Violin

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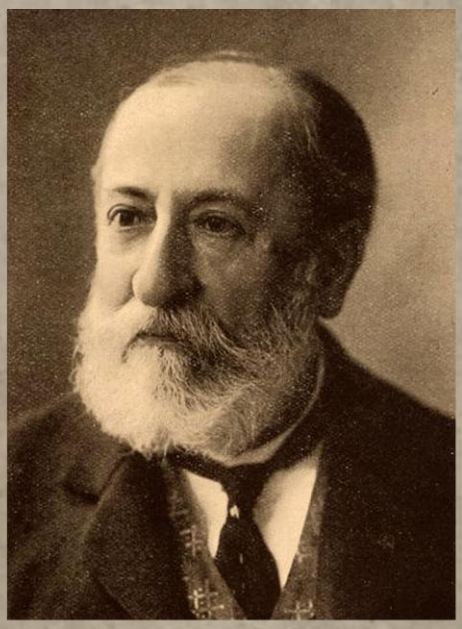
SCAD - Spring 2016
ANIM 505 - Character Set-up
Professor Jacques Khouri

Contents

Project Description

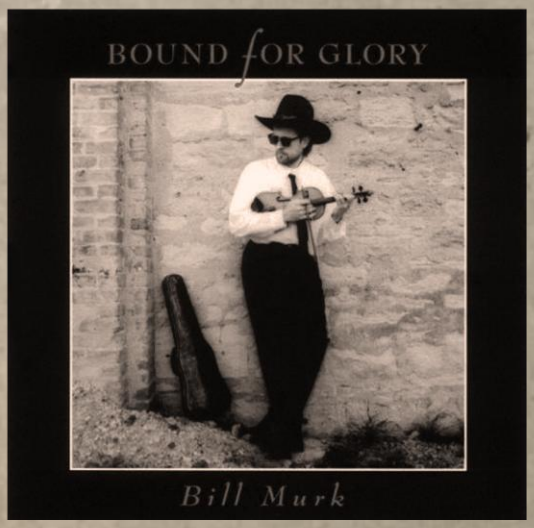
The project was to create a Hero Piece, a prop that would be important to the a character in the story. The class was Character Set-up and was focused on supporting characters in animations. For the project I chose the main props of my character Garret. He is a fiddler and loves to play for his friends at his house "Radio Hall" In the pictures below Garret is dancing on stage in his house.

Inspirations



Camille Saint-Saëns the French composer was well known for his use of the violin to stir the hearts of the listener. Danse macabre, one of my favorite classical pieces, masterfully uses the obbligato violin; simply put the violin is considered indispensible. It is my goal to study the integration of music and art like Disney did with Fantasia. This piece is a starting off point for that goal.

Many years ago my uncle was friends with Bill Murk a professional fiddle player. Bill and his family were incredibly musically talented and I had the pleasure of hanging out with them a number of times. Having an eclectic taste in music, I enjoy good ol Bluegrass just as much as Classical. There is just something special about a bunch of country folk who rock out in their circle to keep entertained. I wanted to incorporate that notion of play in my characters. I chose to make Garret the Grasshopper this fiddle so he could rock out on it to entertain his friends.



Research and Reference 1

Research began academically. Finding the history of the violin. we can see clear connections to a much older instrument the Arabic Rabab. Later evolutions like the a Vielle carried similar designs as the predecessor and served as a bridge leading towards the violin. The violin as we know it is traced back to mid 15th century Italy.

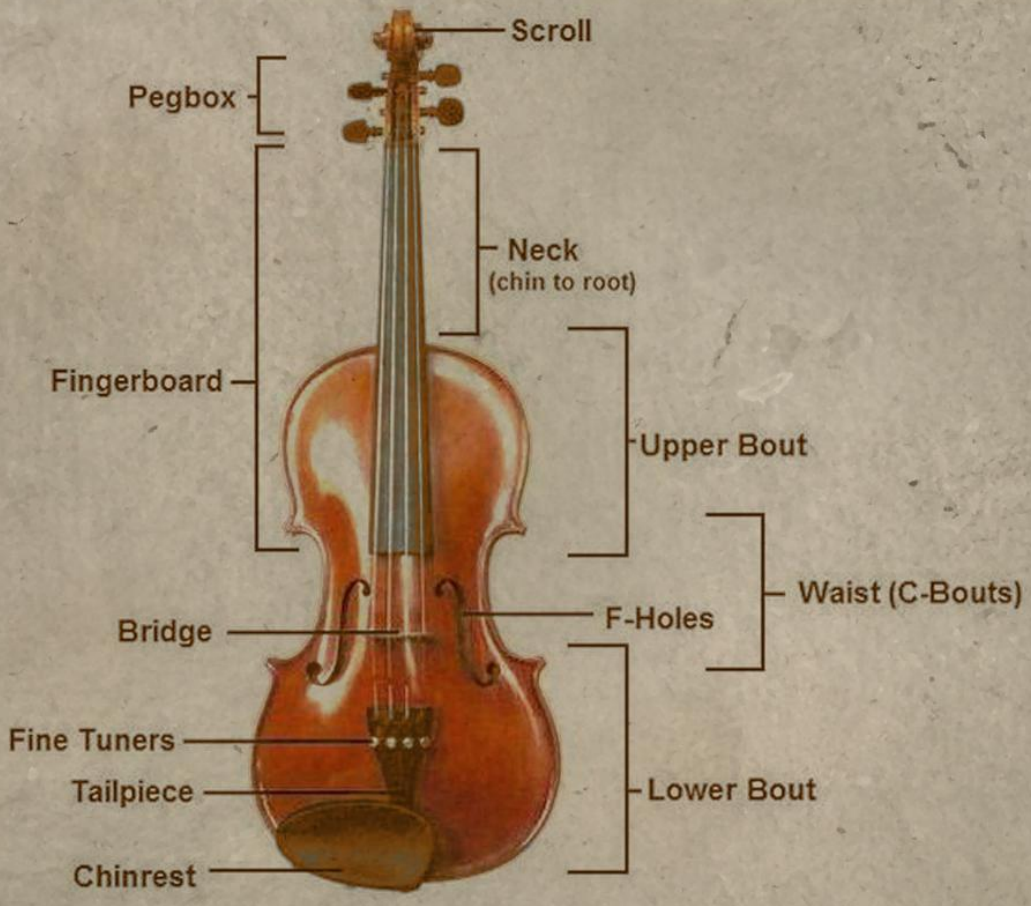
Arabic Rabab

Vielle

Gamba (Viola)

Research and Reference 2

Reference is one of the most important steps in creating 3D models. First by establishing all of the parts that make up the violin a plan of action can be established. By identifying all of the parts I am able to do proper research online, digging deeper than a mere search for “violin” or “violin parts”. Now I am able to look for specific pieces like “tailpiece”.



Research and Reference 3

The Tailpiece (below) is a representation of the findings that were found on the web. Practically every part of the violin was painstakingly documented through visual reference and used in the creation of this asset. If all of the references were placed in this document it would become redundant and boring. As it stands more than 110 references were collected including two personal photo shoots done at music stores.

Research and Reference 4

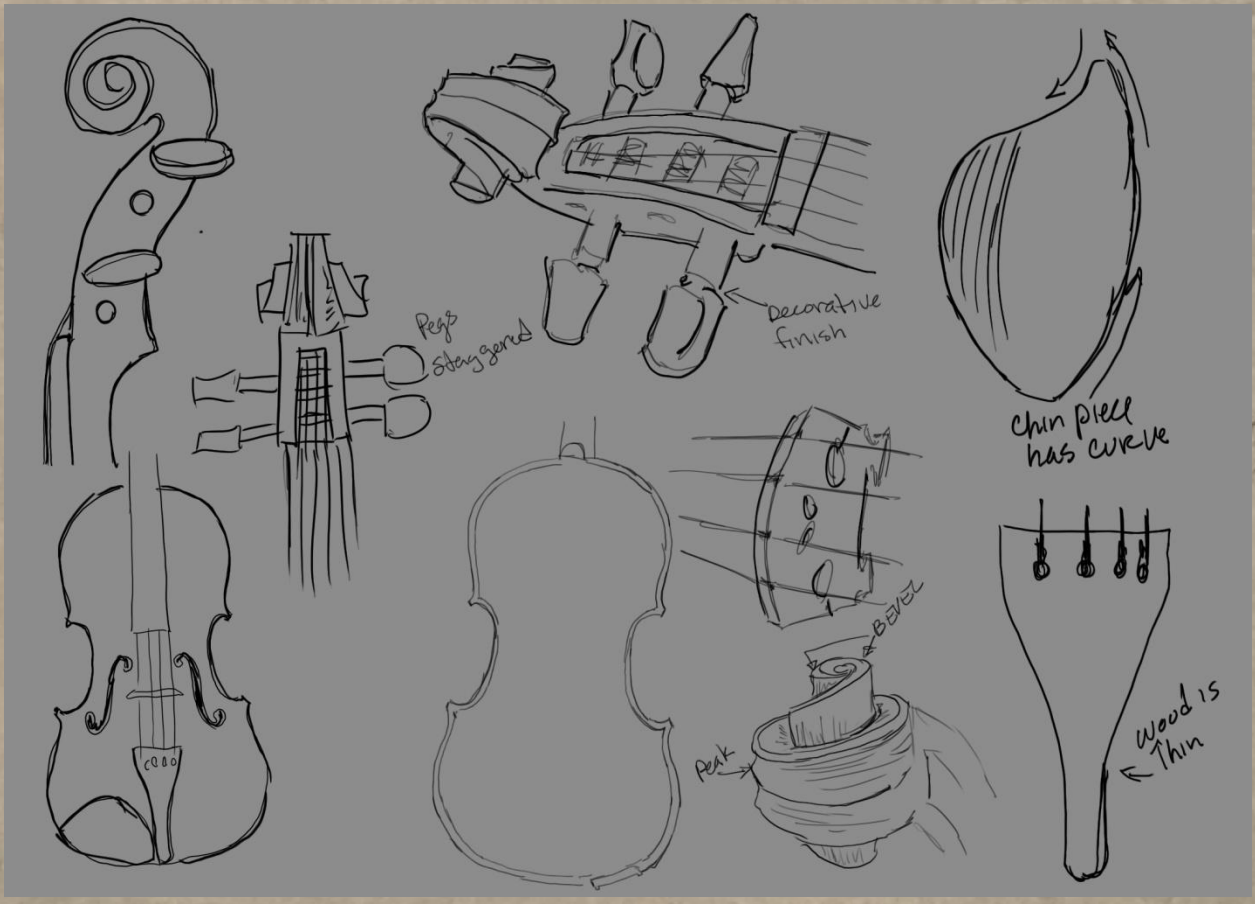
Here are some of the pictures from the first photo shoot done at Quinlan and Fabish in Arlington Hieghts IL.

Research and Reference 5

When looking for precision as an outcome in a model, I find creating orthographic views help. After created, I create a plane in the 3D application and I bring in the image as a texture and model using the image as a guide.

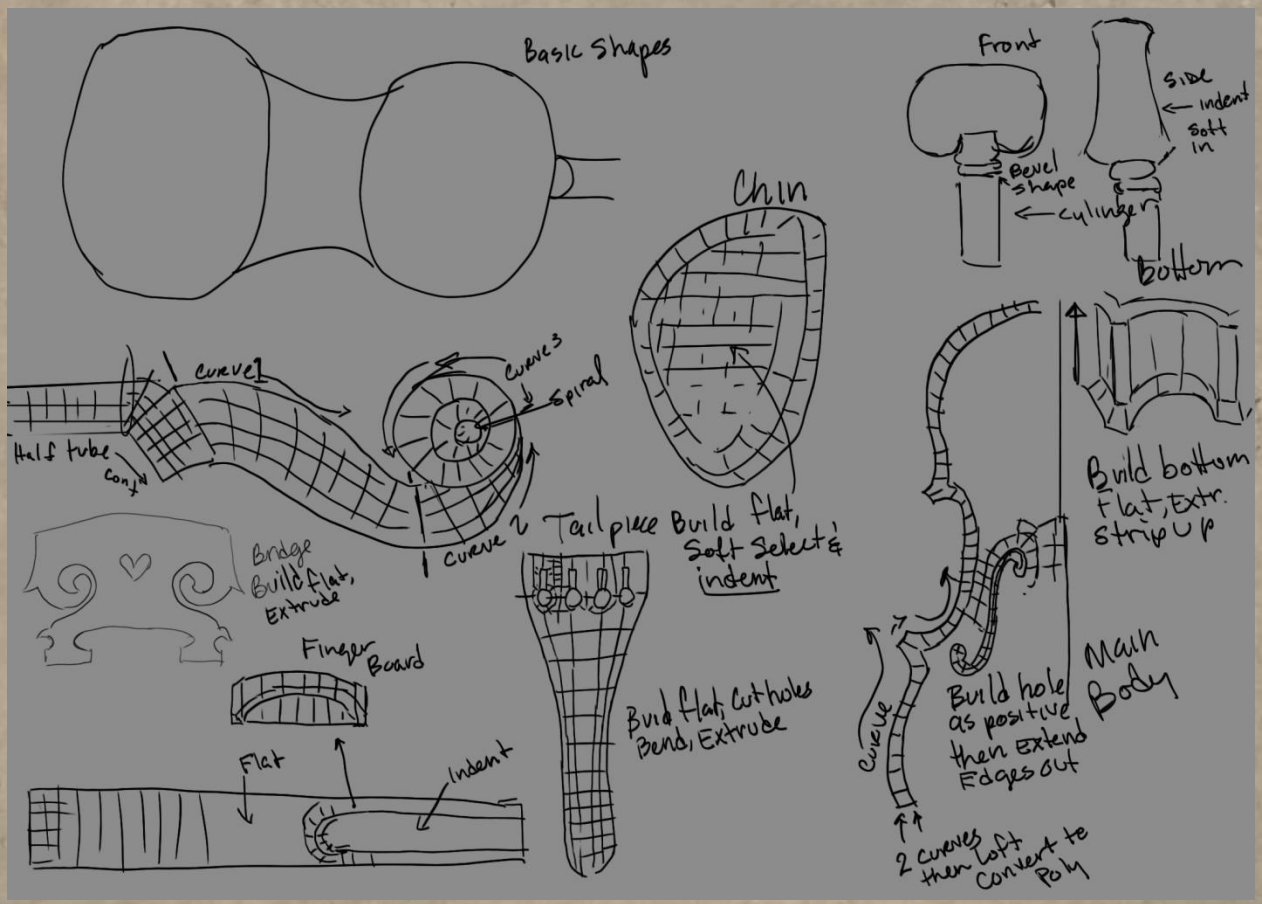
Thumbnails 1

Sketching is key in my development; it is really the time where almost all technical considerations that come with 3D modeling can be left behind. Sketching helps to embody the spirit of what I wish to see.



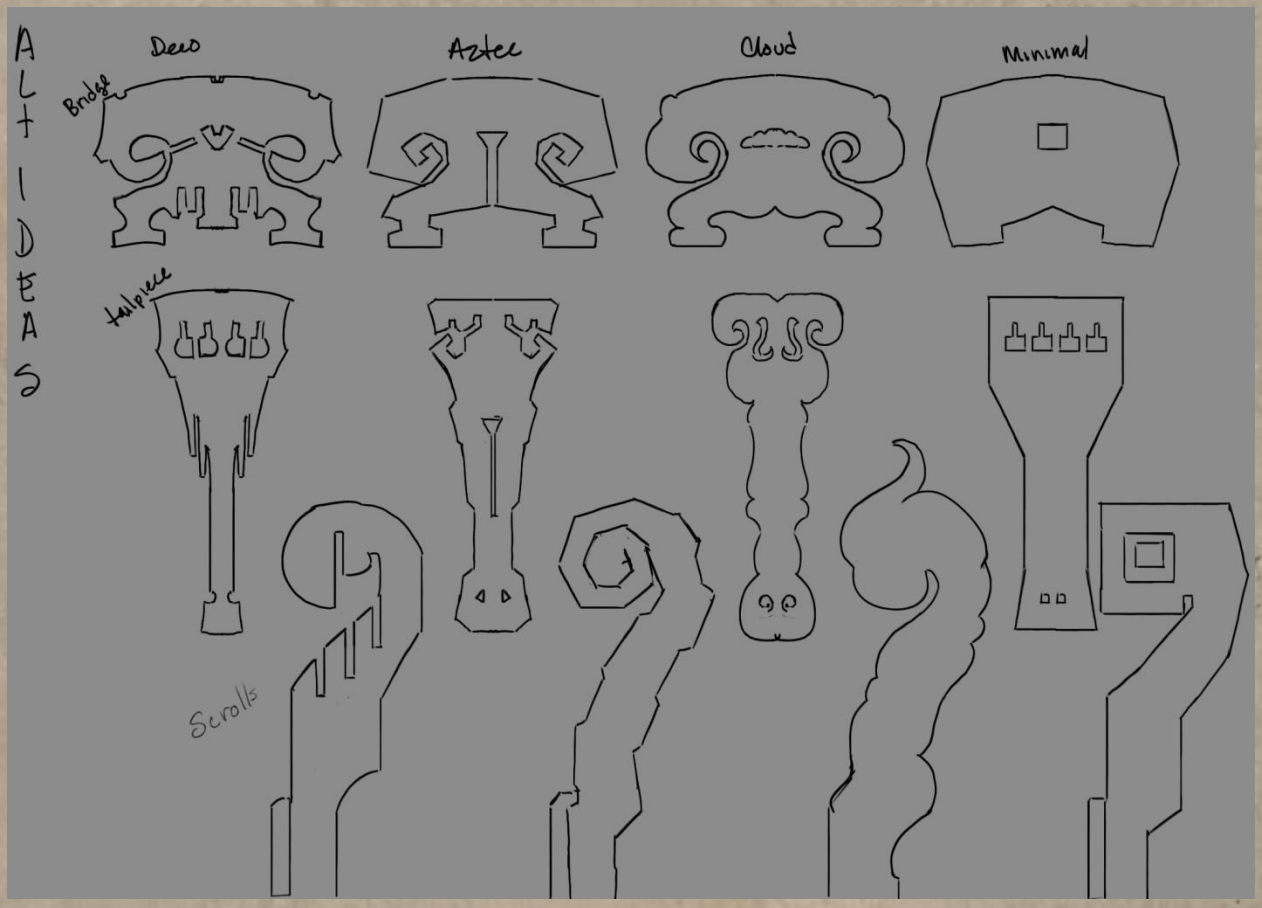
Thumbnails 2

Sketching a plan for the wireframe used to be a regular practice for many 3D artists. I tend to do most of my wireframe work on the fly, but sometimes, when a piece is very intricate, a sketched plan of the mesh can really help.



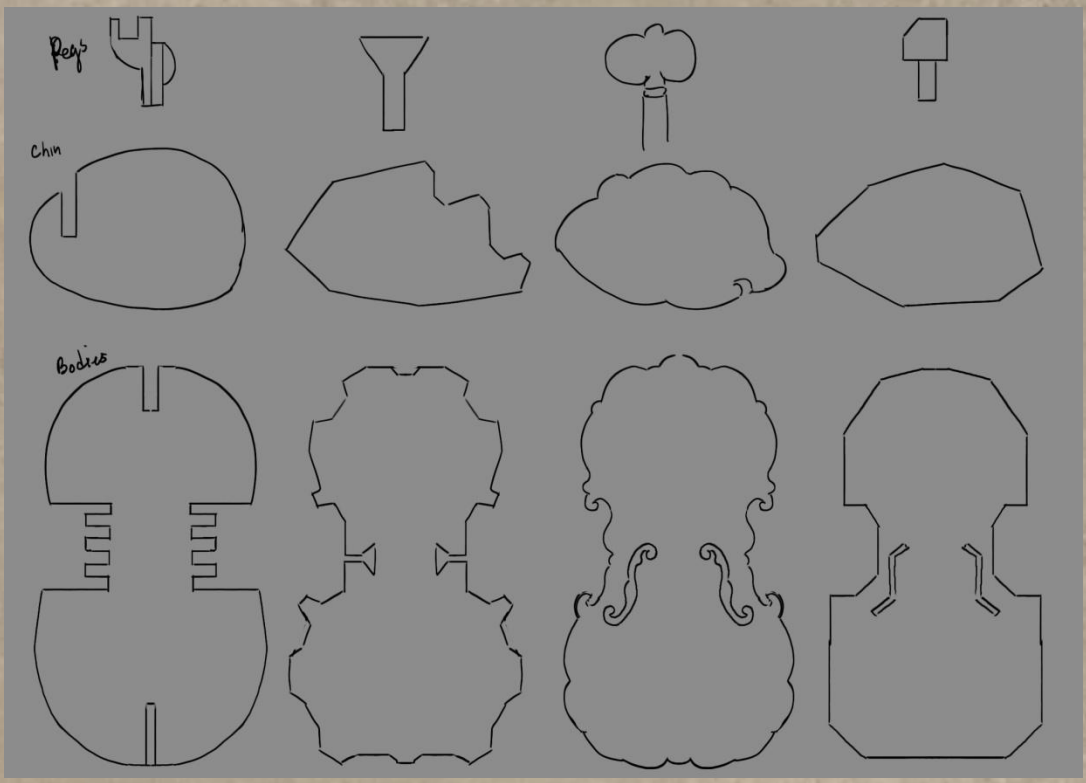
Thumbnails 3

Going deeper into design I chose to explore a few different themes applied to the violin; Deco, Aztec, Cloud, Minimalist



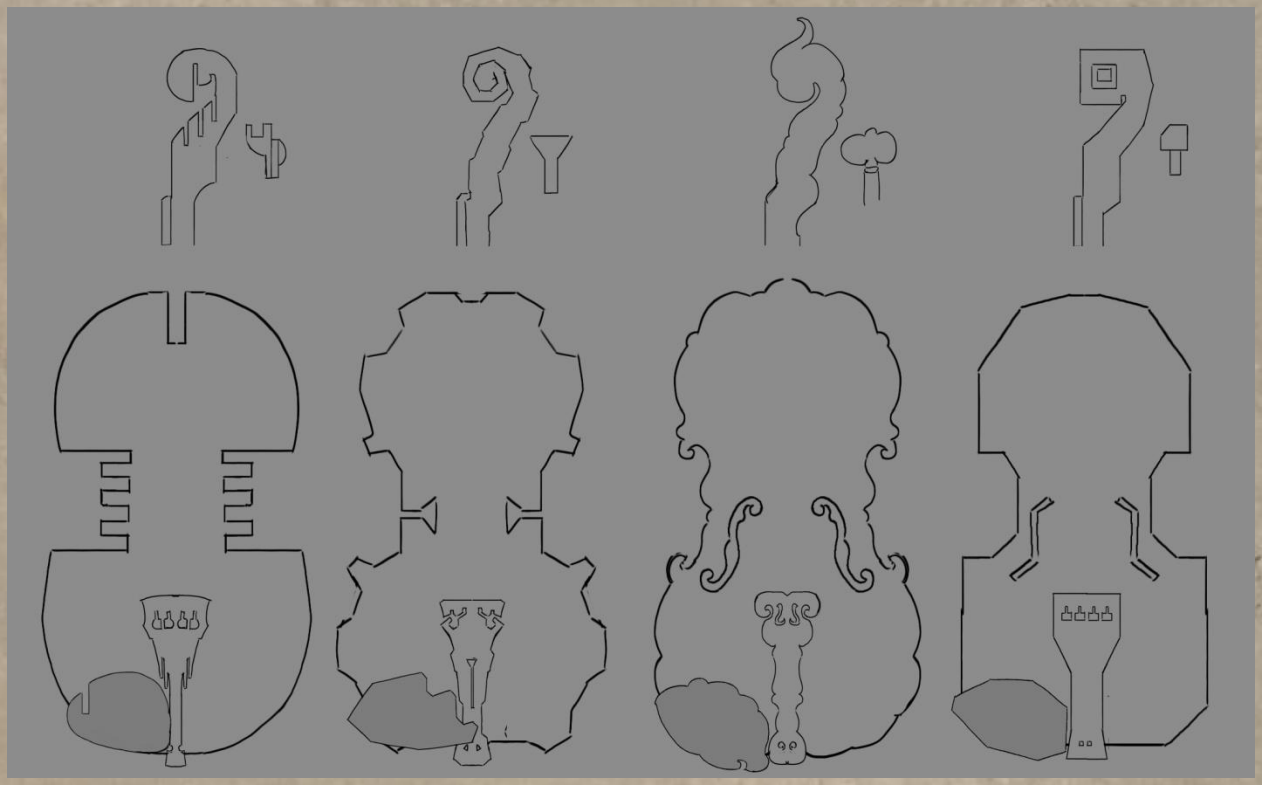
Thumbnails 4

Here are further studies on the rest of the violin following the alternate themes:



Thumbnails 5

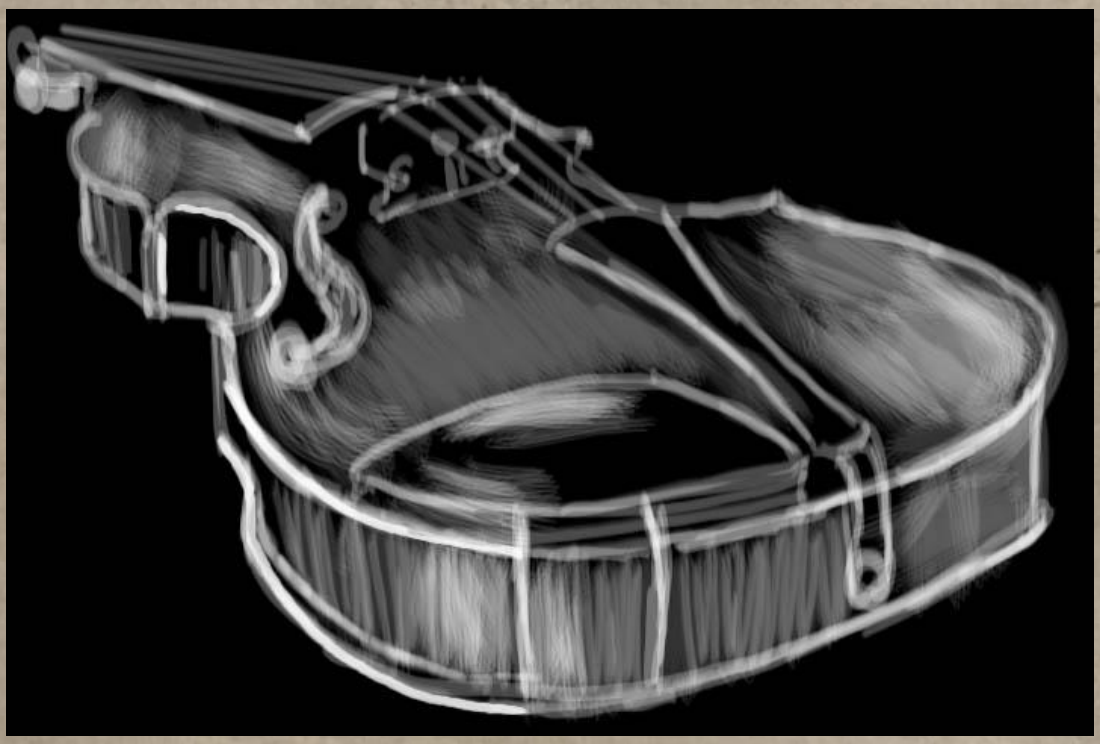
Here is the pieces combined. I was checking to see if the designs actually worked together or if tweaks were necessary.

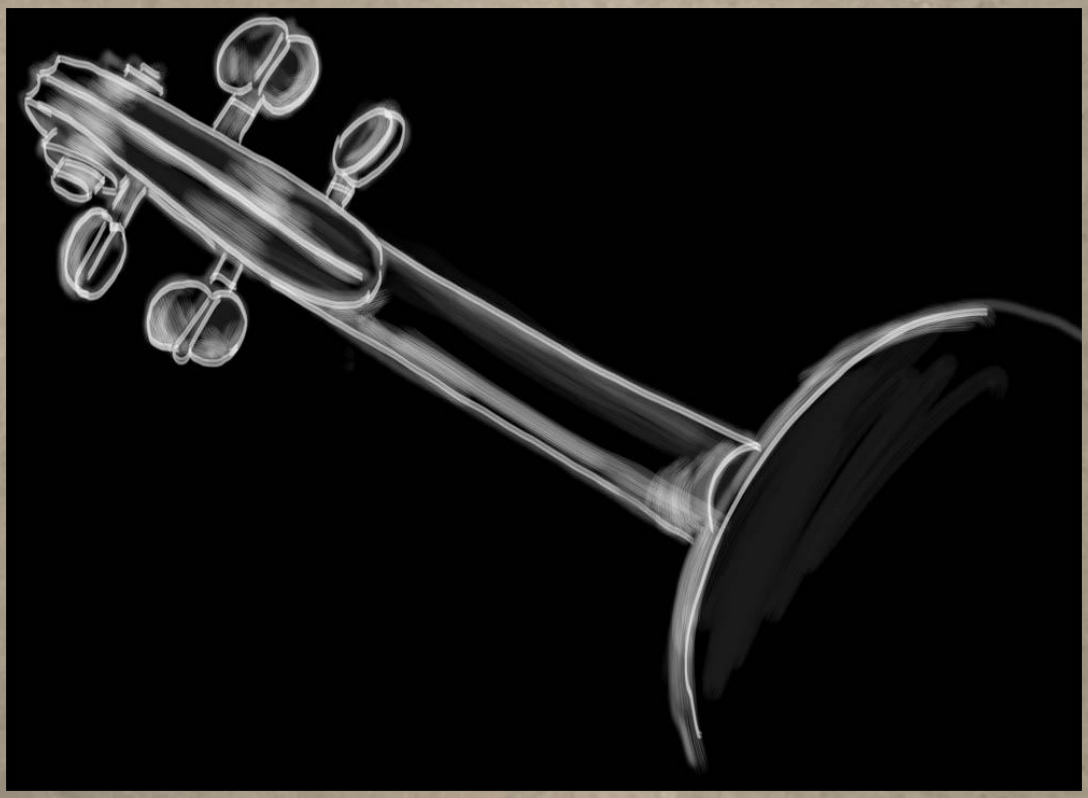


Roughs 1

These studies are done with white on black to give a dramatic feel to the violin that is depicted

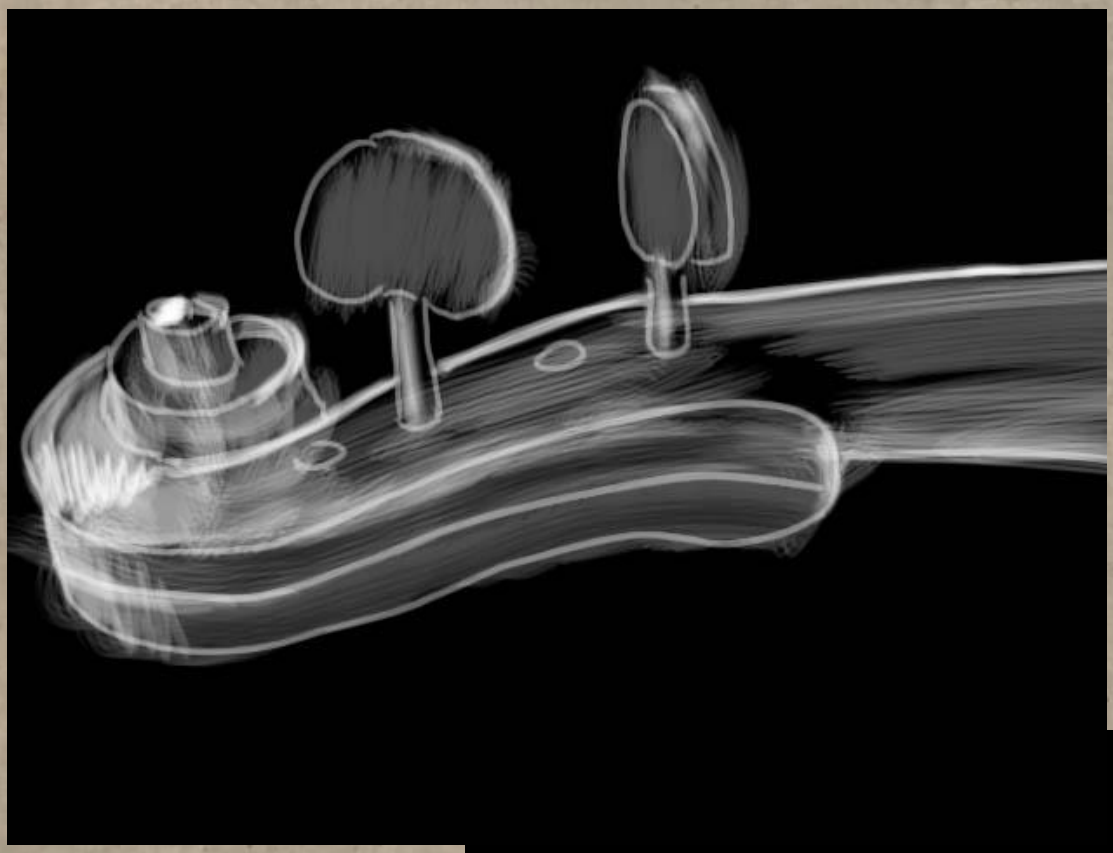
Roughs 2

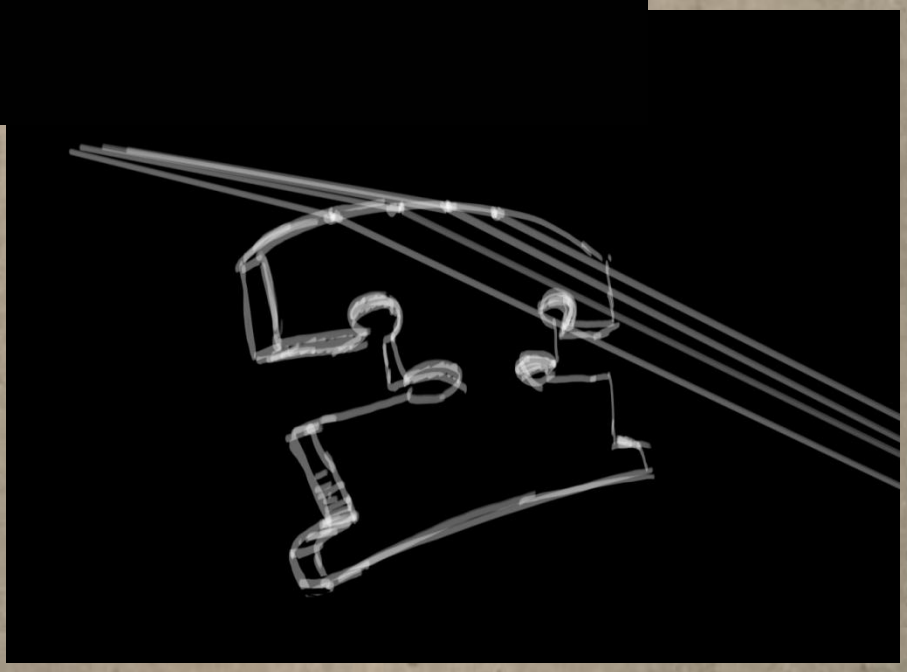




Roughs 3

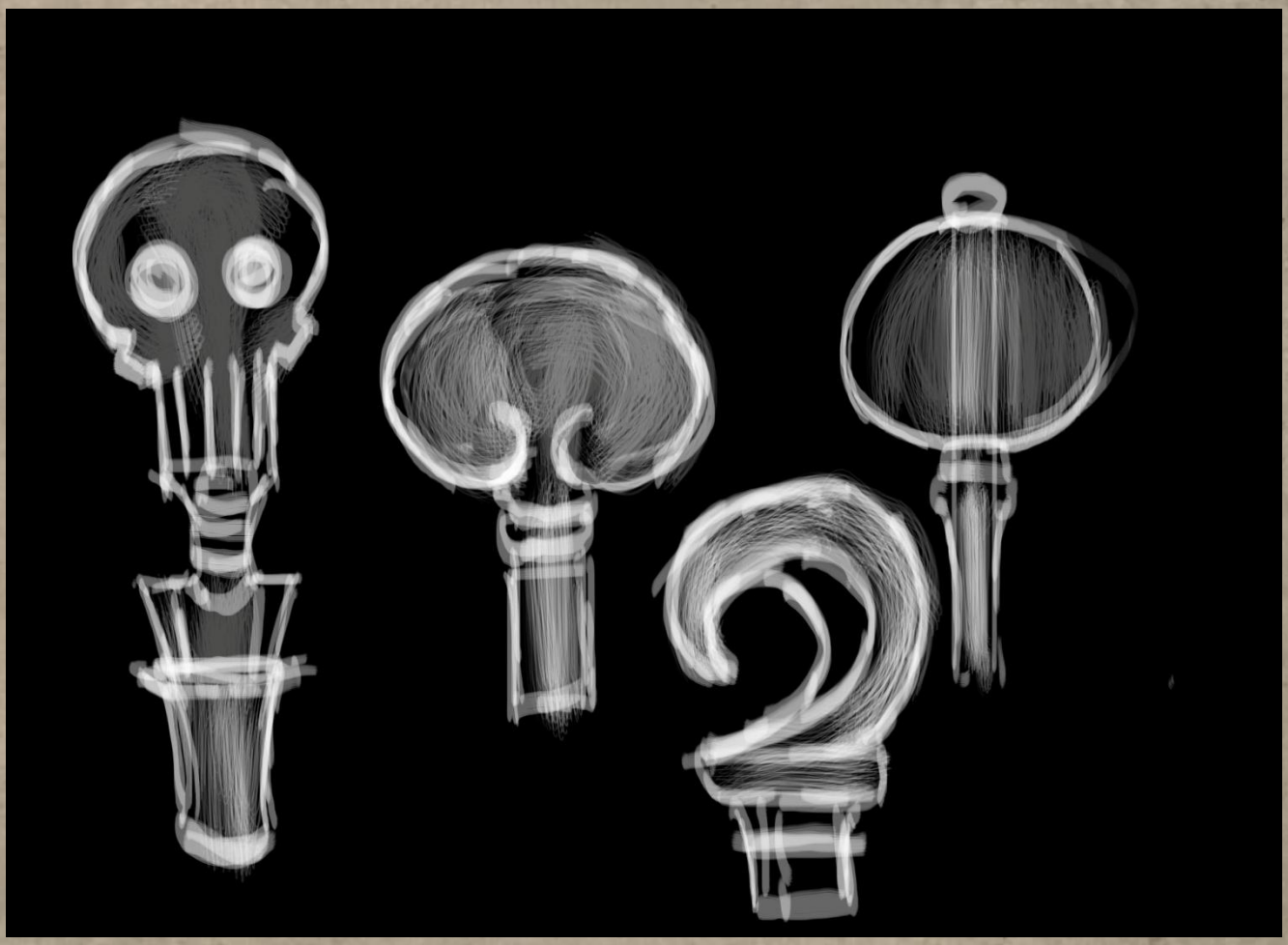
Violins and musical instruments are interesting in that different makers can change the look, feel, and sound by changing the visual design. The bridge below is an alternative design I came up with





Roughs 4

in the spirit of the alternate designs I like to think about what a skeleton or Atlantis Violin might look like. below are two standard pegs and two alternatives.

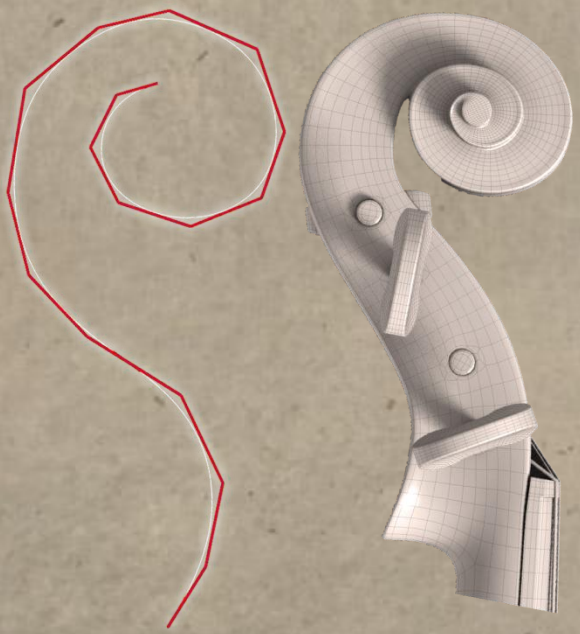


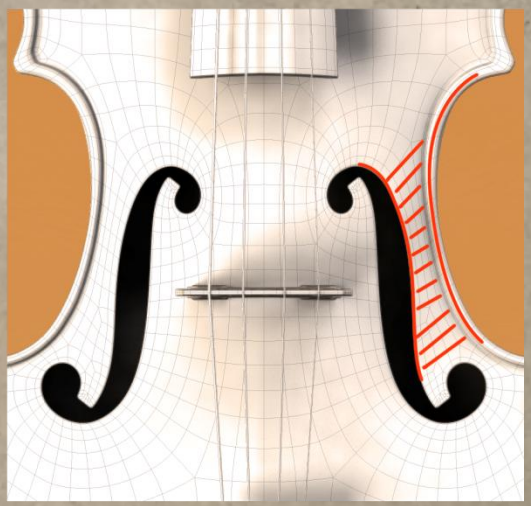
Roughs 5

These are diabolically opposed designs that could replace the typical scroll.

Computer Roughs 1

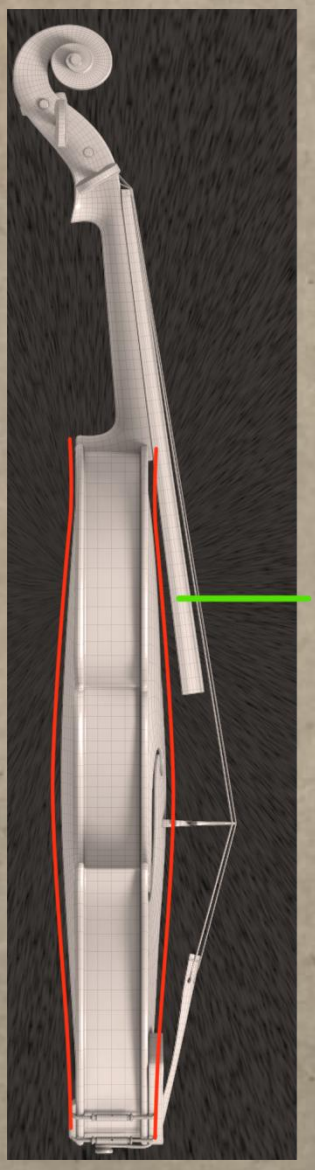
Because there exists so many complex curve shapes in the violin it seemed natural to utilize curves to create many of the base shapes. In fact the first thing built on this model is actually not even seen in the end product. The “f” hole within the front face was built as a positive space piece. Next the outer edges were established using a curve. The two sections were bridged and then polygonal edge flow was cut into the crude bridging. After the main shape was established I deleted out the “f”.





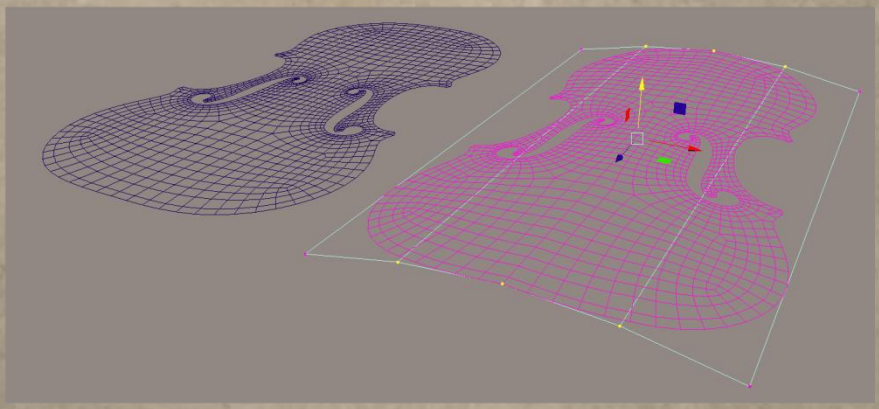
Computer Roughs 2

One thing that makes modeling items like this much easier is using lattice deformers. After the base shapes are built on a flat plane, then going in and deforming to get the nice arc is much easier than trying to build with the arc from the beginning. In this stage I did take the model into Zbrush for some fine tuning, not on micro details, just using the move brush to get the arc just right, a slow out curve.



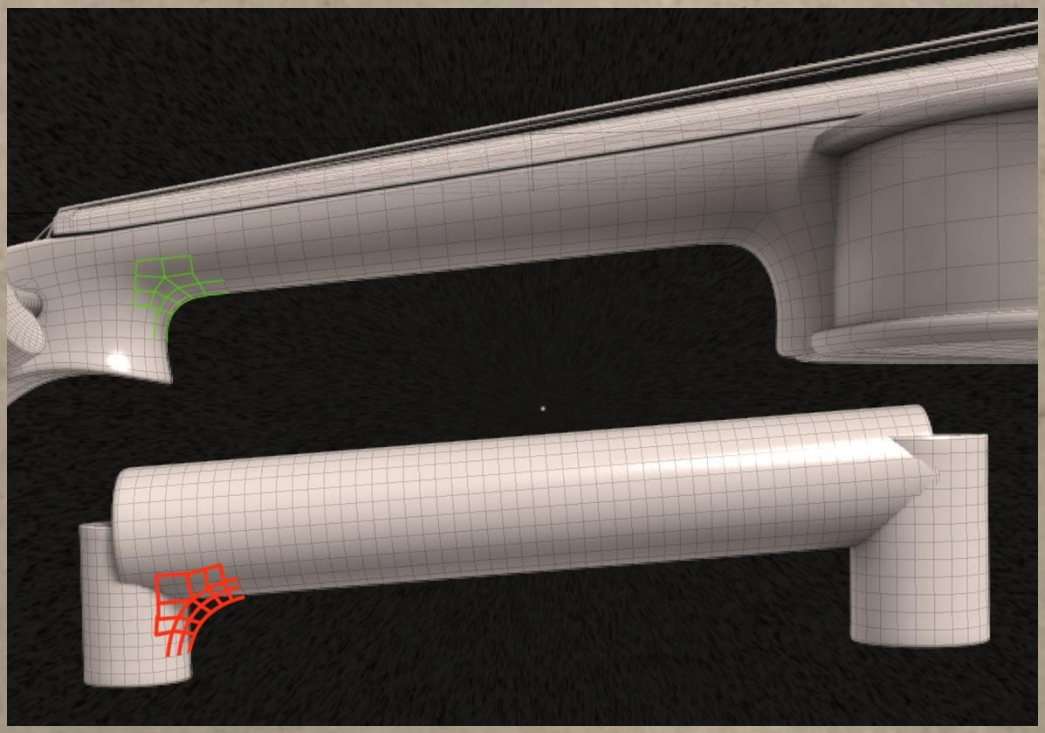
Flat original

Lattice Deformation



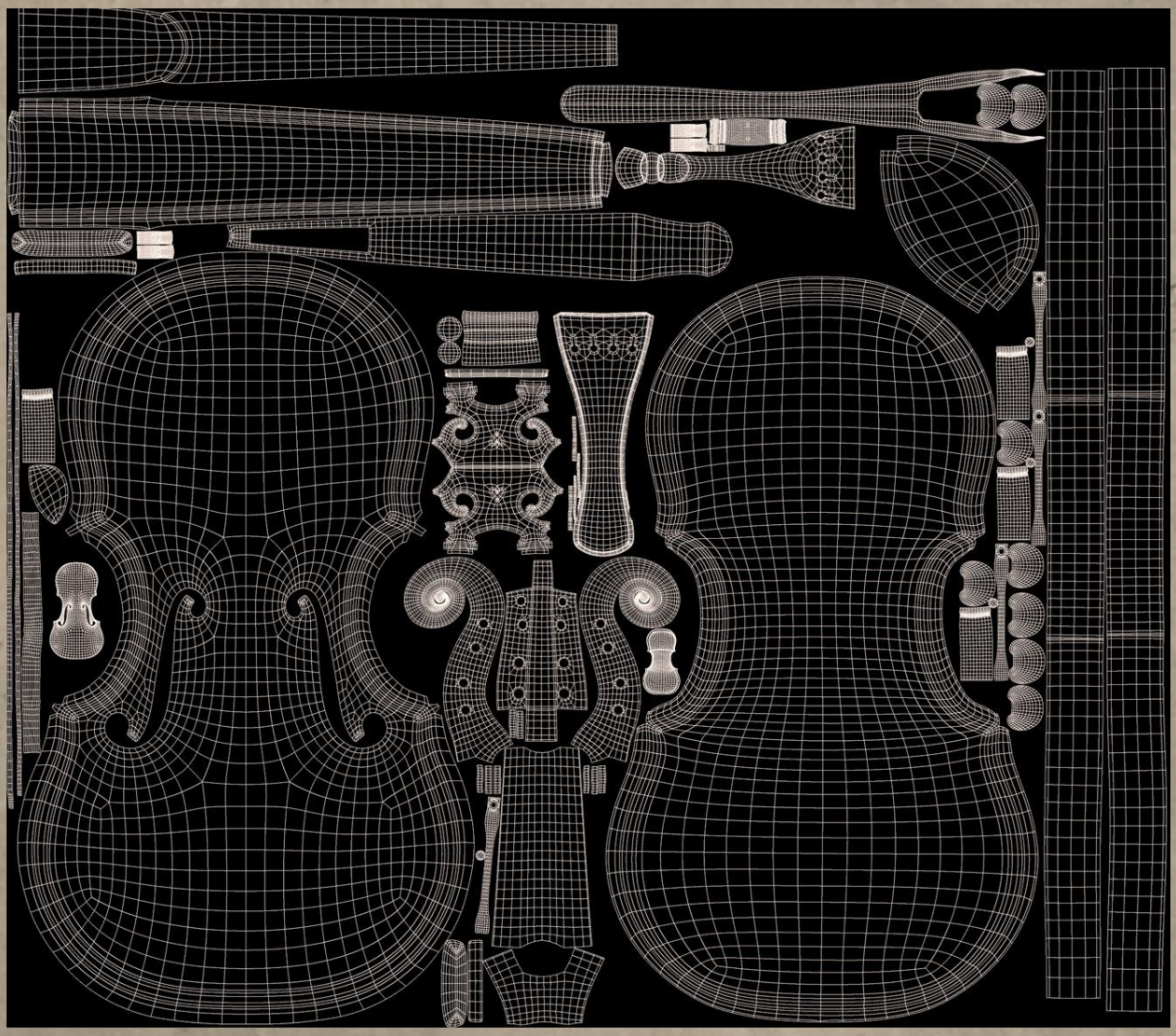
Computer Roughs 3

Modeling is a challenging subject if you look at the model as a whole. But just like in life drawing the complex can be achieved by starting simple. Below are three cylinders intersecting each other that need to become one to create the elegant neck of the violin. By simply building a topology over the two pieces one can start to create the necessary connecting mesh. Deleting out the underlying geometry then merging the new topology into the existing meshes one can redirect the flow of these cylinders to become one. When it seems really complex to me, I will do just what I have done here; I will take a screen grab and do a paint over.



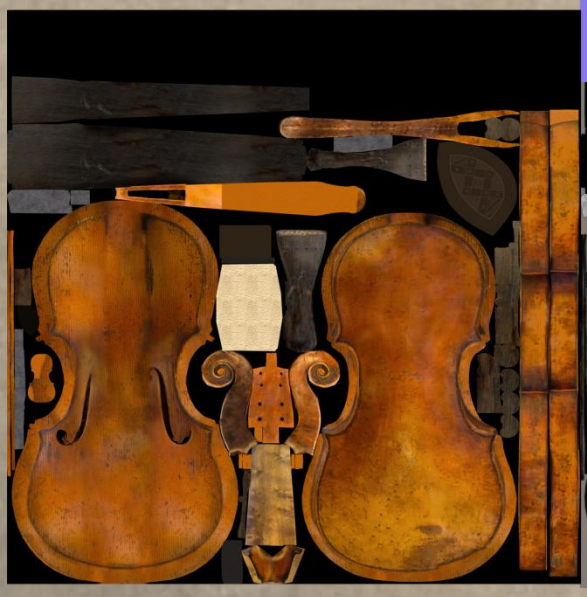
Computer Roughs 4

I approach UV's in a logical fashion. I prefer to have the layout mimic the actual object if I can. While many loath setting up UV's (as I once did too) I have come to embrace it like a game of Tetris. The parts that are related are usually near one another.



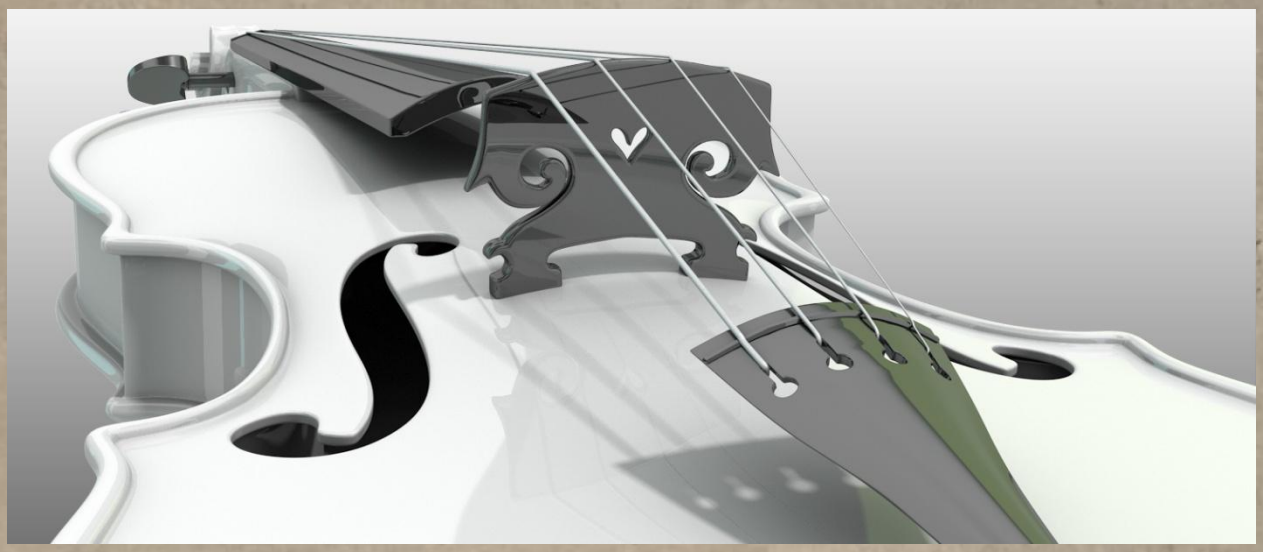
Computer Roughs 5

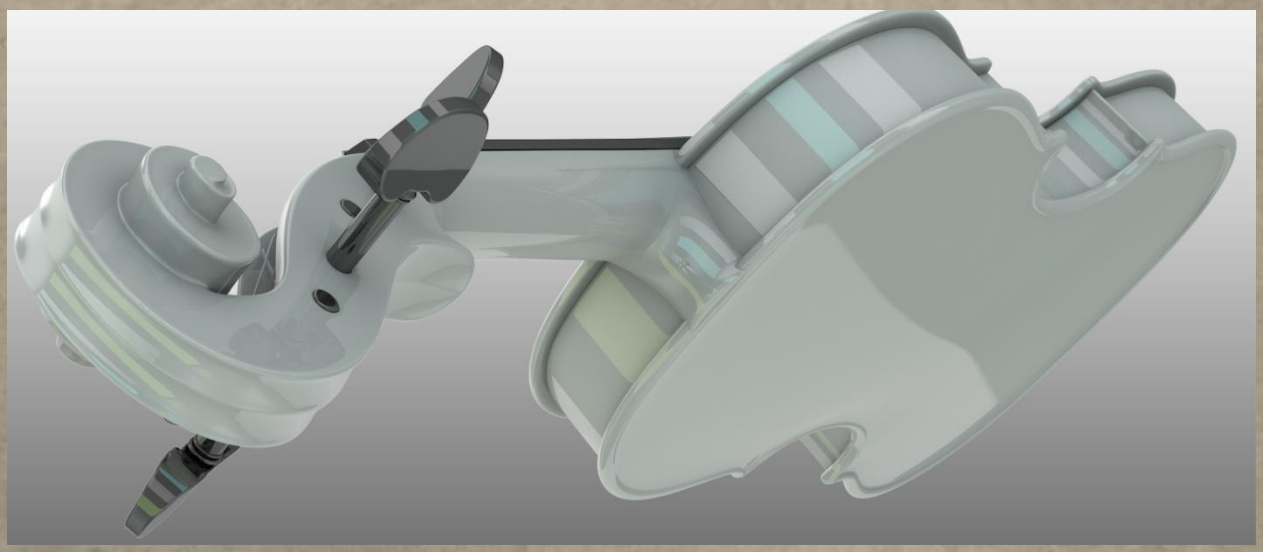
Initially I was just going to use materials to finish the violin. Time constraints and the proper references was of concern. I did choose to texture the piece though, but only after I was satisfied with the references I found. So texturing was completed as the final stage of asset creation. Here you can see the final Color, Specular and Normal map used in the final renders. I used a technique I learned long ago in my undergrad. If enough photos were taken, at the right angles to avoid the glare, it is possible to get near photo real quality textures. All of these textures were done in 2D in Photoshop at 4k



Analysis 1

The project did not require texturing; materials placed on the hero piece would have sufficed. Initially for time and lack of good enough reference I made the violin "polished" looking. Despite the constraints I was dealing with, I knew I wanted the Violin to look worn and old fashioned so the search for the right reference continued. Below is an example of the original renders.





Analysis 2

I was about to embark on the texturing phase of the project and I found myself at a roadblock. I had two ways I could handle the textures: 1) use the pictures I took from Quinlan and Fabish, or 2) make my own. I started making my own because I felt the reference pictures were boring, and showed little history. But as I was creating my own, I felt I needed better references.

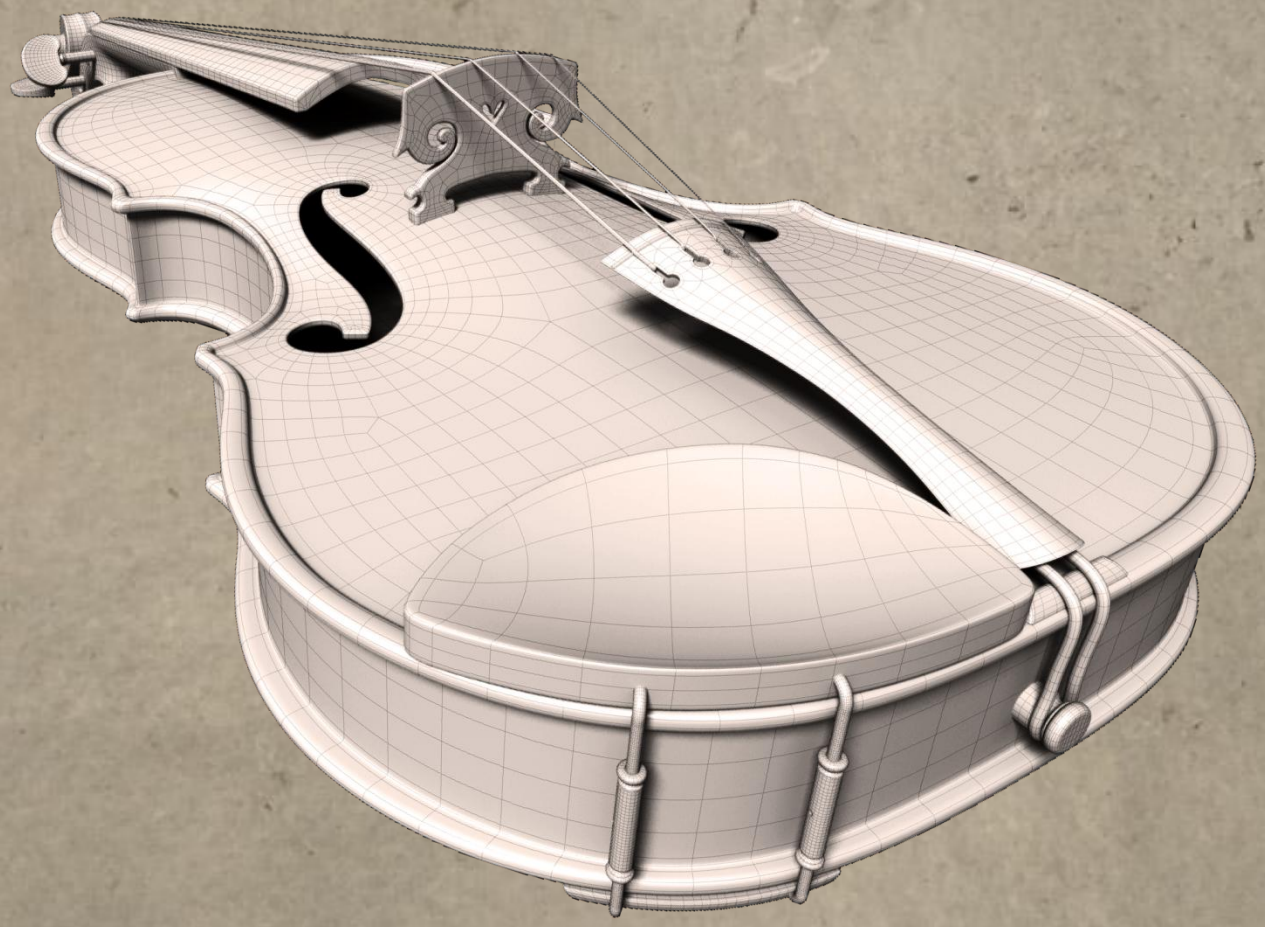
For some time I had been passing this little old music shop on the Mag mile in Chicago. Stacked from floor to ceiling with all kinds of instruments, the shop always reminded me of Olivander's from Harry Potter. I decided to take a chance and see if the owner would allow me to take some reference pictures. I knocked on the locked door and waited a bit. After a little while a little old man came the door and asked what I needed. I explained my intentions and fortunately he was happy to allow me to get pictures. As I was looking around the shop the shop owner and I began to talk. Jim Sherry was his name. Jim has the longest independently owned shop there next to SAIC on the mag mile. He had been there for 40 years! Jim at 83 years old had experienced many, many things and was happy

Analysis 2 cont

to share them with me. I was so intrigued by his stories that we sat for 2 hours in his office before I even took a photo! Needless to say I made a friend that day. One lesson I learned was to take chances and go out and get what you are looking for. Had I not gone the extra mile I would have not been enriched by Jim and his experiences. Oh yeah, I got the photos too and used them for the textures. Funny thing, after I handed the violin back to Jim I asked him how much something like that costs? Jim replied nonchalantly "that one is $12,000". Then he picked up another to hand to me and said "this one is $18,000". I respectfully declined his offer! To the right is a picture from the photo shoot, you can see Jim in the back.

Analysis 3

The chin pieces of the violin was a question of design that I pushed back a number of times. I had seen a number of designs but hadn't found the right one yet. After the $12,000 violin adventure I settled on the chin rest it had. The choice was made mostly because of the simplicity of the design. Since time was running out to finish the violin, the elegant simplicity of this chin piece won.



Final Renders 1

Final Renders 2