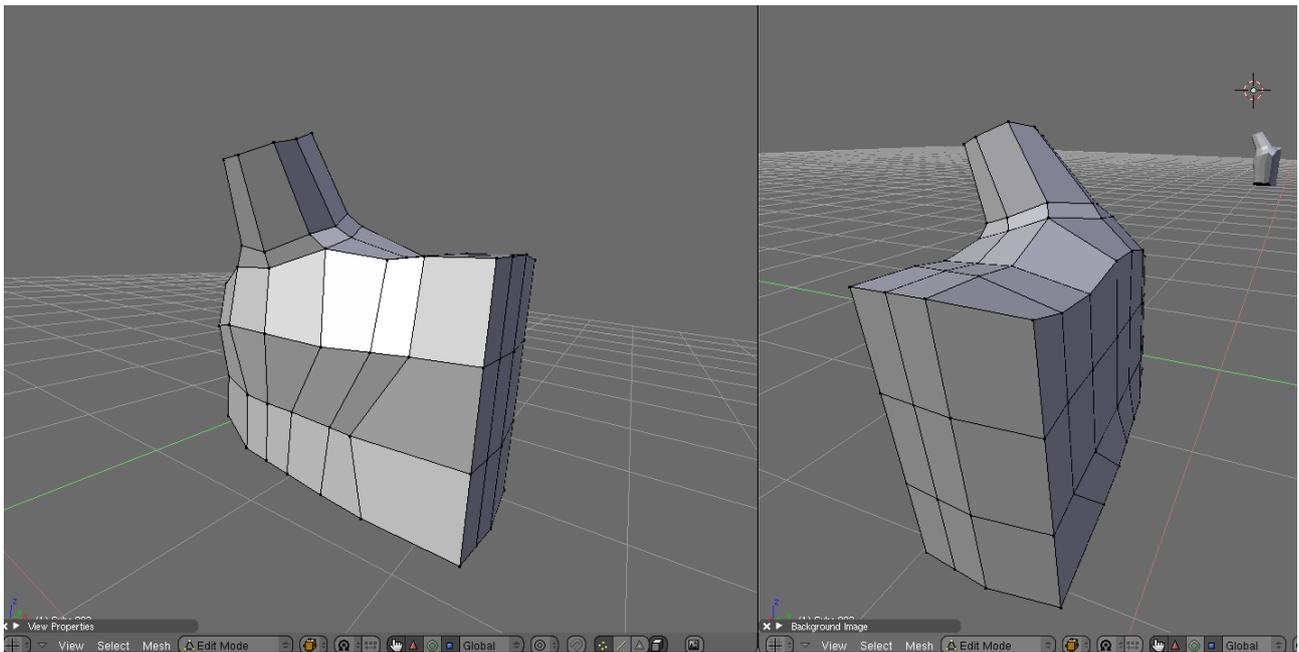
And add the tail.



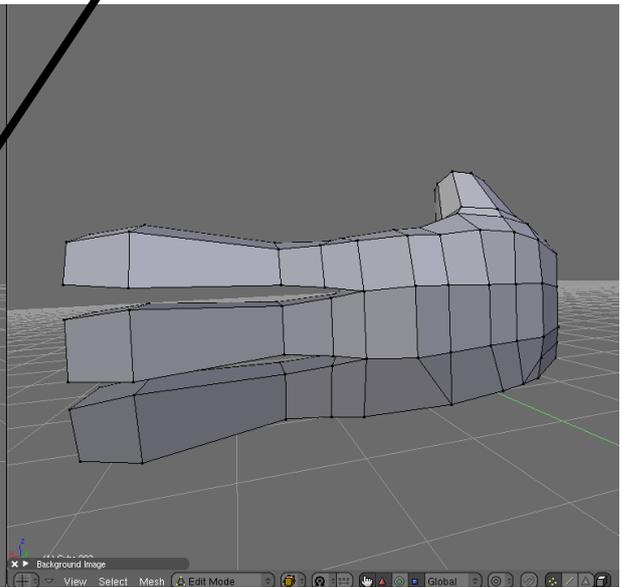
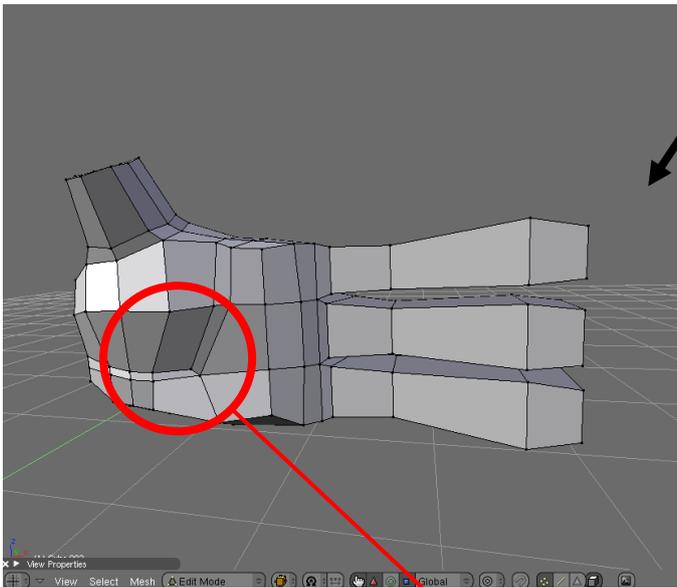
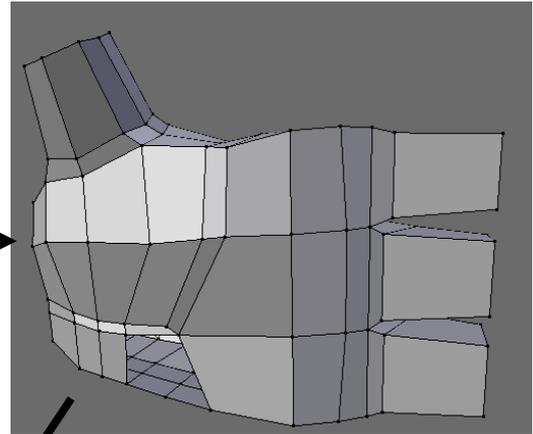
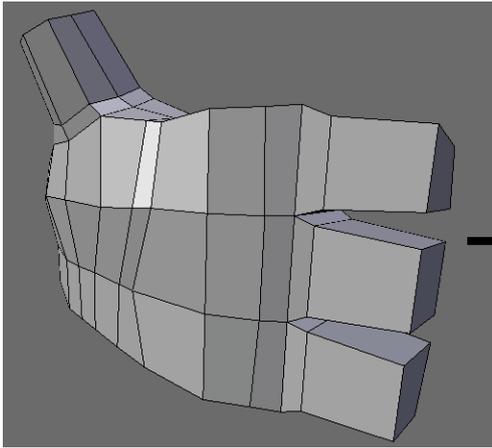
And now the hardest part, the hands...



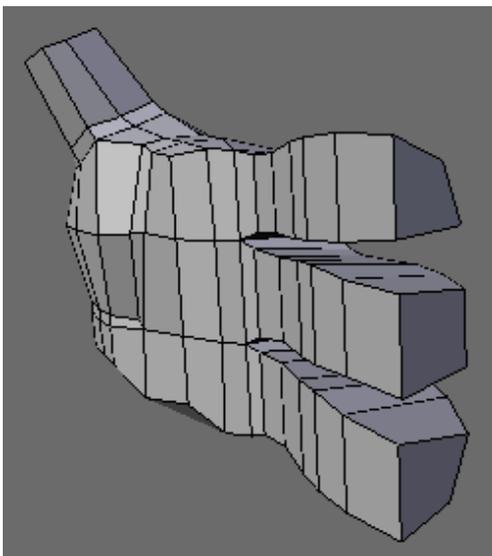
I start off by adding a box; I then divide it as shown in the images, and then extrude the thumb, as shown.



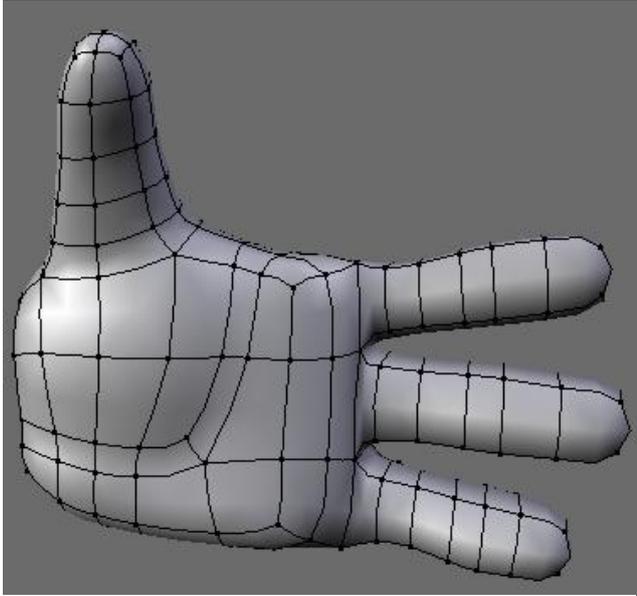
Then I add a few more loops and starts to put it into the right shape, the hand is in my opinion the hardest part to make, and my advise would be to always look at your own hands, and try to imagine how the loops would be put in 3D.



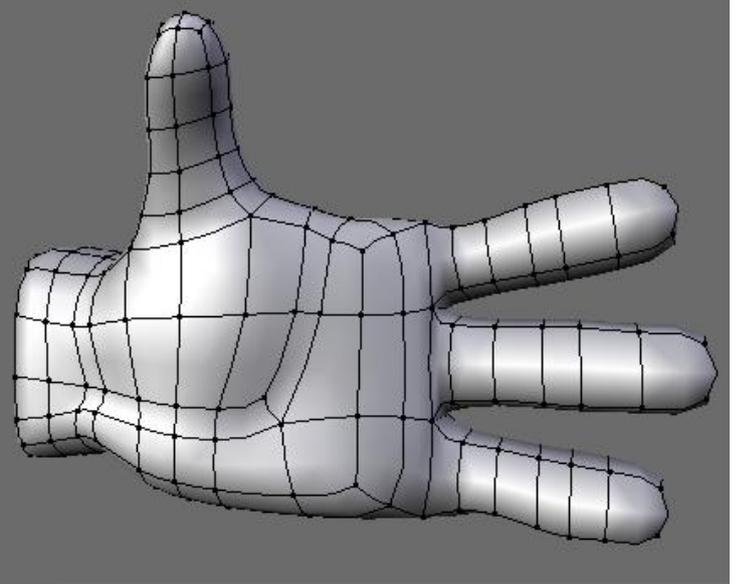
I then add the fingers and edit my loop here. This causes some triangles at the back of the hand; these will be taken care of later.



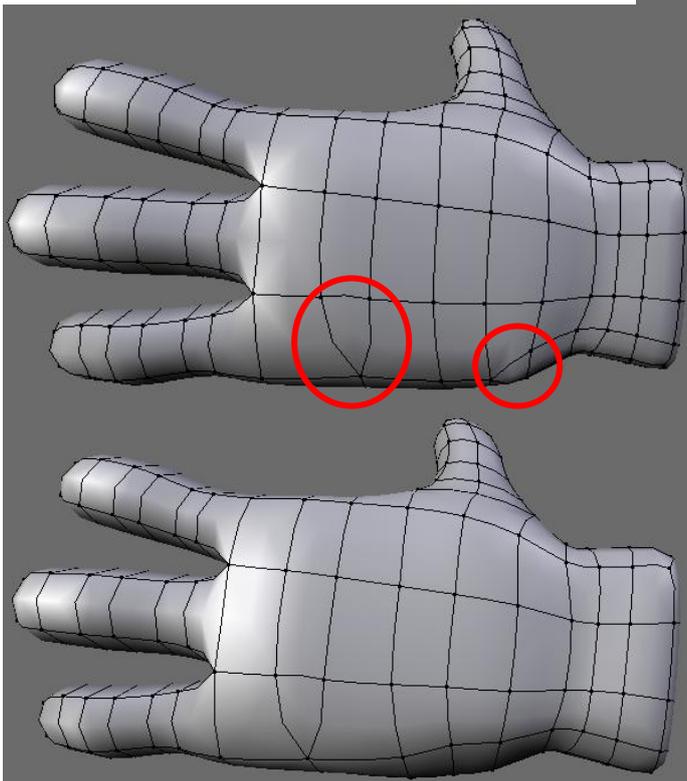
I then add some loops on the fingers and start to shape them.



Time to add a subsurface modifier, to see how things look.

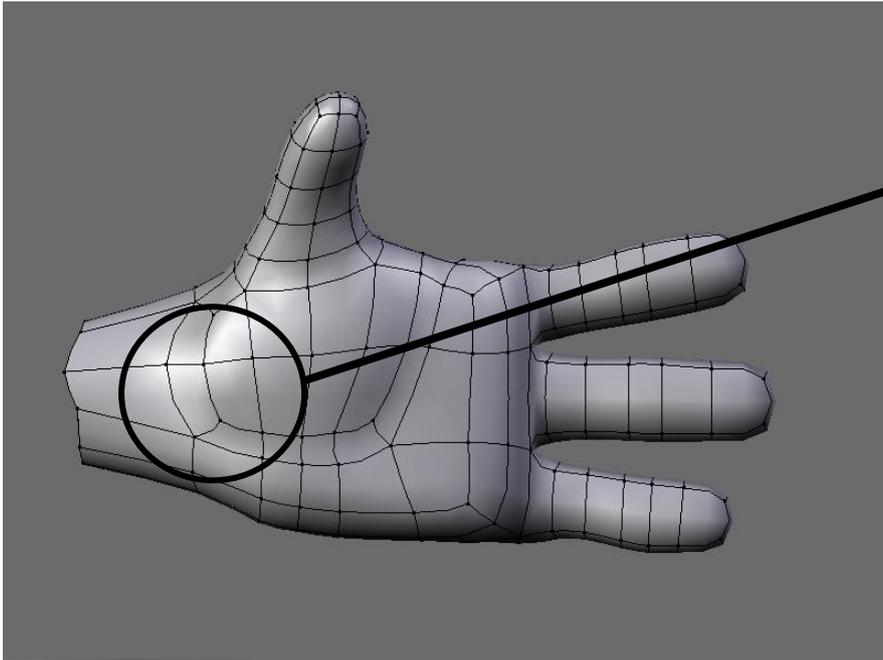


I then extrude downwards to form the arm.

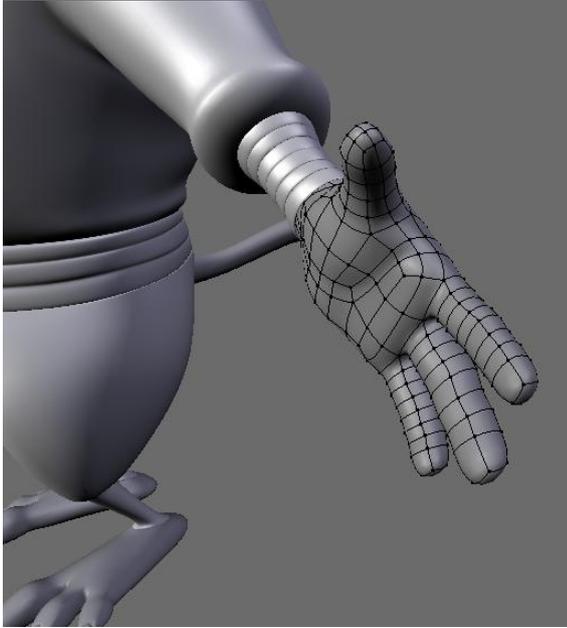


Now I need to get rid of some of those triangles, I might not be able to get rid of them both, but the big one, might not cause any problems, so for now I'll just leave it.

The little one was very easy to get rid off, I just had to delete a single loop, so now it is time to add some more details to the hand.

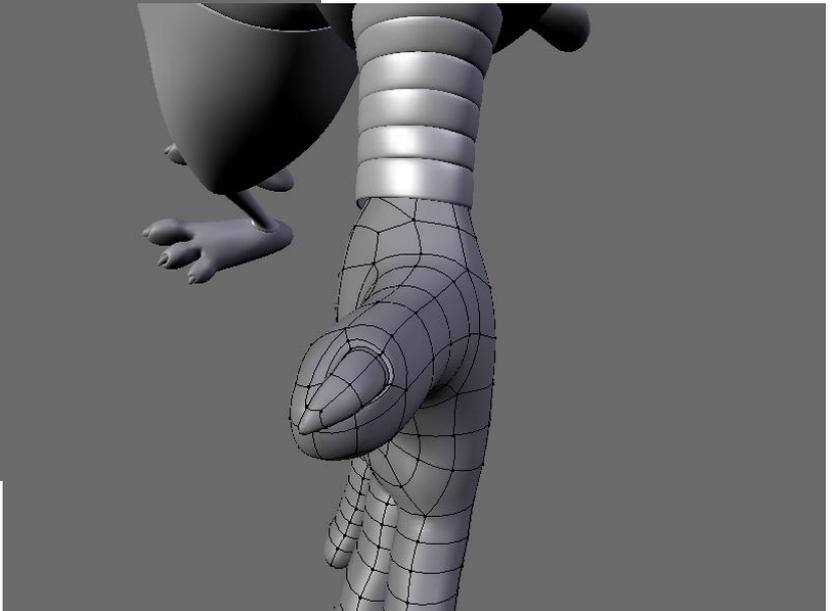


When I tried to fit the arm to his sleeve I realized that I need to add a loop here.

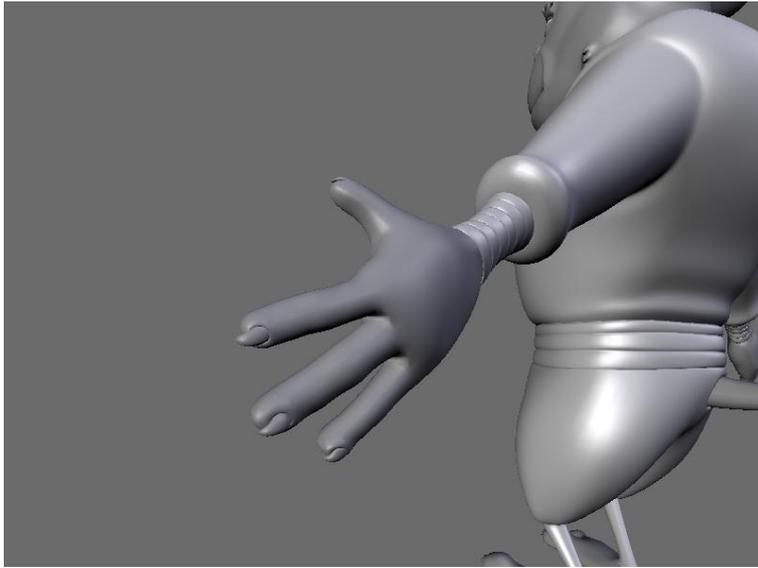


I now start to really add the shape to the fingers.

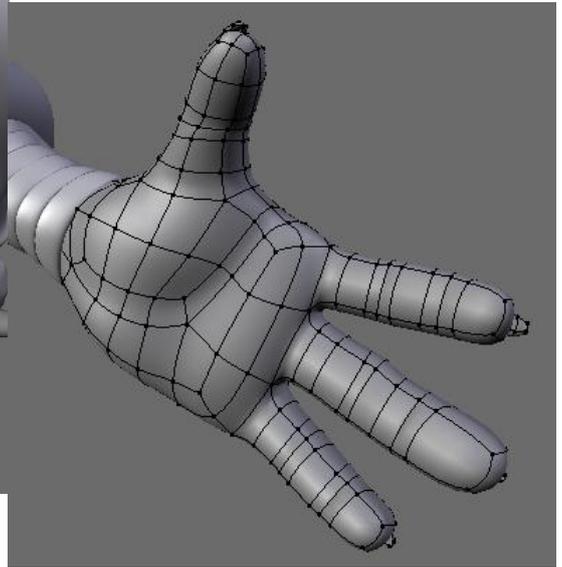
And then add hit claws.



I start off with his thump; basically this is done the same way as on his feet.

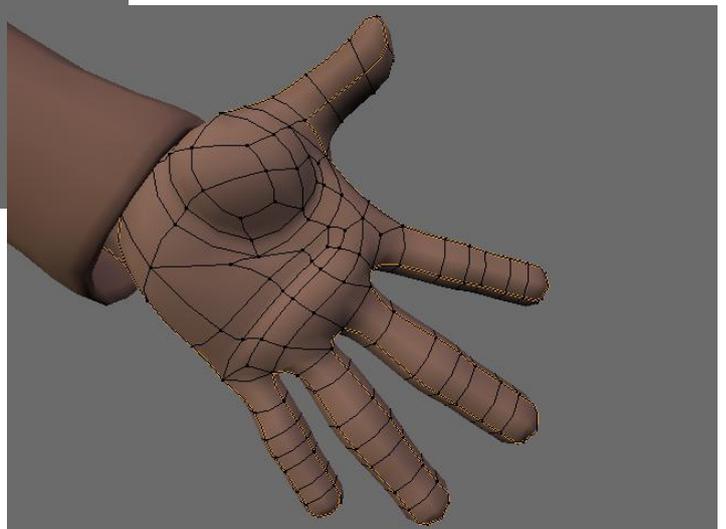
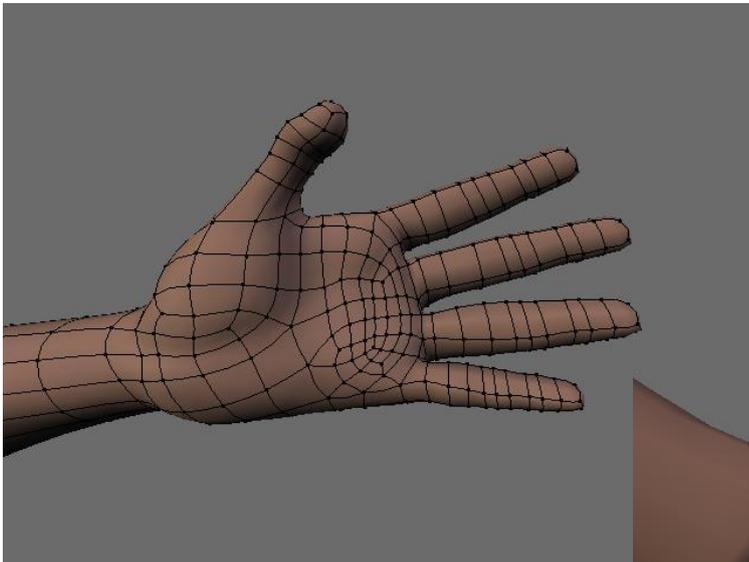


I add the claws to all of his fingers.

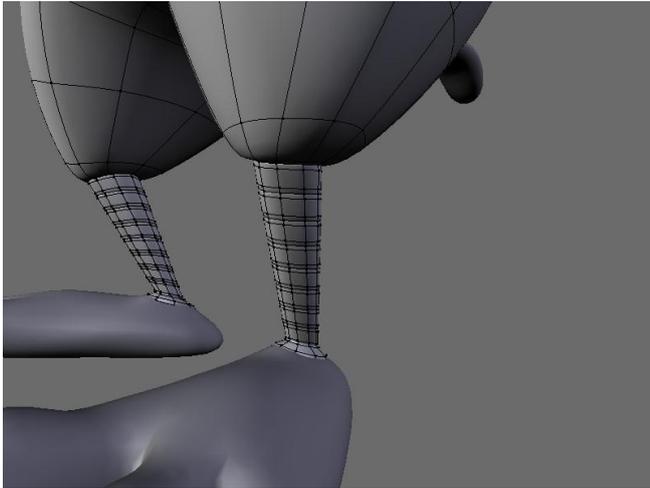


And then add the last wrinkles.

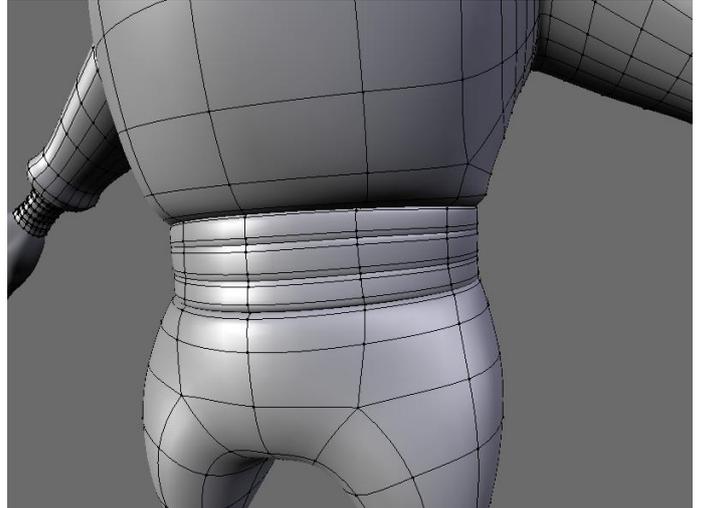
Here are some examples of other hands that I've made; they have more details than this one. But when doing a hand, it is really hard to do it the same way every time, because you properly have a different number of polygons coming from the arm.



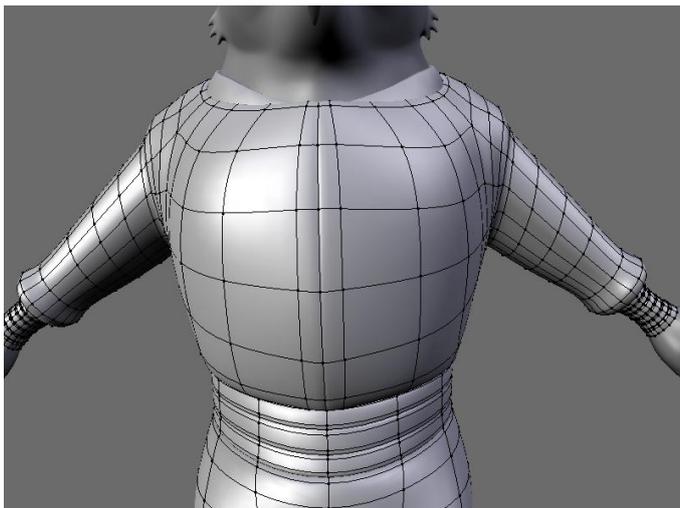
So now I just need the final details.



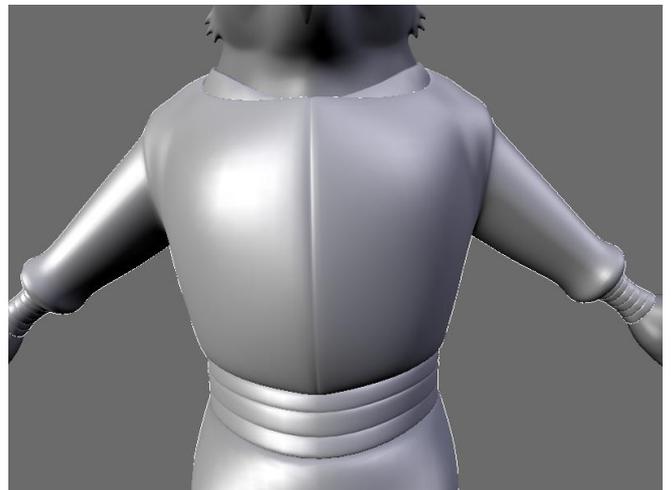
I added the details to the legs, just like on the arms.



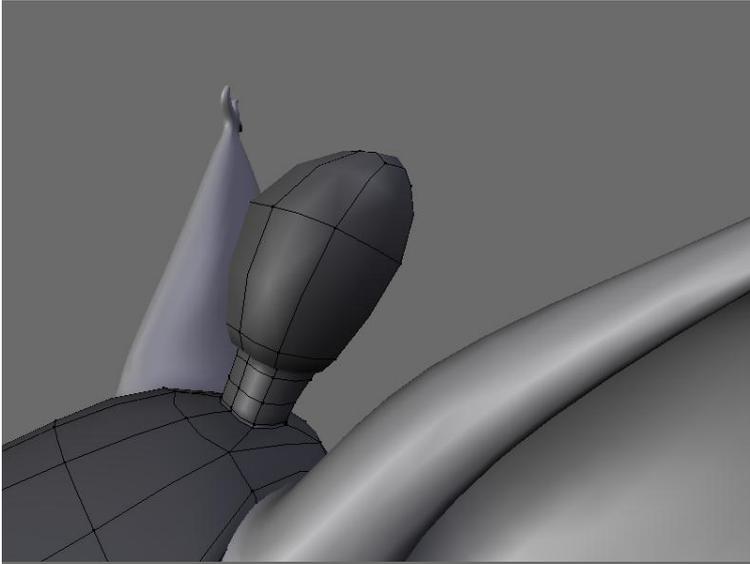
Fix this part



And I add this line down the chest, like were the suit would open. I do this by adding a loop on each side. Then I delete the part of the loop which goes all the way round, and leave only the part on the chest left.

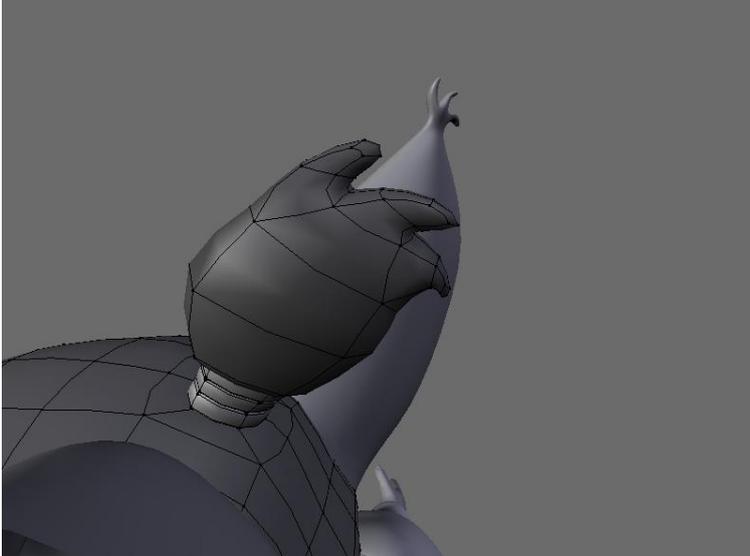


Now I need to add the hair, beard and the whiskers.

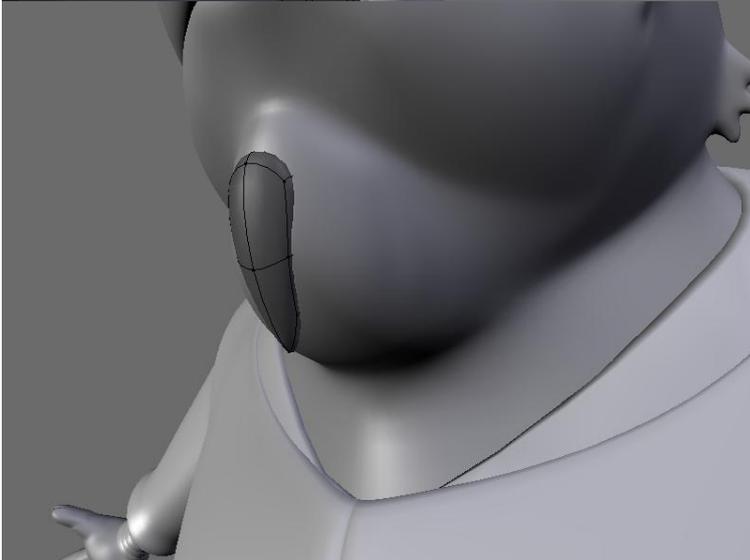


The original idea was to give him more hair than what he ended up with, but when it just didn't really look that good. So that's why I am not going through that part, I will only go through that lock of hair he got.

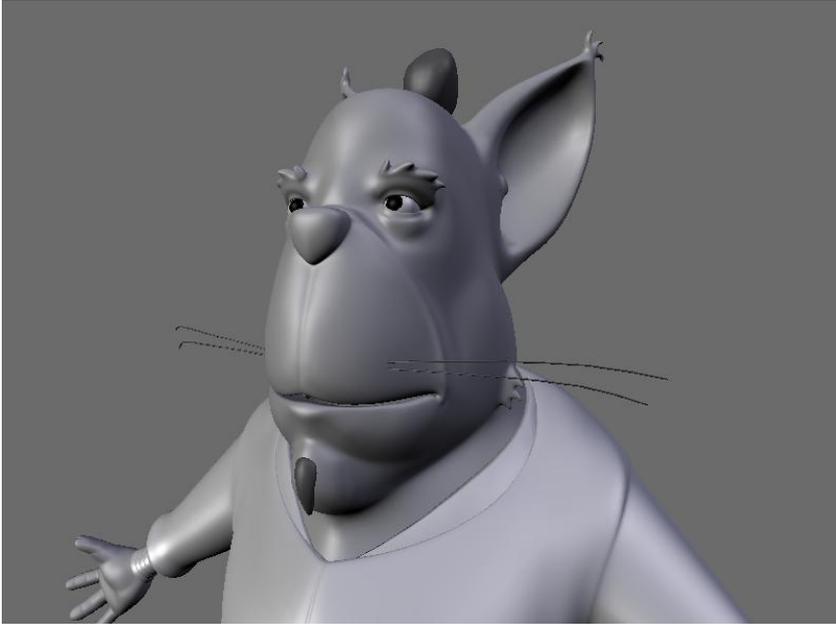
Just simply add a box add a loop don the middle, and extrude.



Then I use the same technique as with the other fur parts. And for that thing holding his hair together, I do as I did with his sleeves.



I then add his little beard, which is basically just an extruded box.



And then add some low-poly cylinders as the whiskers

I also added some bigger pupils.

For the posing I added a very fast rig. And I added his stick, which is basically a deformed cylinder.

But well that's it. That was how I made this Cat-man-bat like thingy I hope you might have learned something from reading this, and maybe gotten some ideas on how you want to create your next character.

If you maybe want to have a look at some of the other stuff I've made, take a look at my homepage www.frederikstorm.dk

