

FINAL YEAR PROJECT REPORT

**INTERNSHIP AT AAVA 3D:
ON HOME DECOR MODELING**

BY

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of
Bachelor of Science in Multimedia and Creative Technology

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DAFFODIL INTERNATIONAL UNIVERSITY

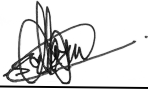
DHAKA, BANGLADESH

MAY 28, 2022

APPROVAL

This Project titled “**Internship at AAVA 3D on Home Decor Modeling**”, submitted by Nafisur Rahman to the Department of Multimedia and Creative Technology, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Multimedia and Creative Technology and approved as to its style and contents. The presentation has been held on 28th May 2022.

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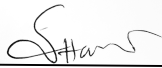


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DECLARATION

I hereby declare that this project has been done by me under the supervision of **Mr. Arif Ahmed, Associate Professor, and the Department of Multimedia and Creative Technology at Daffodil International University**. I also declare that neither this project nor any part of this project has been submitted elsewhere for the award of any degree or diploma.

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Finally, I must acknowledge with due respect the unwavering support and patients of my parents.

ABSTRACT

3D modeling is the process of creating any object digitally in 3D space. These objects can be fictional or they could exist in real life. In 3D modeling, anything can be possible and its only limitation is our imagination. While my passion for 3d modeling was growing, I got selected by AAVA 3D for my internship work. Here I got the opportunity to create real-world objects into a 3d model with proper topology, texturing, and lighting. The final result of my work is a realistic 1:1 ratio home décor model which is similar to the reference image that was provided to me.

This also came with its own challenges as it has to be commercially usable, and good in appearance, and also had to maintain the good quality of the models throughout my journey there. Every detail has to be modeled to make sure it resembles the real product.

Autodesk 3ds Max 2020 has been used for modeling and UV unwrapping. Substance painter was used for texturing. And for rendering, we use Vray 5. Which provides realistic renders for our models. Photoshop is used for making some adjustments to our renders and making it as attractive as possible.

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CHAPTER 1

INTRODUCTION

3D AAVA [1] is not only a 3D animation research and development center but it also provides carrier guidelines and mentorship. Today, any creative mind's first choice for a job is AAVA3D. In Bangladesh, AAVA 3D was the first to offer 3D animation training. It is an organization that brings together professionals from both the technical and artistic disciplines with the goal of delivering appropriate solutions.

3D modeling is a technique in computer graphics for producing a 3D digital representation of any object or surface. An artist uses special software to manipulate points in virtual space (called vertices) to form a mesh: a collection of vertices that form an object [1]. As we have to work in 3D space it is a bit hard and challenging to achieve a real representation of the reference image from a 2d image.

As it is a big institute there were more people working on the same project. They give us a reference image of the home décor and we had to create a 3d model of it with realistic texture. For 3D modeling, and UV unwrapping we chose 3ds max[3], for texturing we chose substance painter[4], and for PBR[5] rendering Vray 5[6] was used.

This is a big project from AAVA 3D so it was not possible to do all the work alone. So they divided the work into teams. Basically, I did the main modeling part. Most of the UV unwrapping, texturing, and rendering part was done by the other team members. Thus we could ensure the best quality and the production rate of the model was also high.

There are lots of 3D software and renderers used for these kinds of stuff but among them, 3ds max is more user-friendly for home décor item modeling. As 3ds max has lots of modifiers, a powerful cloth simulation tool, clean UI and it is also an industry-standard 3d software. And Vray is one of the most powerful renderers out there that provided ultra-realistic output which surely satisfies any client.

CHAPTER 2

BACKGROUND STUDY

Extensive research was conducted to perform the 3D modeling of furniture and exterior. The current situation of the market was also evaluated to meet the prevailing specifications of 3D modeling of variable products to achieve the optimum outcome. Generally, the company assigns the product which needs to be 3D modeled which makes it a lot easier to follow the specifications of the present marketplace and deliver a better product output.

The pattern, style, and features of the product were screened and selected according to the customer. The environment or the ambient of the place was also decorated as per their requirement. Multiple architect workshops were visited to grasp the prevailing quintessence of the product modeling. Watching showreels was also constructive to deduce the lacking in the field and to understand what is presently popular in the market and what measures could be adapted to make it more approachable to the customers. The websites of the existing designers were of service to produce more effective visualization for the company.

A comprehensive list or checklist has been established by our teams so that we can follow it to complete the project. Firstly, it was decided to do the product modeling and then the modeling of the furniture. Finally, extensive architecture visualization was done which included both the interior and exterior.

We found numerous website links from AAVA 3D which guided us in organizing the work in a proper manner. It provided vast information about the color sense, angle of the camera, lighting, and modeling of the list with a medium low poly.

CHAPTER 3

DETAILS OF SOFTWARE

3.1: Autodesk 3Ds Max:

3D animations, models, game object, and render images can be easily made with the expert 3D pc graphics application, Autodesk 3Ds Max. The application is widely used by developers of game, TV shows and by architectural visualization studios.

For its modeling and animation tools, the brand-new version of 3ds Max has added capable shaders (including ambient occlusion and subsurface scattering), dynamic simulation which greatly helps for modeling cloth items, particle systems and rendering, international illumination, the new 3ds max is heavily customizable. Users can customize the interface according to their needs, new icons, and its personal scripting language that can used for doing specific work.



Fig 3.1: Autodesk Max Software

Yost Group developed the 3D studio product for DOS platform and it was posted through Autodesk. When the 3D studio DOS 4 was release, it became the popular software for the Windows NT platform and it was renamed to 3D studio MAX. Yost Group developed it

and was launched via kinetics which eventually became the media and entertainment department of Autodesk. When it was relaunched, it was rebranded with the logo of Autodesk and it was renamed to 3ds max and the former product was named the current “Autodesk 3ds max”^[1]. It was the primary software that had been used to carry out the 3D visualization.

3.2: Vray:

V-Ray is rendering engine which utilizes the global algorithms of illumination which comprises of route tracing, irradiance maps, mapping of photons and direct computed illumination^[1]. The newer version of Vray also supports ray tracing that can use GPU power to accelerate the render time



Fig 3.2: Vray Plugin

To render real-time image, this software was used and it consumes too much time to render per frame although the result is impeccable and realistic.

3.3: Adobe Photoshop:

Adobe Photoshop[7] which is a raster photo editor was developed and posted through the company of Adobe Inc. for the users of Windows and macOS. It does both raster of photos and edit the textual content or render it and vector photos via clipping route and 3D photos and videos as well. Plugins enhances the characteristic of the software.

Photoshop from the start was able to documents in different formats, which include TIF, PEG, and GIF. These documents are smaller in comparison to the PSD documents because they do not have the editing capabilities of PSD file [].



Fig 3.3: Adobe Photoshop Software

Textures, post-production work was done using the software. Color correction was carried out after rendering was completed. It helped to get the perfect look that we were looking for.

3.4: Adobe Substance 3D Painter:

Adobe Substance 3D Painter could be a world driving arrangement for 3D texturing. It's a go-to 3D texturing app for imaginative experts with hundreds of savvy materials at your transfer and a capable brush motor that permits you to surface any 3D show in minutes. It can be compared to a 3D form of Adobe's Photoshop for advanced portray work. The most reason of Substance Painter

is to surface models. Its progressed veiling and procedural texturing tools permit you to form surfaces that are much harder to attain in absolutely 2D programs like Photoshop.



Fig 3.4: Adobe Substance 3D Painter Software

It includes a exceptionally soak learning bend, and requires a incredible sum of time, energy, and commitment to create even just the fundamental aptitudes, particularly in case you're attempting to learn it on your possess

CHAPTER 4

PROJECT WORKFLOW

4.1: Modeling:

3D modeling is the process of manipulating polygons, edges, and vertices in virtual 3D space to create a 3D representation of any surface or object that can exist in real life or straight from the imagination. In movies, animations, architectural visualization and video games, we can see unique and inventive creatures and structures which are made digitally with the help of a 3d software. [8] For this project we chose Autodesk 3ds Max 2020 as our main modeling tool. As we work in team we have to use the same version of the software for convenience. Boxes, spheres, lines, and cylinders are among the standard primitives that were manipulated with different modifiers to achieve the desire geometrical shape we want. Modifiers like edit poly, shell, extrude, cloth, mesh smooth, insert, bridge, combine, and FFDs like bend, lattice, and so forth. When modeling the models, it is essential that all of the polygons be kept as quads as it does not do any distortions and easy to UV unwrap. Here's a rundown of all the models I made, as well as their numerous implications

4.1.1: Ophelia Bench:

The model [9] name is Ophelia bench. I was given a reference picture of this model along with its dimension. At first I had to set the system unit to millimeters and display unit to decimal inches. Then I took a box with the same dimension and began to model inside the box to get the dimension properly.



Fig 4.1: Reference Image of Ophelia bench

Then I took a plane to make the wooden base in the same height of the reference image. Then I gave it a shell modifier to give the plane same thickness of the wooden base. After that I applied an edit poly modifier to edit the mesh. Then I used swift loop tool using shortcut $atl+1$ and added some new geometry that can extrude to make other wooden part of the model. Then I took a box of the thickness of the seat and chamfered the upper part to make it more rounded like the reference image. Then I use tessellate modifier to give it more geometry as I need to use cloth modifier on it to make more soft like surface. Then I made one leg using cylinder as my base and used edit poly to give it shape like the reference. Then I took the axis of the leg and made its coordinate $0,0,0$ and copied its mirrored version to the X axis and done same for the Y axis. Then I added a chamfer modifier to make the hard edge a bit rounded like the real object in the world

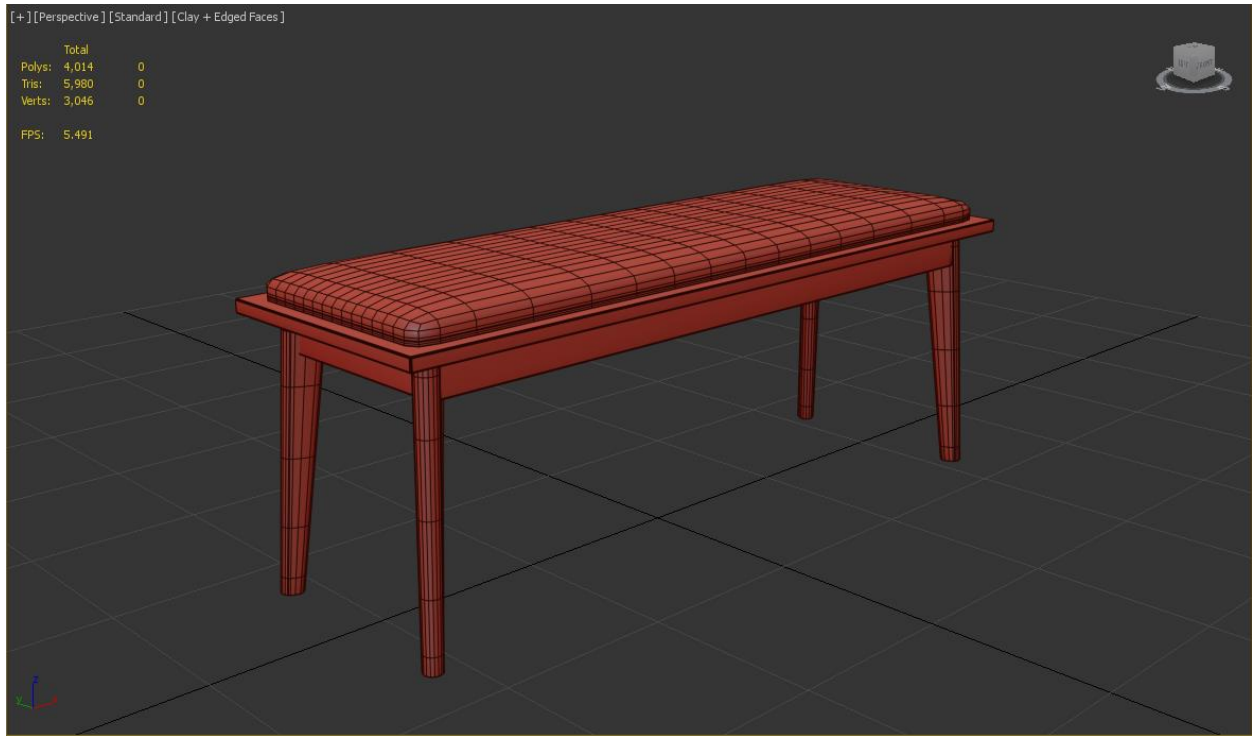


Fig 4.2: Edged Faces Mode of Ophelia bench



Fig 4.3: final model of Ophelia bench

4.1.2: Aliso Desk:

After setting up the unit and making sure everything is ok with the settings, I took the reference image and the dimension. I made a box with the same dimension and modeled the décor in it to make sure it's within the same dimension.



Fig 4.4: Reference of Aliso Desk

After that I took a plane with the same length and width of the reference object and extrude it to make the upper wooden desk part. Then I used a shell modifier to give it same height of the desk and added an edit poly modifier to it so that I can add some edges using connect tool. I added the edges as the same distance of the drawer so that I can detach the geometry and edit it separately. Then I used cut tool to get the shape of the drawer handle. then I extruded the drawer shapes. For the legs I used cylinders and placed them according to the reference image. After that I added a chamfer modifier to smooth the edges. And made sure my scale was 1:1 ratio to the real object.

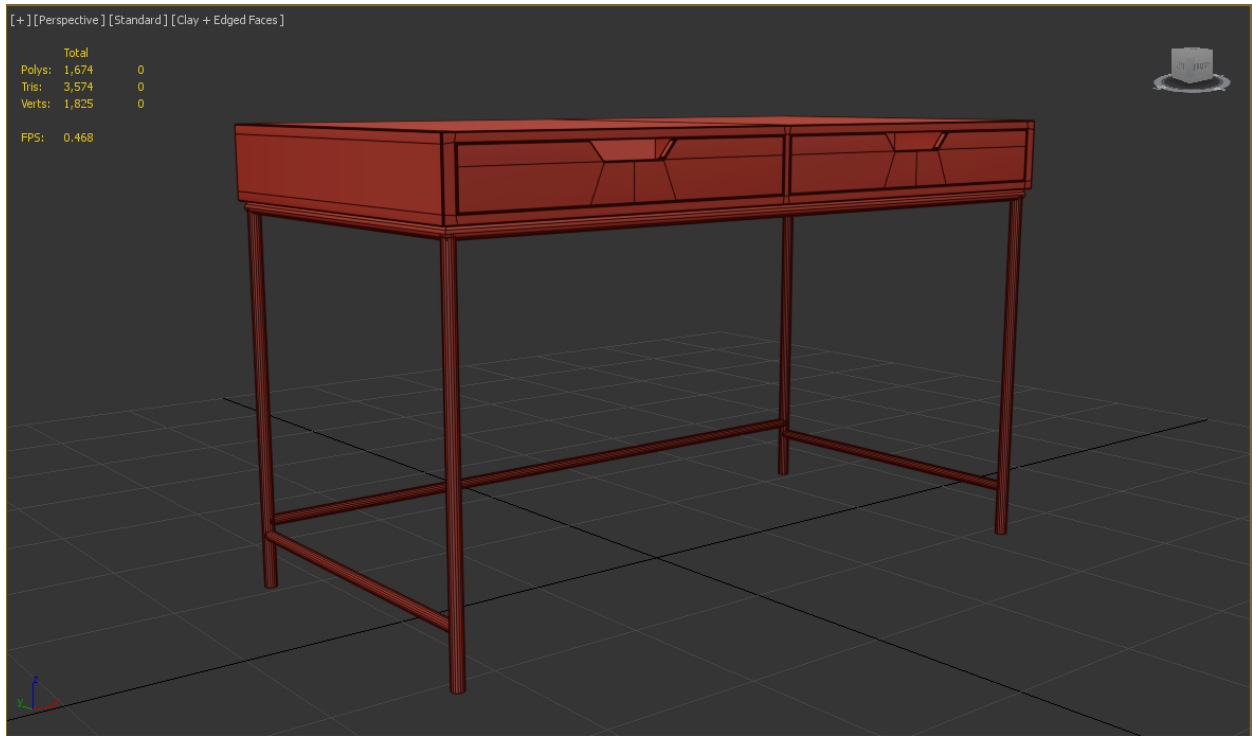


Fig 4.5: Edged Faces Mode of Aliso Desk



Fig 4.6: Final model of Aliso Desk

4.1.3: Parke Bookcase:

Making sure unit setup is right I began to model the bookcase according to the reference image. And made a box with the same dimension of the bookcase to have the exact 1:1 ratio of the real object.



Fig 4.7: Reference of Parke Bookcase

For this model I copied my reference box and applied an edit poly modifier and got rid of the front part. Then I applied another edit poly and began to add edges where the self would be. Then I detached the self-part as clone and began to extrude it. For the design in the inside I made some edges according to it and extruded it inside. And for the legs I took a box and extruded out the legs from it to match the reference.

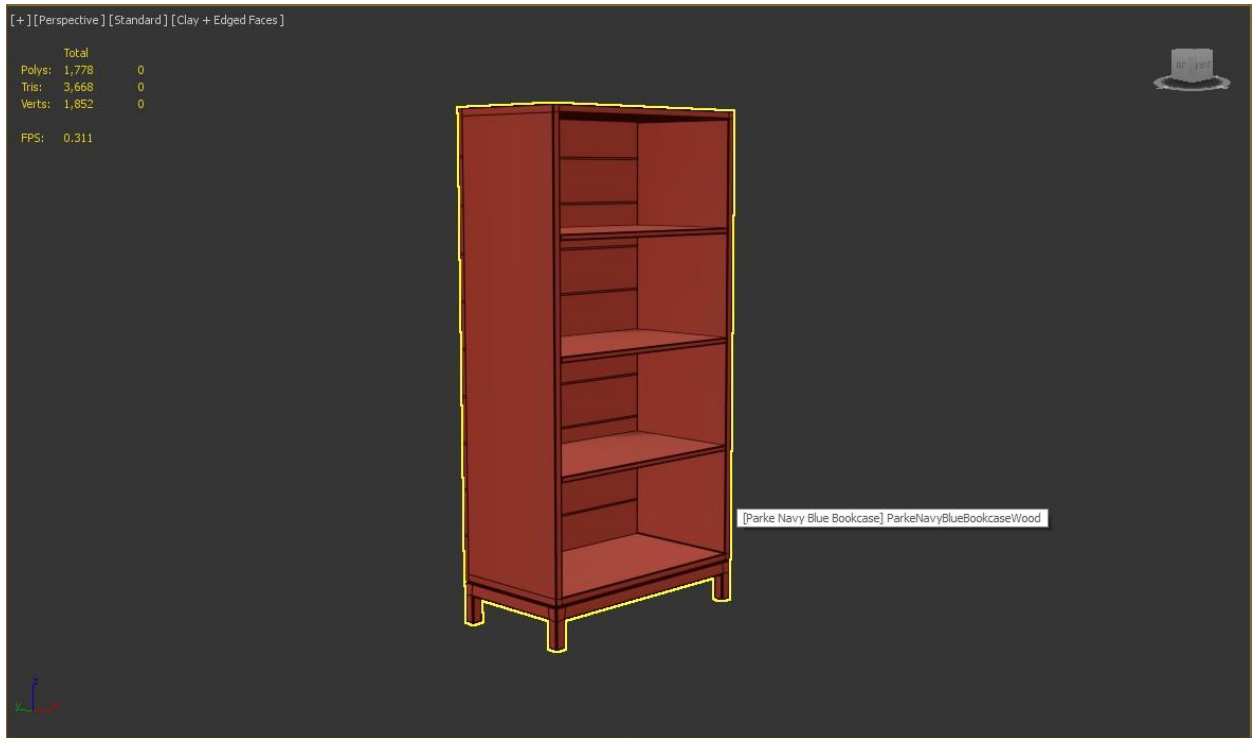


Fig 4.8: Edged Faces Mode of Parke Bookcase



Fig 4.9: Final Model of Parke Bookcase

4.1.4: Wide Armchair:

The wide armchair was a challenging model as it was a semi soft surface. So I had to be very careful making it. The main challenge was to make it in a semi low poly and still have its softness. so I began to model it with proper dimensions with the help of the reference image. Which was a one sided view and I had to research similar armchair to get full idea and over view of the model.



Fig 4.10: Reference of Wide Armchair

As usual I began to model by taking a plane and extruded it till the seat height. Then I took an edit poly modifier and added edges in the position of its arm. Then I extruded the arms from the same mesh. To make the seat I took a part from the previous mesh from the shape of its seat. Then I added a shell modifier to give it height. After that I took a box to make the pillow. Then I applied a tessellate modifier to give it some more uniformed geometry. After that I applied a chamfer modifier to all the meshes to give it a soft look. But still the mesh wasn't felling soft enough so I added a cloth modifier. In its parameter I made the gravity 0 and applied a little bit of pressure to inflate the model. Then I stopped the simulation to my desire frame and made it editable poly to make the simulation permanent. And for its legs I used chamfered boxes.



Fig 4.11: Edged Faces Mode View of Wide Armchair



Fig 4.12: Final Model of Wide Armchair

4.1.5: Morton Wood Floor Lamp:

The lamp was relatively easy to make as it contains simple shapes. The reference image was clear and dimensions were provided.



Fig 4.13: Reference of Morton Wood Floor Lamp

The lamp contains two main shapes and they are cylinder and box. So started the modeling by taking a box and made it into its base. The corners were rounded so chamfered the corners. Then I took a cylinder and made it to its body. And then I took another cylinder and made it to its shades by deleting its upper and bottom part in edit poly. Finally, I gave the shade a bit of inner shell like a real object.

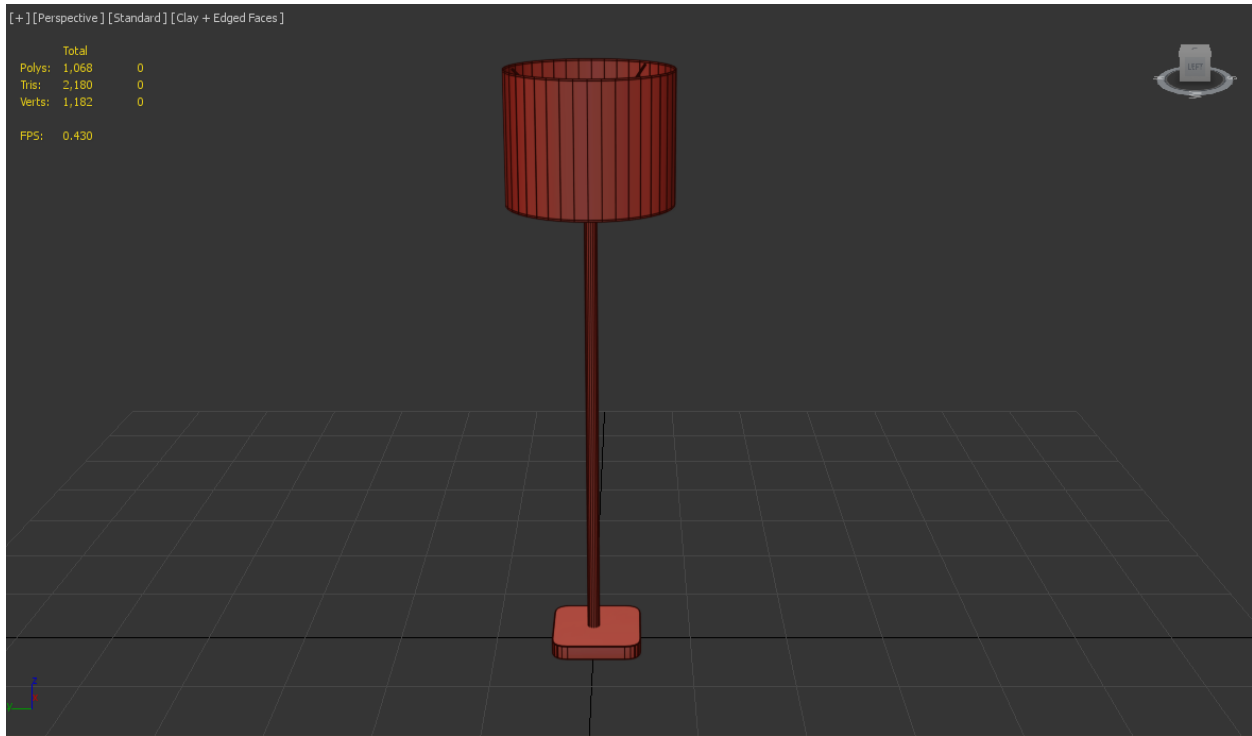


Fig 4.14: Edged Faces Mode of Morton Wood Floor Lamp

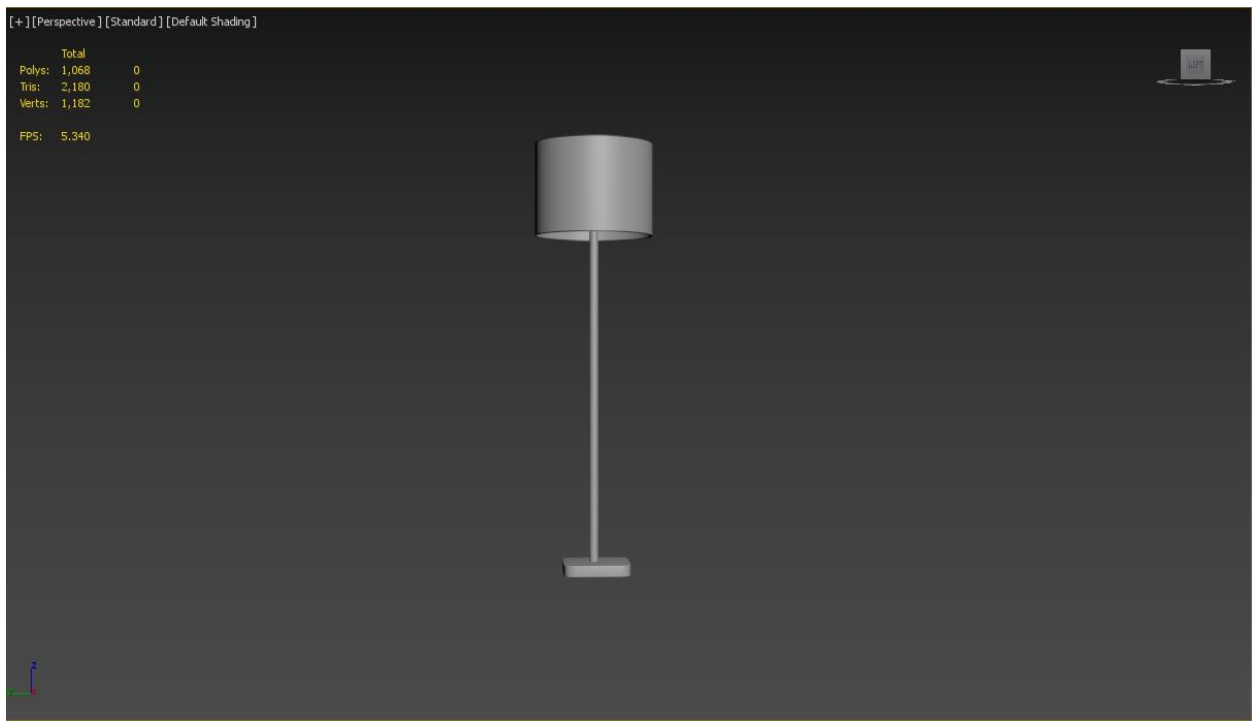


Fig 4.15: Final Model of Morton Wood Floor Lamp

4.1.6: Wood Accent Chair:

This model was a tricky model. As the real chair has organic feel to it. And it was a bit more challenging because the reference image was taken in a certain angle which made it difficult to model. But fortunately the proper dimension of the model was given that greatly helped to model it as close as the reference image.



Fig 4.16: Reference of Wood Accent Chair

For this model I first made the arms of the chair as it was the most complicated part of it. I made it by tracing the arm with a line. then gave it thickness and then I edited the line with edit poly modifier to match the curves and the thickness of the arms like the reference. Then I made other wooden part of the model with boxes and made them editable to match the true shape of the model. After the wooden part was looking like the reference I modeled the seat and cushion using a box giving it a chamfer and enough geometry to inflate with cloth modifier. Then I applied a turbo smooth modifier to make it look as soft as the reference.

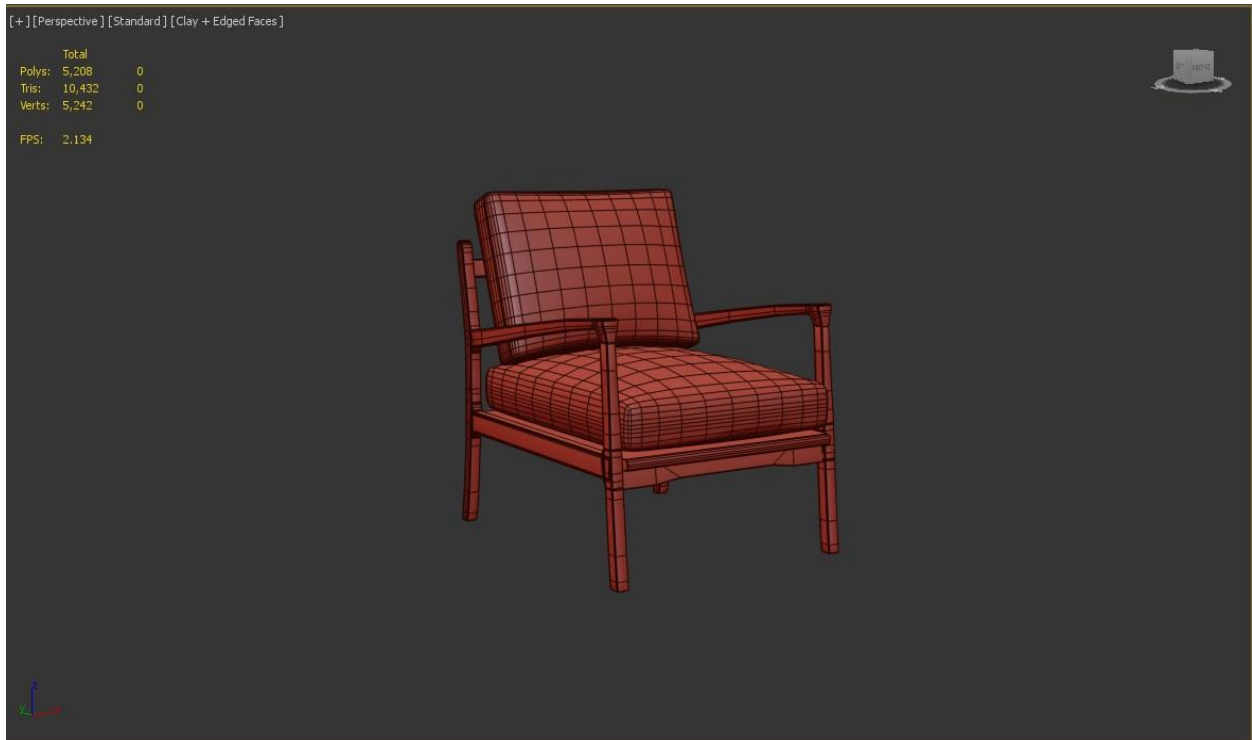


Fig 4.17: Edged Faces Mode of Wood Accent Chair

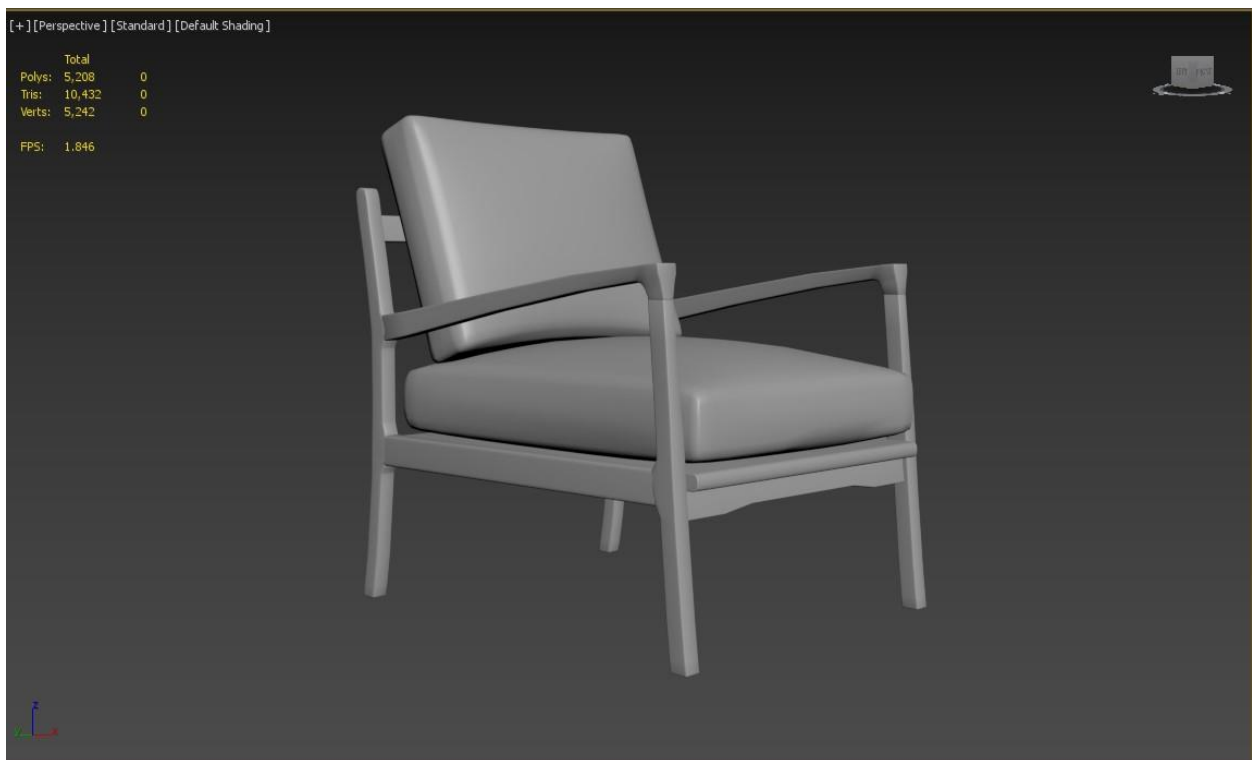


Fig 4.18: Final Model of Wood Accent Chair

4.1.7: Scalino Right Arm Chaise Sectional Sofa:

This is also a complex model as there are soft surface there. But the reference image was very clear and with the help of the dimension I began to model the sectional sofa.



Fig 4.19: Reference of Scalino Right Arm Chaise Sectional Sofa

For this model I again began with plane and began to cut out the pieces of the sofa from the plane to extrude them individually. This helps to get correct shape and sizes of every part of the sofa. When the base of the sofa is done extruding I applied a chamfer modifier to make it more soft like. Then I began to model the cushion from a box by applying chamfer modifier and giving it enough segments to apply cloth modifier to make it look more like cushion. Then I added its leg by editing some cylinders.



Fig 4.20: Edged Faces Mode view of Scalino Right Arm Chaise Sectional Sofa

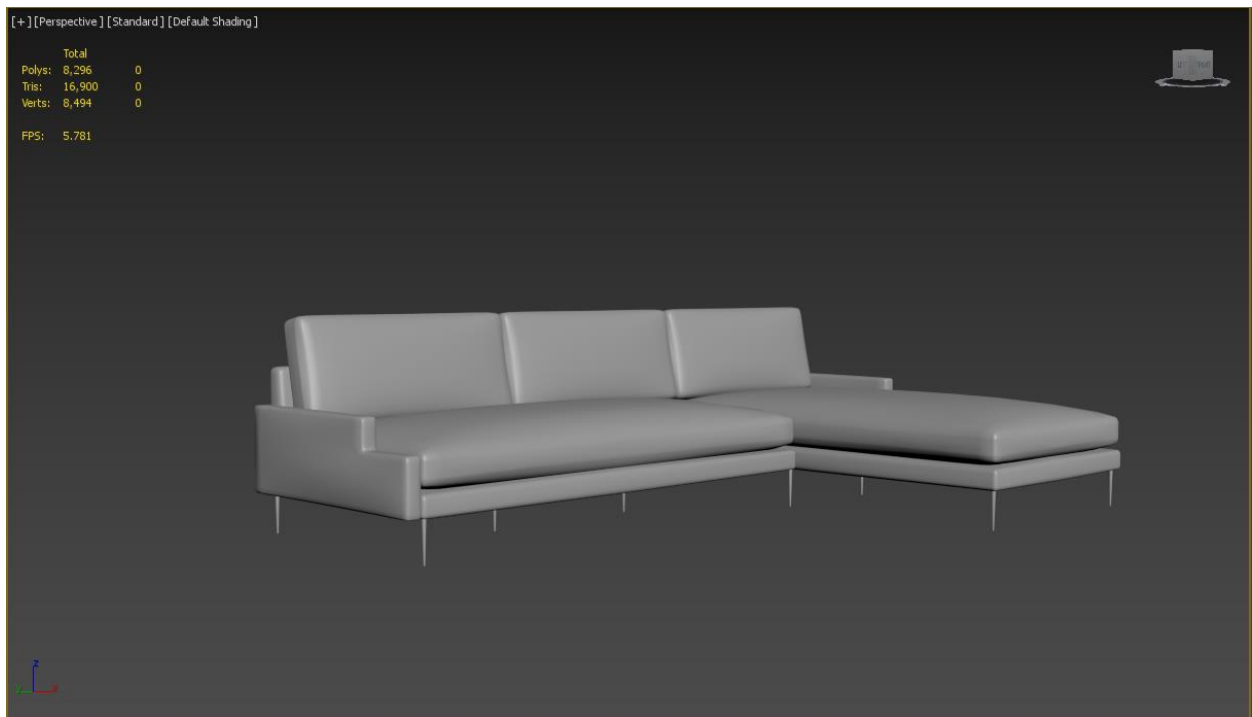


Fig 4.21: Final Model of Scalino Right Arm Chaise Sectional Sofa

4.1.8: Urba Beach Sand Sofa:

This might look like a complex model as there are many small details in the frame of this sofa but it was relatively easy as the small details can be done in texture in substance painter.



Fig 4.22: Reference of Urba Beach Sand Sofa

First taking a plane of same width and depth I began to cut the 2d shape of the sofa in top view. Then I extruded my geometry in edit poly modifier as the shape of the pillow. Then I added more geometry to the mesh and chamfered the edges to give it a soft look. then I applied a cloth modified to make a bit puffy to complete the cushion. I did the same thing for the back rest. Then I added the wooden part as with a box and edited it to match like the legs of the sofa and copied it to the exact point like the reference. And for the arm of the sofa I just took a box and chamfered the edges.

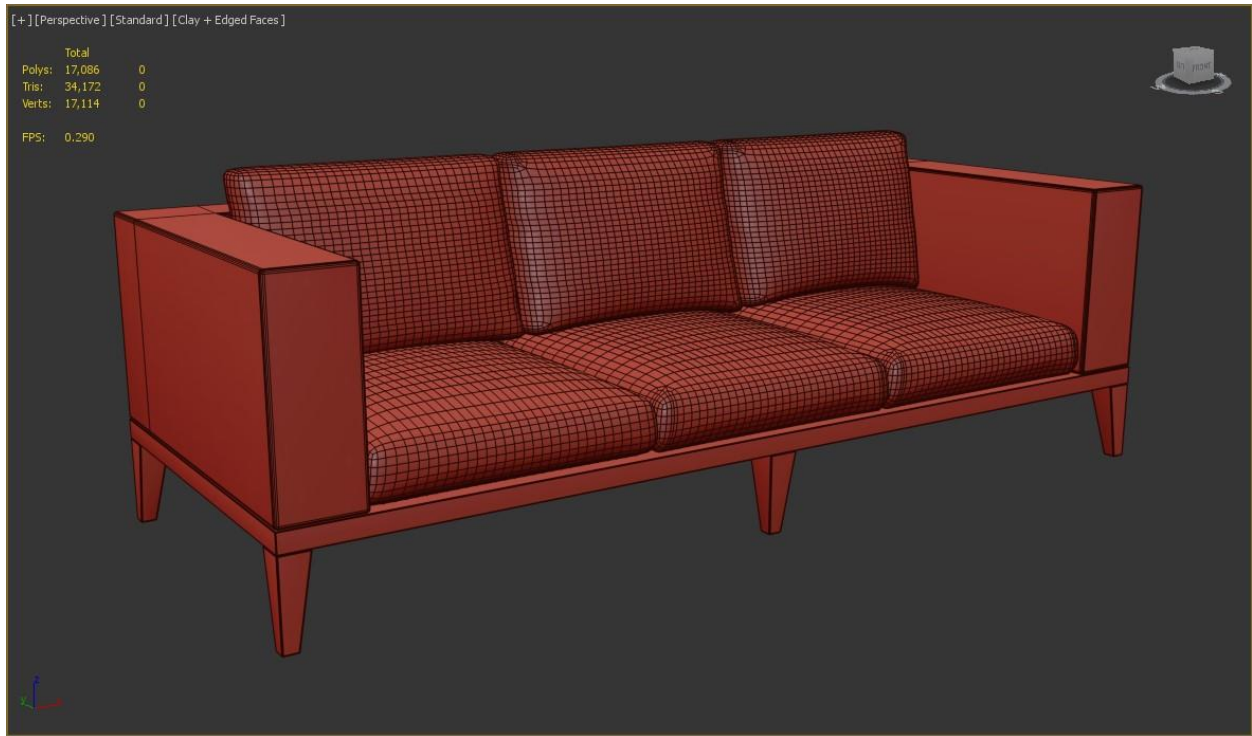


Fig 4.23: Edged Faces Mode of Urba Beach Sand Sofa

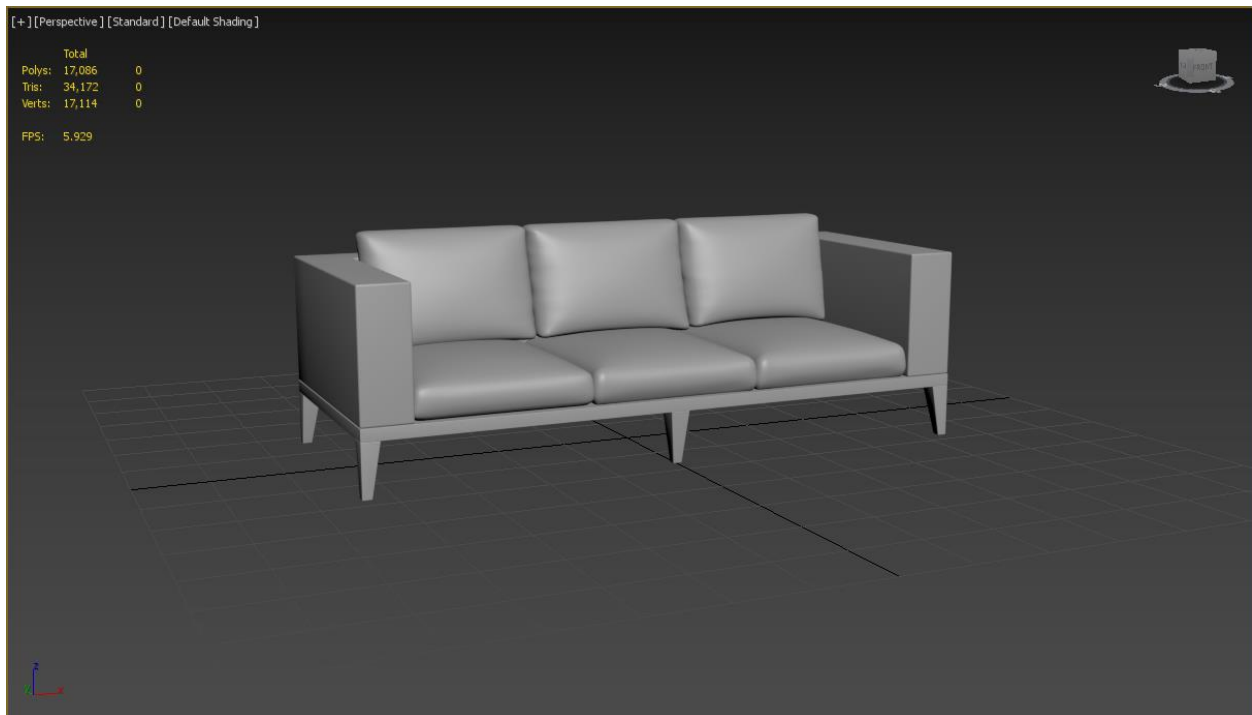


Fig 4.24: Final Model of Urban Beach Sand Sofa

4.1.9: Buford C Nesting Table:

This is a round table. So to model this we have to maintain its curvature by making it from a cylinder.



Fig 4.25: Reference of Buford C Nesting Table

For this we have to take a reference box with the dimension provided to me. Then we have to make a cylinder in the reference box with the same diameter of the box. Then we have to scale the cylinder by height to match the wooden part of the table. Then we have to take a tube with same diameter of the wooden part and give it a bit thickness inside to make the legs. Then copy the tube and move it in the Z axis to make the bottom part. Then we have to make it editable poly and delete some poly to make it a C shape like the reference. Then we have to cap the holes. After that we have to extrude the legs and connect it to the upper part of the table. After all of these we have to give it a chamfer modifier to make the sharp edges smooth.

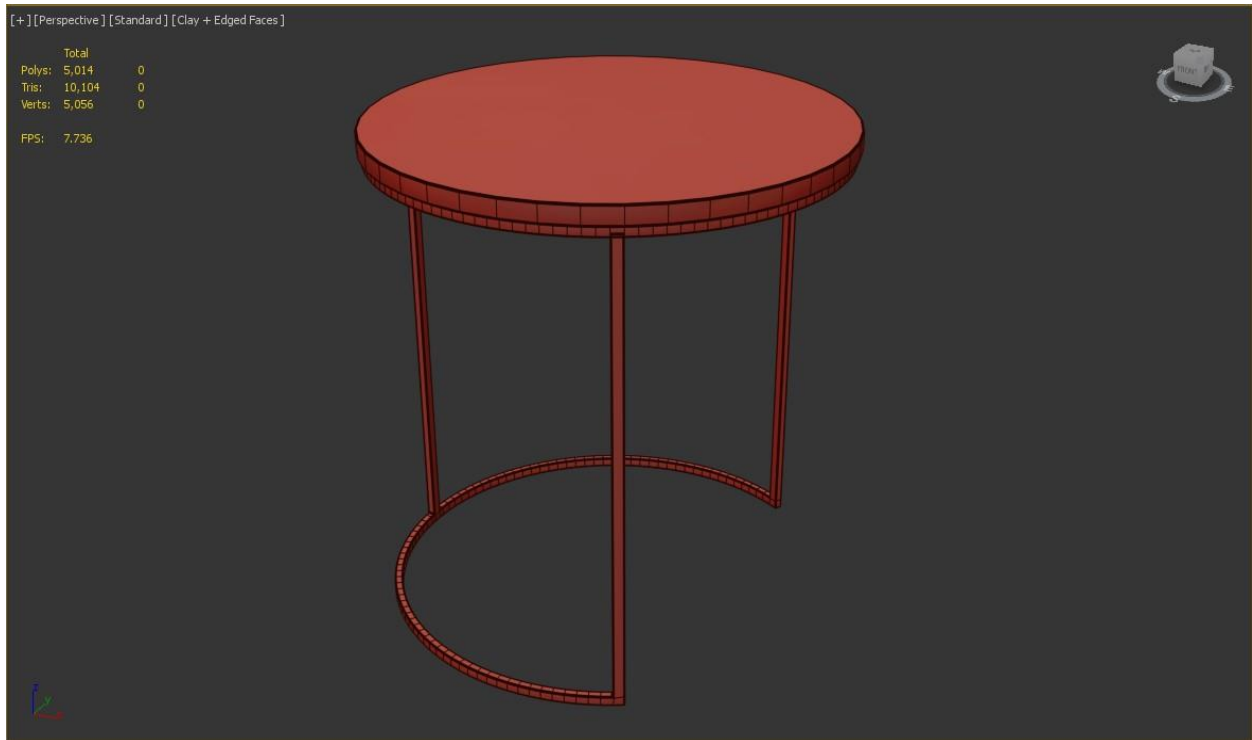


Fig 4.26: Edged Faces Mode of Buford C Nesting Table



Fig 4.26: Final Model of Buford C Nesting Table

4.1.10: Brie Solid Wood Upholstered Dining Chair:

This model is also a complicated one as it has many details and lots of smooth edges. I had to model all of the details to match the reference image.



Fig 4.27: Reference of Brie Solid Wood Upholstered Dining Chair

For this model I got my measurements in a box shape and began to model it within the box shape. First I took a plane with the exact width and depth of the reference and began to add edges using edit poly modifier with connect command to make arms. Then I detached the arm part and gave it a shell modifier to add height. Then I cut the arms like the reference image using cut tool. Then I chamfered the object to make it smooth. Then I added mode poly with tessellate modifier. Then I applied cloth modifier to inflate the arms. Then I made seat using shell and chamfer and cloth modifier the exact way. After that I added turbosmooth modifier to make it real like. For the seams I used line and gave it a width according to the reference. To make the legs I used cylinders and added edit poly modifier and gave it the angle like the image and scaled down the bottom to match exactly like the reference.

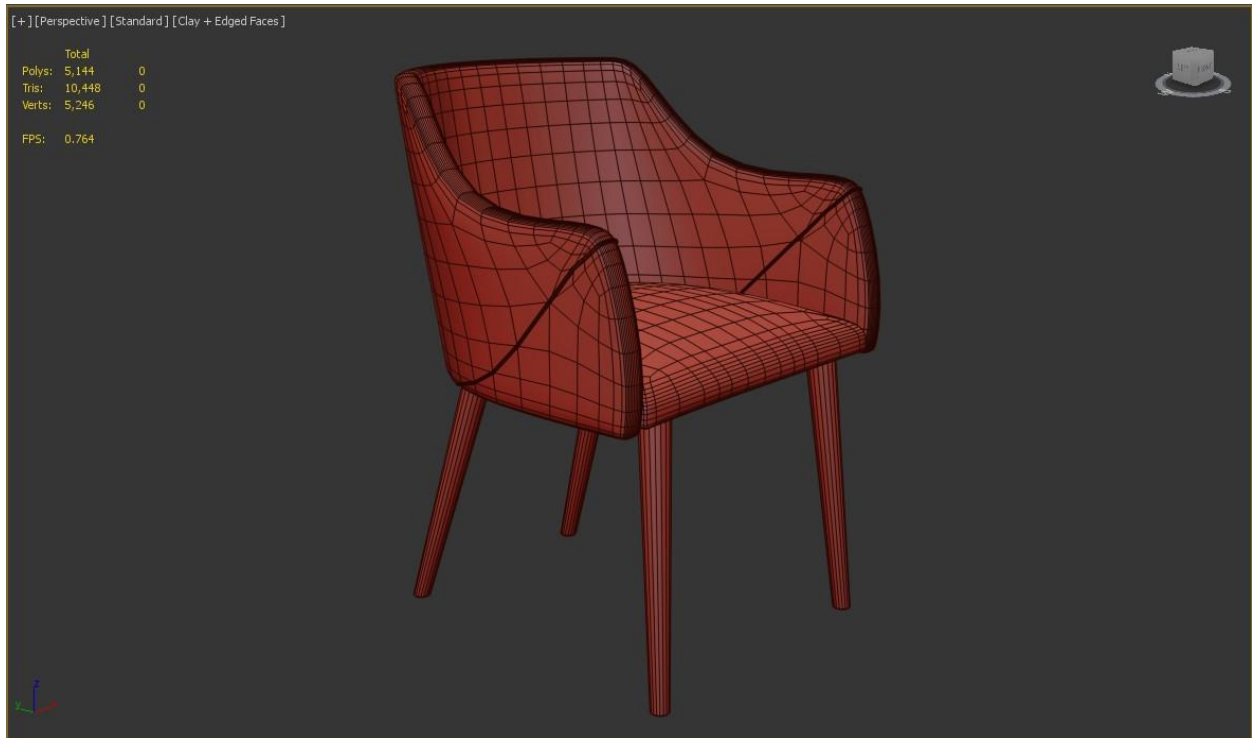


Fig 4.28: Edged Faces Mode of Brie Solid Wood Upholstered Dining Chair



Fig 4.29: Final Model of Brie Solid Wood Upholstered Dining Chair

4.1.11: Costway 10 ft. Market Hanging Sun Shade:

This particular model was a bit difficult as there are many hard surface details and these all had to be modeled separately.



Fig 4.30: Reference of Costway 10 ft. Market Hanging Sun Shade

For this model I had to start with a box shape and apply edit poly and delete the bottom and side polygons and extruded the side edge to make the legs and applied a shell modifier to give it a thickness. And rotated and copied this to make the other leg. Then I took a cylinder and extruded some part of the cylinder inside to match the pole of the umbrella. For the clip of the umbrella I also extruded the parts from a cylinder and positioned the polys in such way that it matches my reference. For the upper part of the poly I made it with line and followed the curvature of the reference. Then I gave my line a thickness to match the reference. Now for the umbrella I took a sphere with 8 divisions and deleted some polys from the bottom to match the 8 sides of the umbrella. Then I scaled down the geometry to match the picture above. For the spikes of the umbrella I just modeled one part of it and array it 8 times in Z axis 360 degree and connected them with another cylinder. Then I grouped my umbrella and positioned it like the reference.



Fig 4.31: Edged Faces Mode of Costway 10 ft. Market Hanging Sun Shade



Fig 4.32: Final Model of Costway 10 ft. Market Hanging Sun Shade

4.1.12: Corliss Upholstered Arched Arms Loveseat Beige:

This model of sofa has some unique feature as it has arched arms and legs that makes it stand out from other sofas like it.



Fig 4.33: Reference of Corliss Upholstered Arched Arms Loveseat Beige

For the arched arms and legs I had to preplan the process to make it as close as the reference. First I took a plane and gave it some subdivision in width. Then I connected edges in edit poly mode approximately in the width of the arms. Then to make it more arched like I took a FFD 4x4 modifier and selected the upper and lower control point and just scaled them down a bit. That gave the arched look that I was looking for. Then I detached the arm part and applied a shell to extrude the arm out. Then I applied chamfer and turbosmooth to make it like the reference. Then I made the bottom part of the sofa with the other part of the plane with similar process of the arm. The seat, backrest and the cushion were made with boxes with enough subdivision and proper chamfer. After that I used cloth modifier to inflate them and then to confirm the cloth modifier effect I again

made it an editable poly and applied turbosmooth. For the legs I just took the arm shape and copied it once in the Z axis and attached them. Then I bridged the edges and applied shell modifier to give it thickness. And copied and mirrored the leg the other side to complete the model.



Fig 4.34: Edged Faces Mode of Corliss Upholstered Arched Arms Loveseat Beige

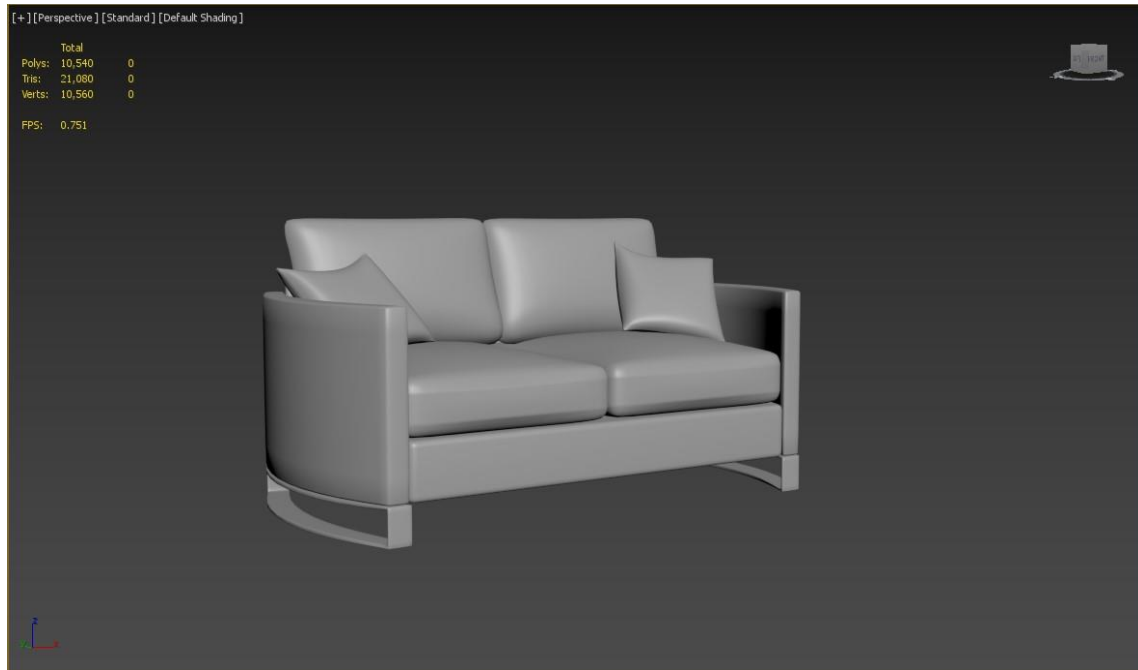


Fig 4.35: Final Model of Corliss Upholstered Arched Arms Loveseat Beige

4.1.13: Lehmann Leather Armchair:

This model is different as it has polys making different pattern in the seat and backrest area



Fig 4.36: Reference of Lehmann Leather Armchair

To make this model I had to use a box shape and gave it enough polygon to make the pattern inside. Then I made enough connect and extrude in edit poly modifier to get the desire pattern in the image. Then I pulled some polygon inside and applied a turbo smooth to smooth everything out. For the legs I used line and enabled in render in viewport and in renderer then gave it a box shape. After that I made them editable poly and made the exact same thing on the other side to complete the legs.

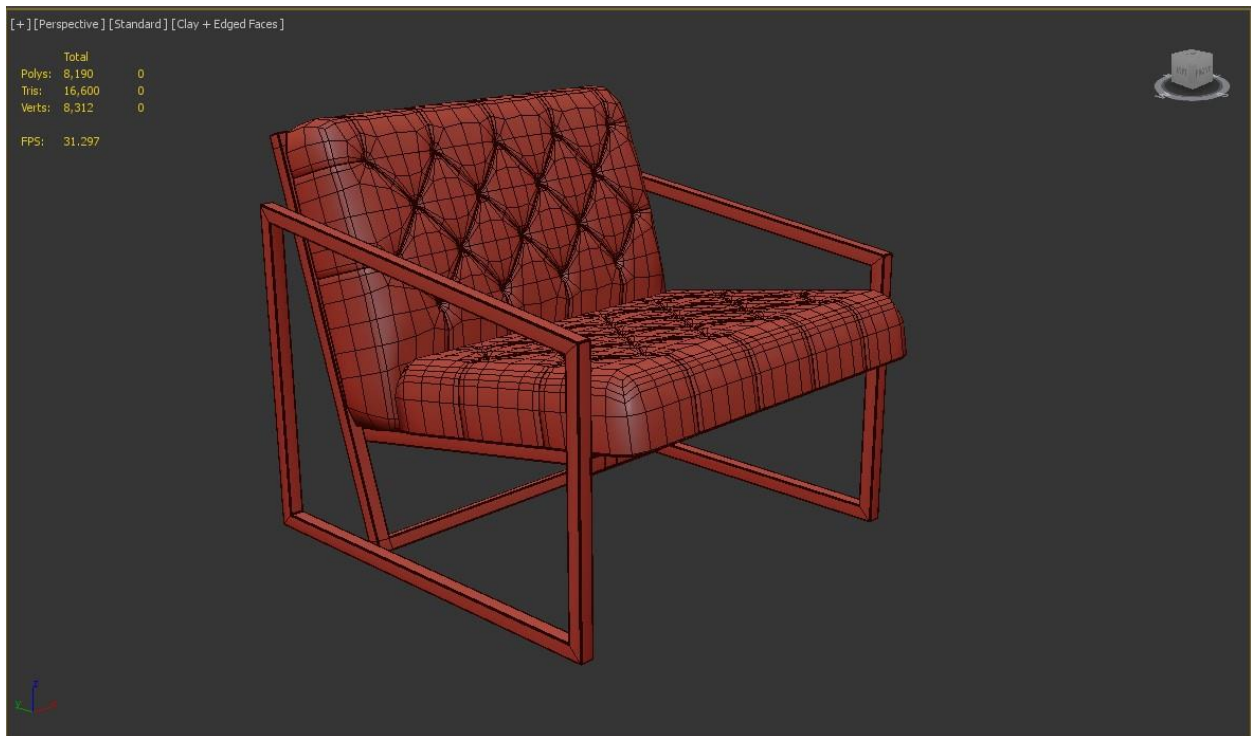


Fig 4.37: Edged Faces Mode of Lehmann Leather Armchair



Fig 4.38: Final model of Lehmann Leather Armchair

After that I UV unwrapped the model in 3ds max.

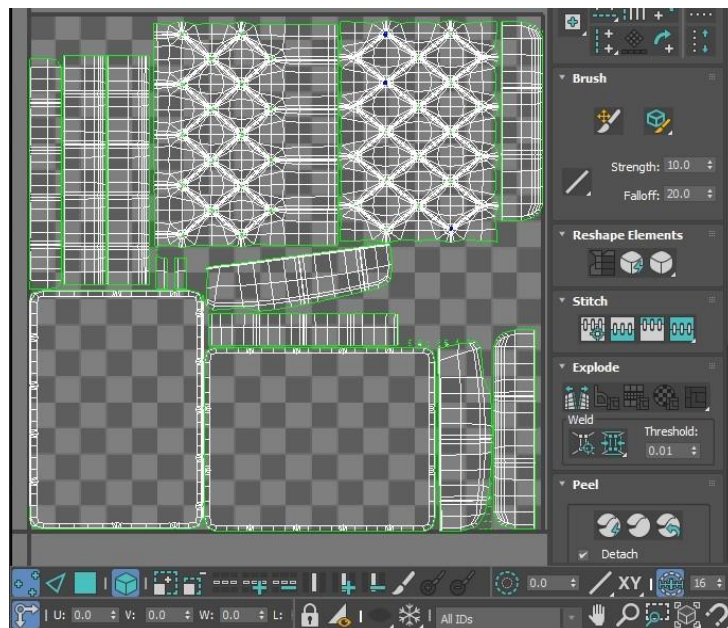


Fig 4.39: UV Unwrap of Lehmann Leather Armchair

Then I exported the model in .FBX format and exported it in Adobe Substance Painter to texture the model. After texturing I exported the texture in 2k resolution and exported them in 3ds max material editor.

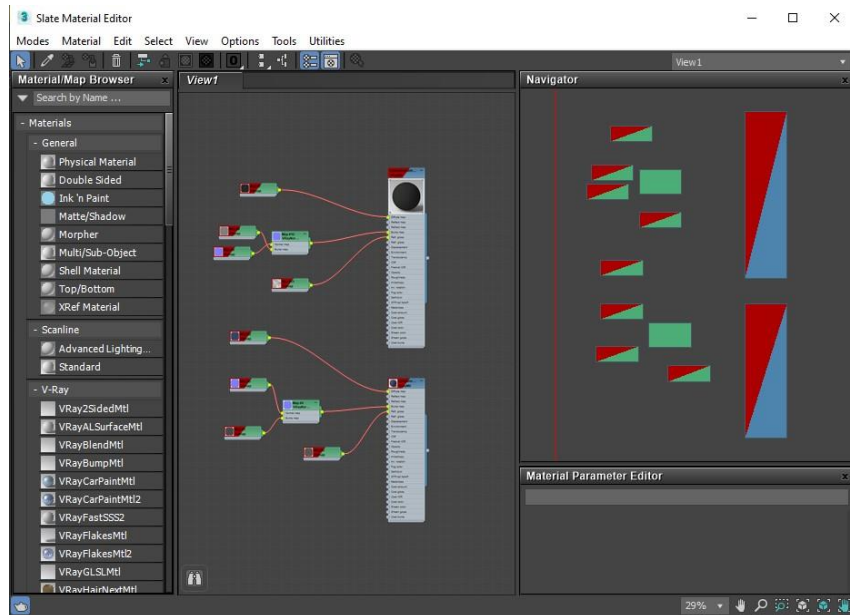


Fig 4.40: Material of Lehmann Leather Armchair

Then I rendered the image in Vray for 3ds max in JPEG format to see the output.[10]



Fig 4.41: Render of Lehmann Leather Armchair

4.1.14: Reeve Coffee Table:

This coffee table was simple yet beautiful. I enjoyed the process to model this one.



Fig 4.42: Reference of Reeve Coffee Table

The model is contained with some box shape so if I could arrange the box shape in such way that I could make this with boxes with some editing here and there. So this is what I did. First I took a box with the proper dimension then I scaled the box down to make the table top. Then for the legs took another box and angled them in such way that it matches the reference. For the bottom part I used boxes to make the leg rest and plane in the middle of it. There is an arched part in the table with the table top. For that I used FFD 4x4 to make the arch. Finally I added chamfer modifier to make the edge a bit smooth.



Fig 4.43: Edged Faces Mode of Reeve Coffee Table



Fig 4.44: Final Model of Reeve Coffee Table

Then I did some UV unwrapping.

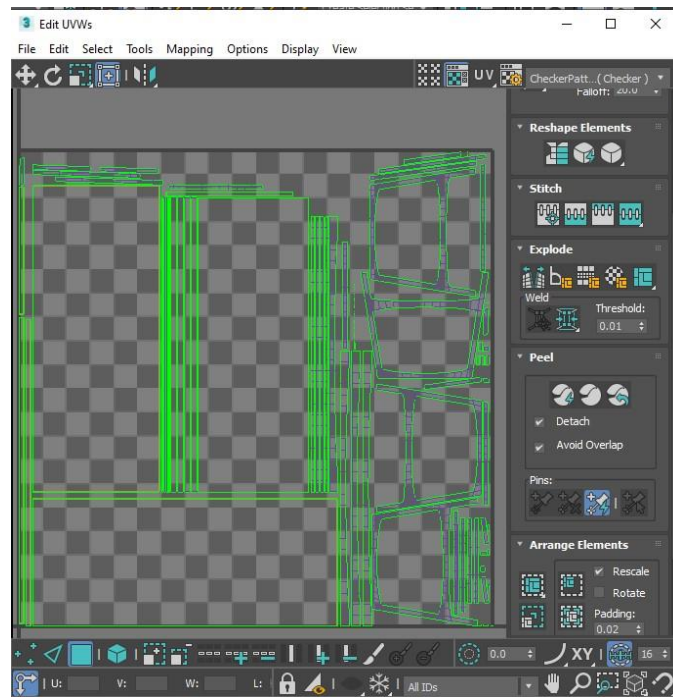


Fig 4.45: UV Unwrap of Reeve Coffee Table

After texturing in substance painter I took the bitmaps in 3ds max and applied it to the model and set up lighting then rendered it out.



Fig 4.46: Render of Reeve Coffee Table

4.1.15: Brianna Sectional with Ottoman:

This is a modern and clean looking sectional with an ottoman. As it is a big model I had to be very careful modeling it.



Fig 4.47: Reference of Brianna Sectional with Ottoman

For this model I started with a reference box with the dimension of the sectional. Then I took a plane with same width and depth. Began to add segments in the area of its back rest, arms and seats. For this I use connect tool in edit poly modifier. Then I used shell modifier to give proper height to every part of the sectional. Then I add a chamfer modifier to give everything a soft feel. For the cushions and seat I used box and added chamfer modifier to them. Then I added cloth modifier and bloated it to make it cushion like. After that I used turbosmooth to soften everything. For the legs I used box with a bit of chamfer. The ottoman was made the same way like the sofa. After that I arranged everything like the reference.



Fig 4.48: Edged Faces Mode of Brianna Sectional with Ottoman



Fig 4.49: Final Model of Brianna Sectional with Ottoman

As the model is very simple for the uv mapping I just did flatten map and it did the work just fine.

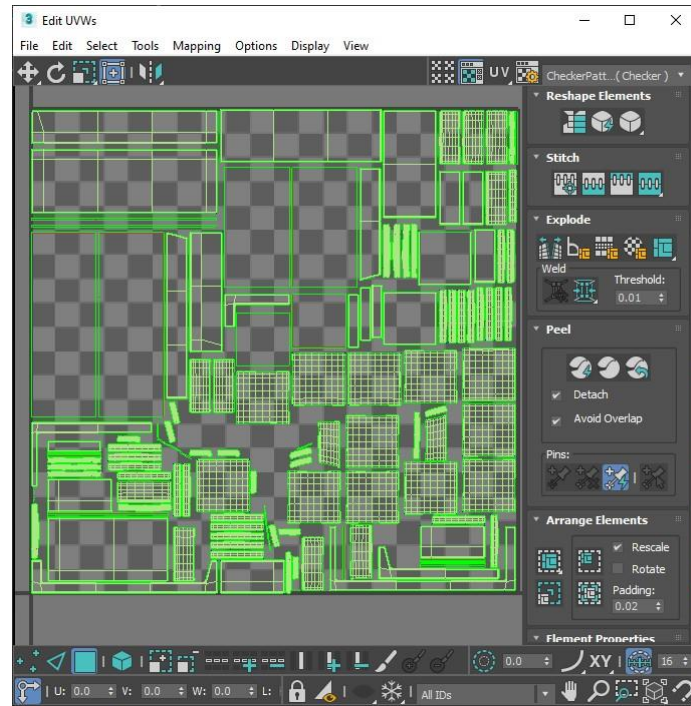


Fig 4.50: UV Unwarp of Brianna Sectional with Ottoman

Then I imported the model in fbx format to import in substance painter and made material there for this model. After making the materials I exported the materials in jpeg format as maps. Then I opened 3ds max's slate material editor and assigned each and every maps in their correct slot of Vray material. And assigned the material to the correct part of the models. After this my model was ready to render in Vray.

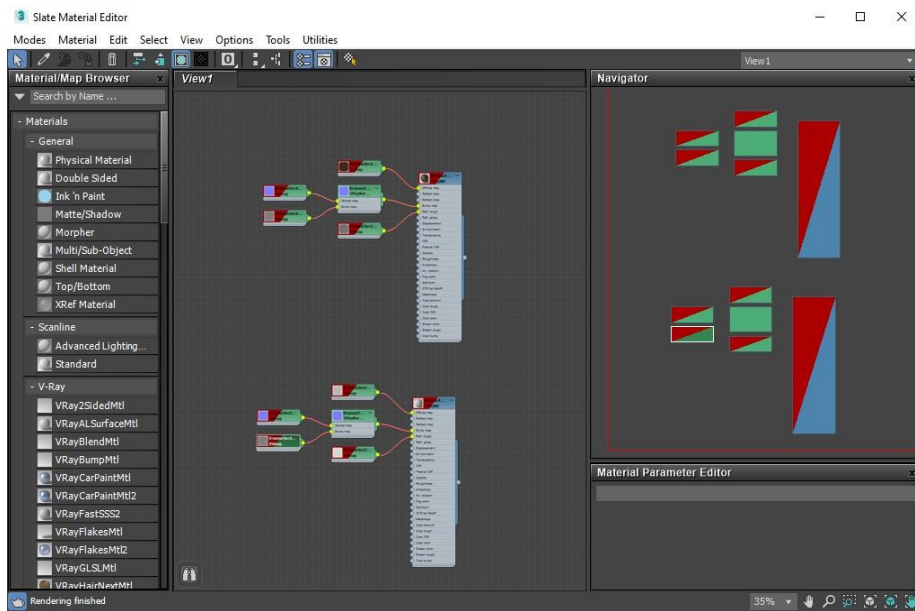


Fig 4.51: Material of Brianna Sectional with Ottoman

After setting up the scene and lighting I rendered the model.



Fig 4.52: Render of Sectional with Ottoman

4.1.16: Other Renders:

I've rendered many files in the duration of my internship. Due to limitation all files cannot be explained in this report. Here are some of the files that I also rendered. For all the rendering I used Vray for 3ds max only. And for colour grading I used Photoshop.



Fig 4.53: Render of Regents Dining Chair



Fig 4.54: Render of StyleWell Finwick Black Metal Backless Bar Stool



Fig 4.55: Render of Rylie Sofa



Fig 4.56: Render of Monroe Tufted Sofa



Fig 4.57: Render of Zentique Daveny Console 2 Door Accent Cabinet



Fig 4.58: Render of Olivier Bench



Fig 4.59: Render of Everson 1 Light Plug-In Armed Sconce

CHAPTER 5

LIMITATIONS AND CHALLENGES

5.1: Limitation:

Everyone and everything has some limitations. Every mistake I made during this internship I learned something new. First of all, planning the model was very difficult. I had to plan ahead just seeing the model. Sometimes it worked in first time some time it took me several tries to get it right. And there were some mistakes on my end that also killed lots of time. There were lots of limitation to model the home decor. Like we were given a chart where very item had its tri count limitation. With this limitation we had to be very careful modeling each and every thing they gave us. So we had to sacrifice some small details here and there to get the model right. Then there were some limitation regarding the texturing part as we only focused on modeling. But knowing the fundamentals we were able to texture some of the models just fine. There were many resource issue here and there. But the big limitation was our experience. That cost us lots of time in the beginning but as time passed it became a smaller and smaller issue. There were also some limitation regarding the reference. There were certain times where the reference was not clear or it was in such angle that it was difficult to model in 3d. Sometimes the dimension that were given to us was not clear and we had to guess dimension that really slowed down our work. There was also some software issue here and there like crashing or not working properly that killed some of our time.

5.2: Challenges:

There were a big team involved in this project. Everyone had different task. So to work on a same project we had to maintain a file format, same version of the software, same project management. Learning this was a big step forward.

Then there were the tri count limitation. For this we had to be very careful and had to constantly watch out for any extra polys. But even with being this careful sometimes it was impossible to model some home decor with this tri count. For this we had to use another plugin named simplygon. It allowed us to go beyond our tri count. Because with this plugin were able to reduce polygons without destroying the model. It can reduce any geometry without deforming the model in some length.

Sometimes the reference image was not clear at all. So to overcome this challenge we could search the name of the model and might find the same exact item in other website where there might be higher resolution image or different angle of the reference image. If there were no other website or we were unable to find it with name search we would do a reverse image search within google. Then google would show us similar images across the internet. That solved our reference image problem.

For the software crashes we had to constantly save the file after a big change. That's how we were able to save our self from staring a model all over again when the software crashes.

These are some of the challenges we overcame out of all challenges out there.

CHAPTER 6

CONCLUSION

This internship has given me opportunity to work with different people and learn different things from them. It has allowed me to explore many 3d software and learn the techniques to make model and texture them more easily and effectively. Through this experience I learned new ways of modeling, texturing and rendering.

From this I also learned how companies work and got real life experience how to maintain a big project for a big client. I also learned how to communicate with my coworker and how to maintain and save time in making 3d models. Even though there were lots of challenges and limitation I think I was able to overcome these at the end of my internship and now can confidently say that I can model any home décor easily.

The concept of 3d modeling is still very new to our country, however it's getting more and more popular now a day with help of organization like AAVA 3D. I'm very glad to able to work with such organization and satisfy them with my work.

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