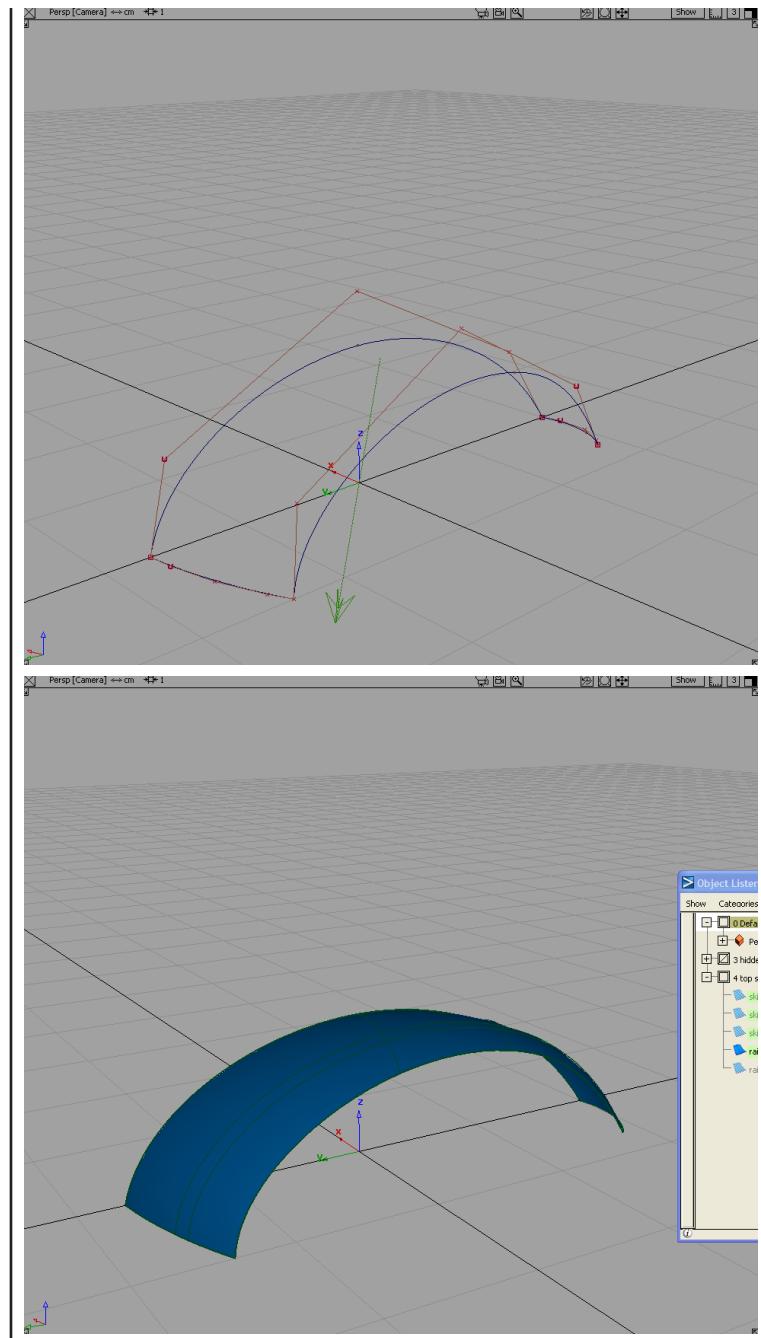


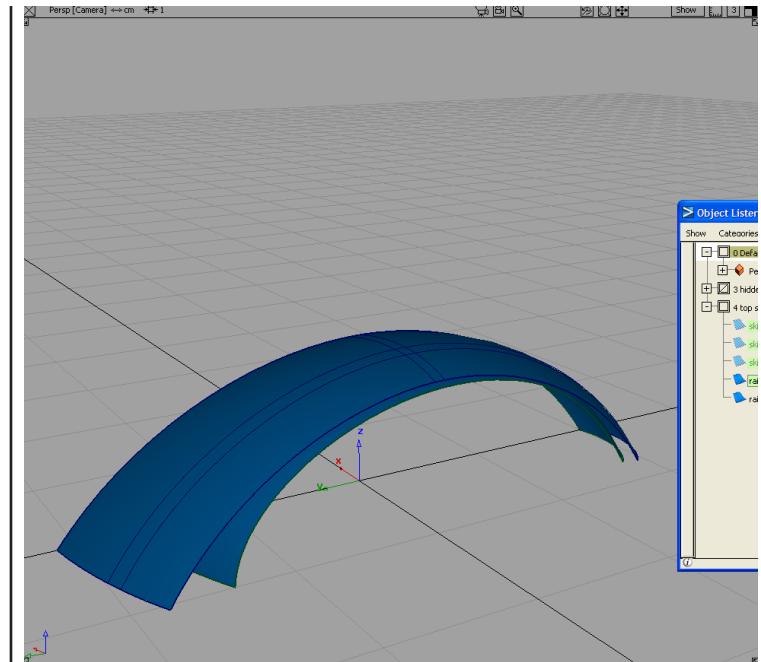


The model of this Microsoft Arc Mouse started with the Curve Tool. I drew two similar curves next to each other and connected them with curves at the front and the back of the model. The different curves would form the shape of the four sides of the model.

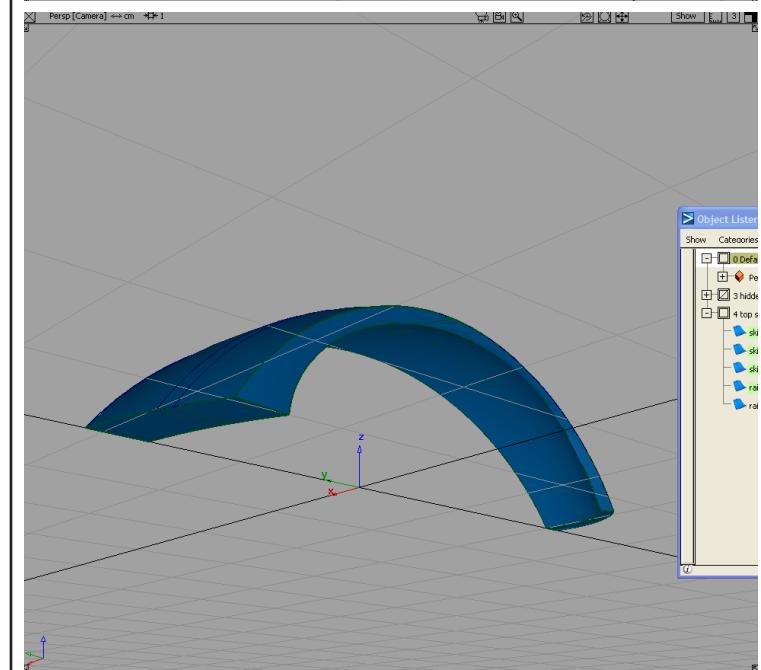
After the four curves had been drawn I use the BiRail\_II tool to complete the shape I was looking for.



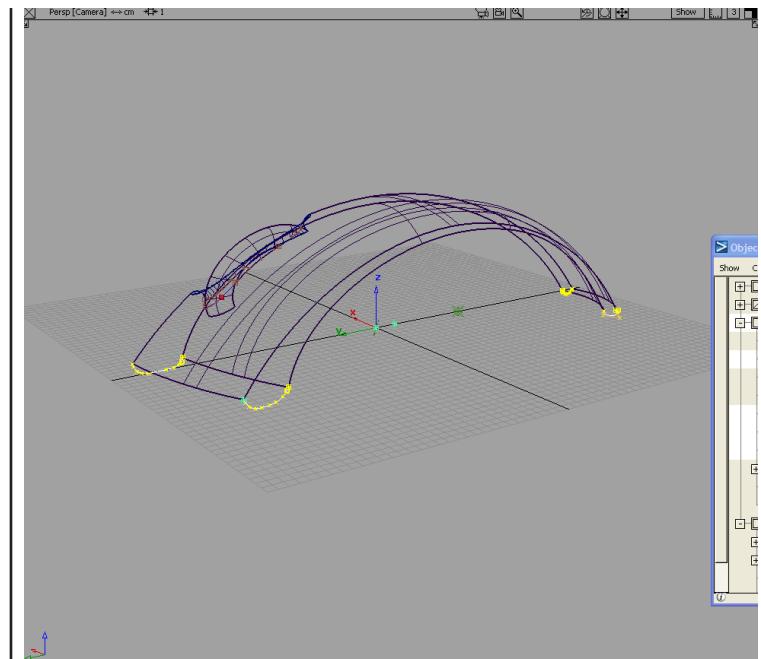
After using the BiRail\_II to complete the bottom curve of the mouse I simply performed a Copy and Paste to duplicate the shape. After that I scaled it up a little to form the top shape of the model.



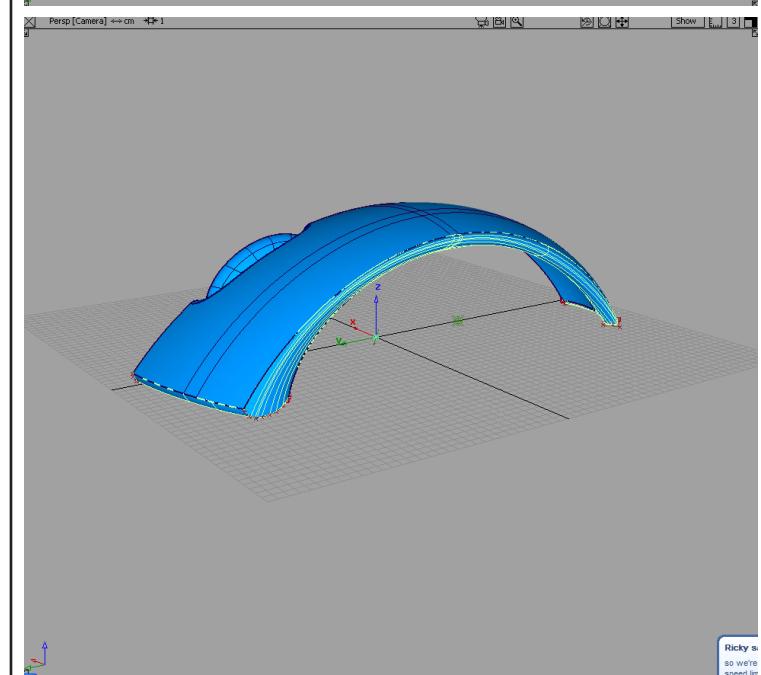
I am now close to the shape I was looking for. At this point I simply used the Skin tool to fill in the gaps between the different shapes of the model.



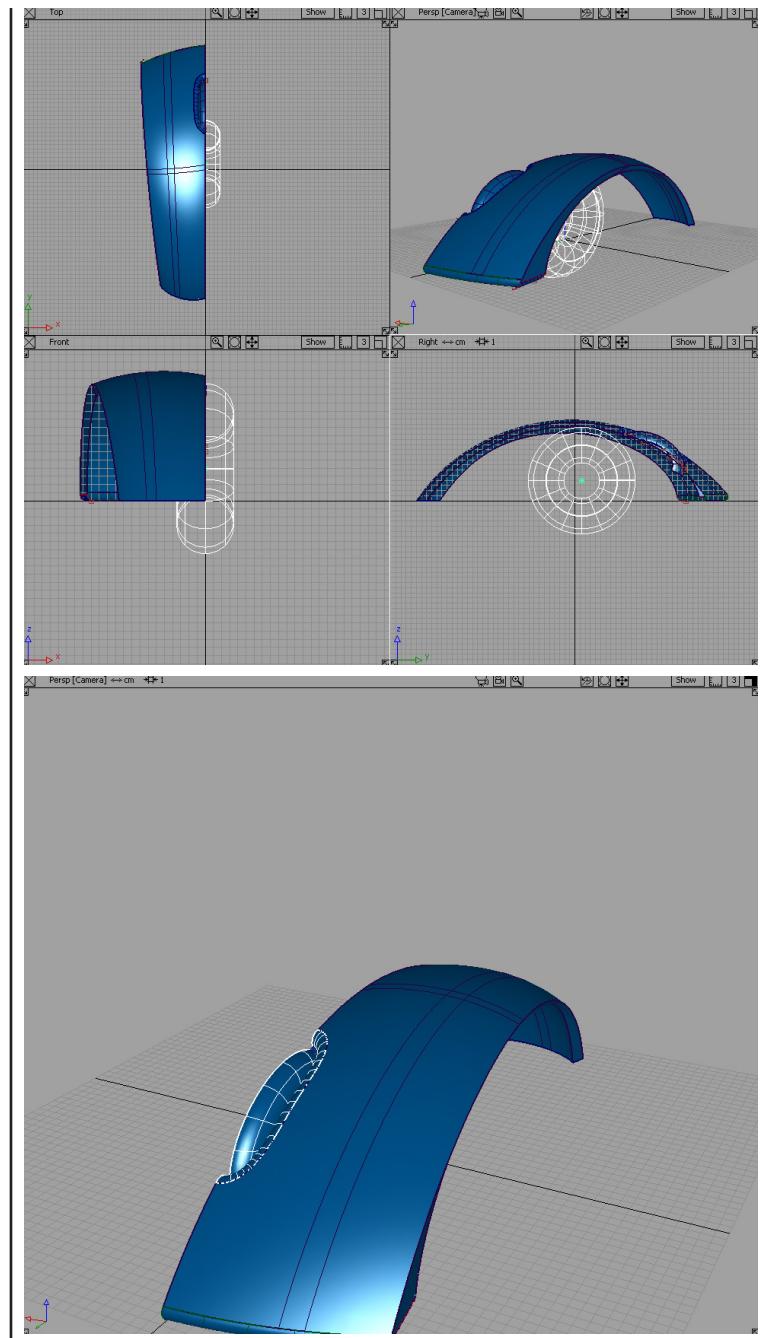
After skinning the sides I needed to create the soft curves that this mouse features instead of the hard corners that had been generated automatically. To do this I created curves at each corner that spread out in the X, Y and Z planes in reference to the model. Once I did that I used the MonoRail tool to spread that shape over the sides of the mouse.



Once I got the model to have smooth sides on it I softened the corners even more with the Round tool. This really gave me the shape I was looking for.



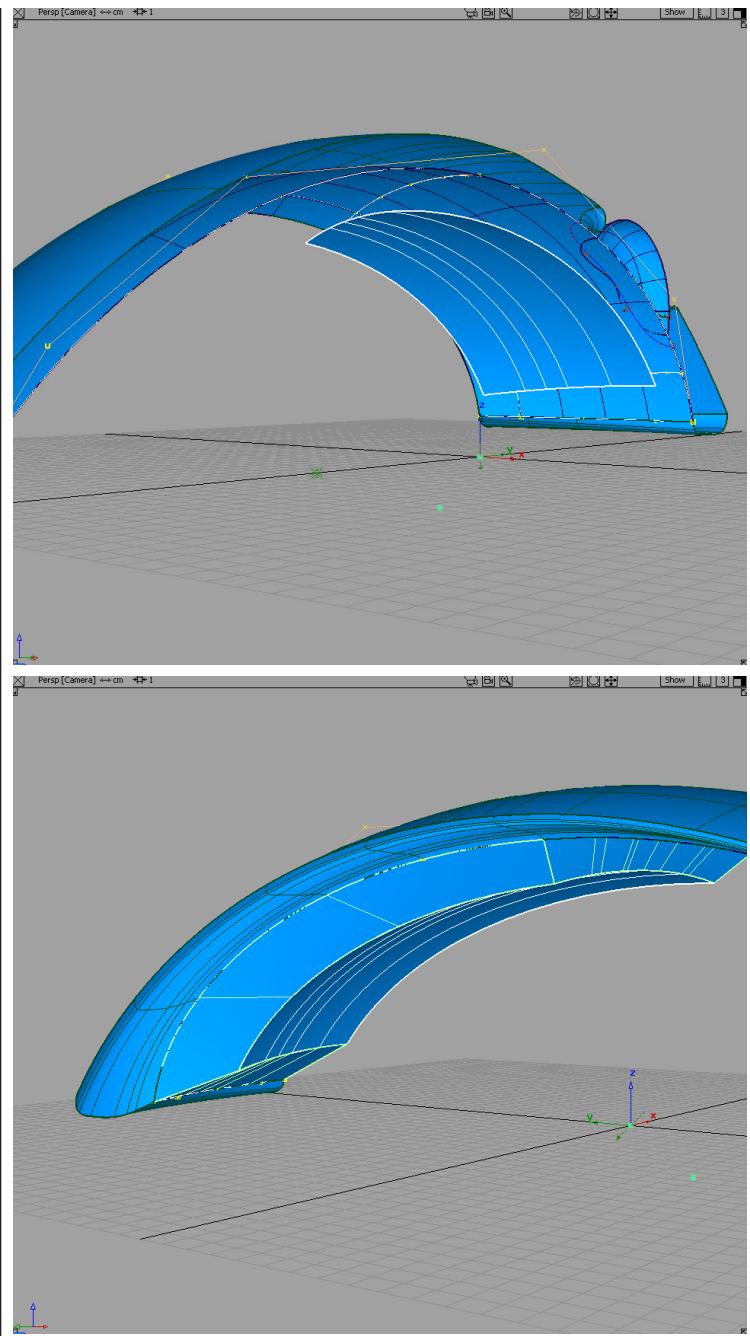
Now came the hard part. Creating the mouse wheel took many attempts but the successful method was as follows. First I created a large Taurus. I moved the Taurus into the centre of the canvas because I intended to make half of the model and mirror it as we had done in the Vacuum cleaner tutorial. After moving the Taurus into position I used the Surface Fillet tool to make the top surface meet the Taurus properly. The fillet can be seen in the lower photo.



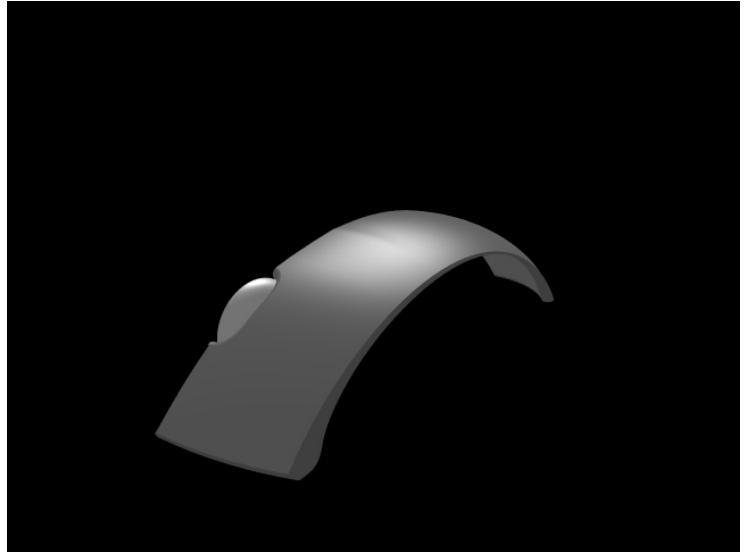
Once the surface was filleted together I had to Trim the mouse wheel in multiple way to get it to fit into the model. First I drew a vertical Plane and used the Intersect tool to intersect the Taurus and the Plane. I then used the Trim tool to cut away half of the wheel to allow for mirroring later. Secondly I had to intersect the bottom curve and the wheel with the Intersect tool and then Trim away the bottom part of the wheel so it could not be seen from bottom views.

To create the battery holder was a little complicated. I used the Duplicate Curve tool for most of this one. I duplicated the Long Curve in the center, the long curve on the outside and a short perpendicular curve near the front and the same with one near the middle. After I did that I used the BiRail\_II told to make a surface along those curves. Then I scaled it down and moved it below the model so it looked like it does in the photo at the right.

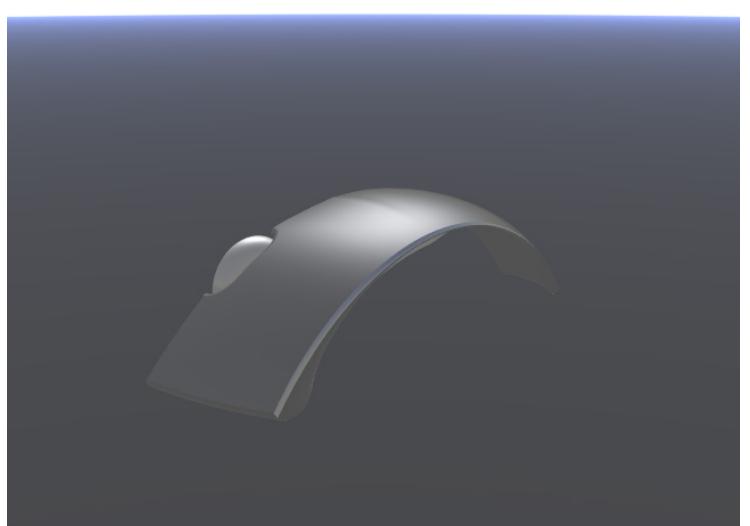
From this point I used a combination of the Skin tool and the MonoRail tool to fill in the sides on this one. In actuality on the Microsoft Arc Mouse, the sides of the battery holder are not smooth, so these edges worked well. The great thing about the way I made this is that when I moved the bottom cover of the battery box the edges would move with it. This construction history allows the model to be quite flexible.



This is where I started experimenting with rendering. First I simply changed the environment to be black and turned on the Ray Tracer. I also create a single ambient light above the model.

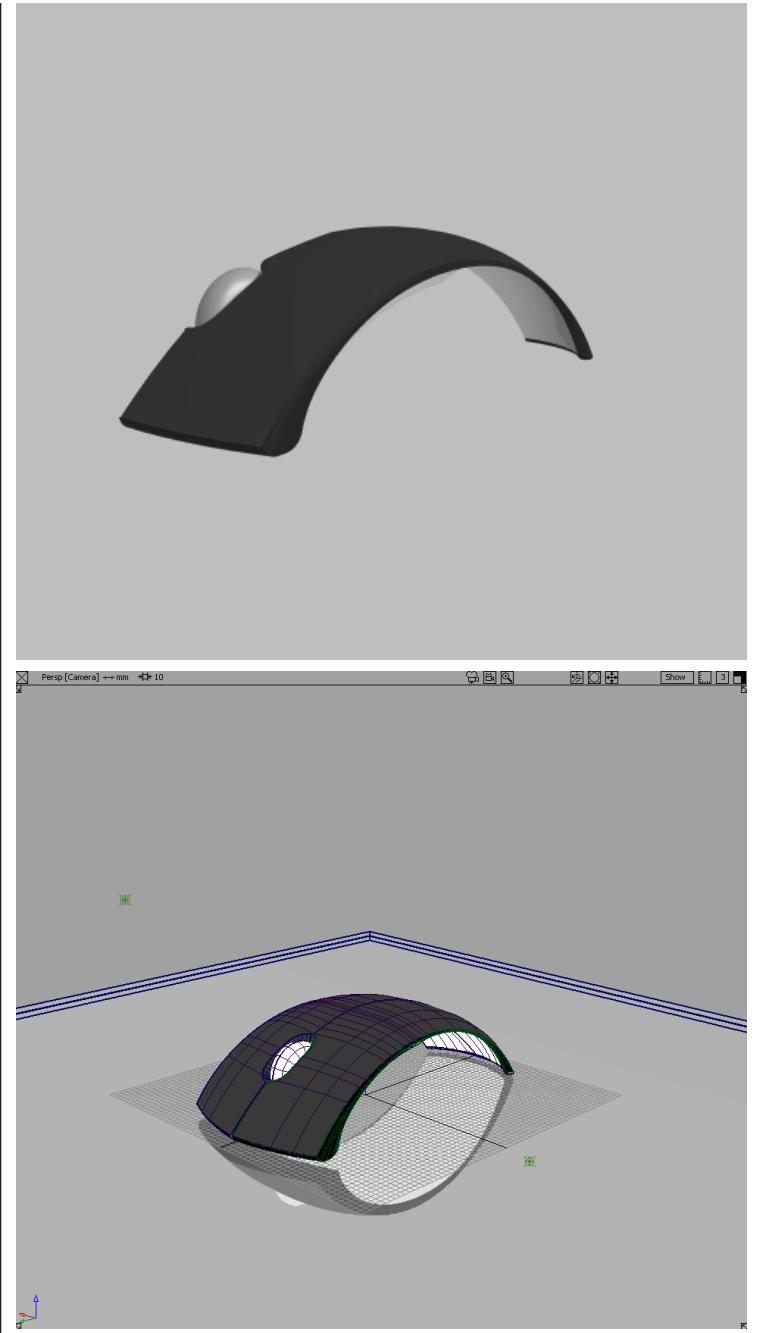


After that I changed the environment to a “Sky” emulated environment. This was a good way to experiment with the environment and reflections in Alias rendering.



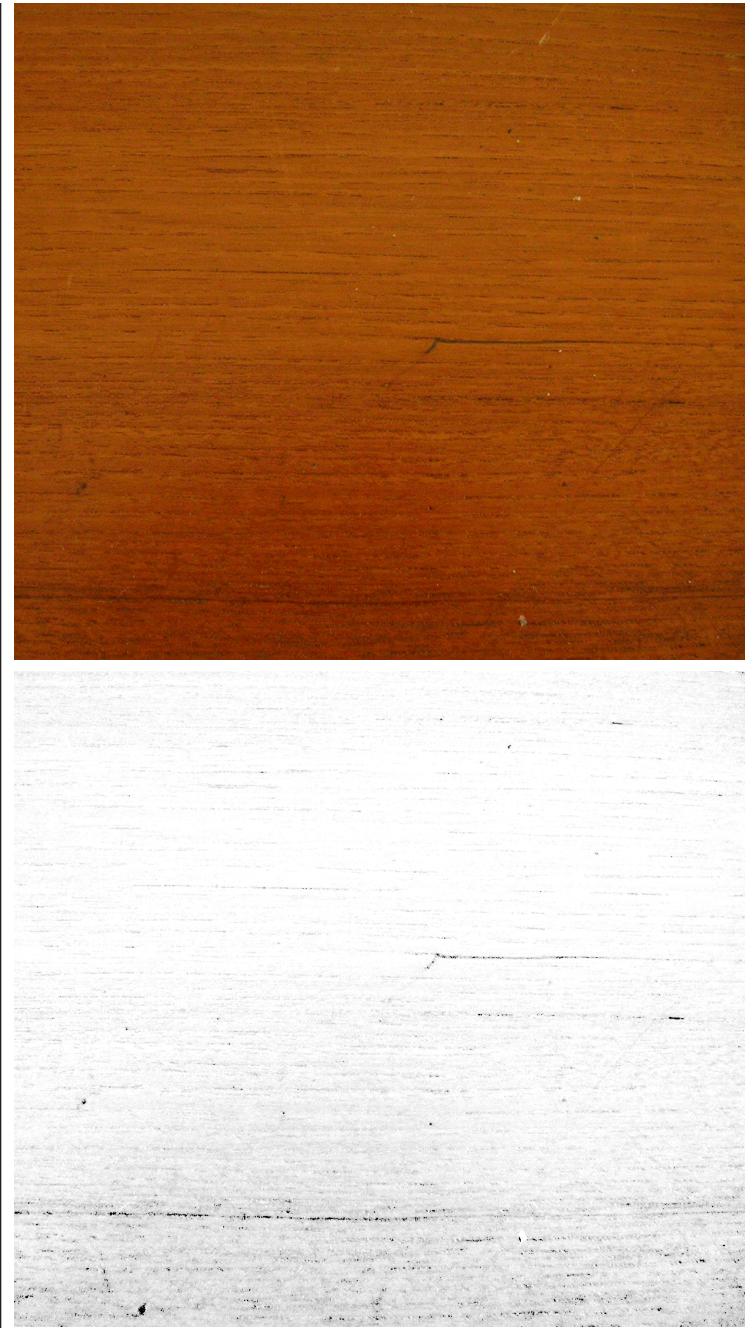
After playing with the environment I started creating and assigning Shaders to the different surfaces of the Mouse. I played with the four different types of shaders (Lambert, Phong, Blinn and Light Source) to get the right effect for each surface. The top surface is a matte rubber surface and so I chose Lambert. The bottom surface is a matte beige plastic and so Blinn worked best for that surface. The toughest material was the sides. They are shiny black plastic and so I went with Phong.

After fiddling with the different shaders I mirrored the model to create the entire mouse. From this point on Rendering went to a whole new level in order to make this Mouse really jump off of the screen.



The wood surfaces built into Alias never seemed to look good. I went looking online and found this fantastic wooden desk texture and decided to apply that to my model. On first attempt it was flat and boring looking but I knew something could be done to spice it up.

I went into Photoshop and desaturated the photo. Then I played with the levels and the curves in Photoshop to get just the highest and lowest values to appear. I could now use this image as a bump map for the wooden desk. This really brought the wood to life.



The wood table the Mouse would be sitting on now really had some depth. I also found a background image that I thought suited the modern style of this Mouse. However the wood was not working quite right. It was not giving me the reflection I wanted the Mouse to have on the Desk.

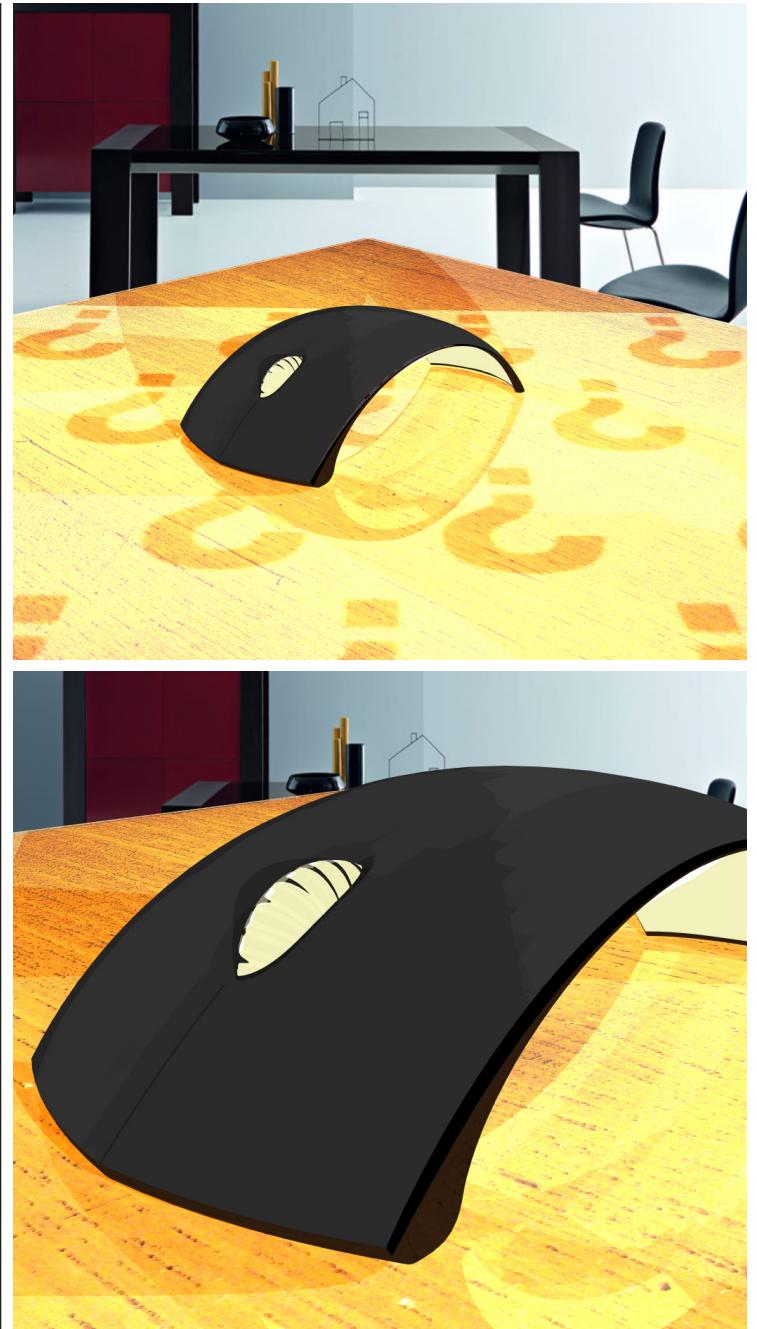


So I duplicated the desk and placed it on top of the old one and changed the shader to one of the built in Glass surfaces. This changed appears to have washed out the wood. But once the Mouse was put back on top and the correct lighting applied it really popped again.



I thought about reflecting a ceiling from the Glass wooden table but decided that it was too busy and took it out. Nevertheless to accomplish it I created a large plane and places it parallel to and above the table. Then I applied a ceiling texture to it. In the image on the right I just use the standard ? texture to illustrate how it looked.

The second to last step in rendering was getting the mouse wheel to look right. On the Microsoft Arc mouse, the wheel is not smooth and round. It has a texture to it. I went back into photoshop and created a basic bump map that just has horizontal bars going across it. I then applied to the mouse wheel. I had to rotate the bump map and Urepeat it a couple of times to make it fit, but the mouse wheel is no longer smooth. It really adds to the realism of the product.



I decided upon 3 ambient lights in the scene. One to the front right, one to the rear right and one on the left side. I changed the intensity of the lights so each shadow can be seen distinctly. I decided against directional lights because they did not adequately light the surface that the mouse was sitting on.



