

FINAL YEAR PROJECT REPORT

**INTERNSHIP AT AAVA 3D:
IN “3D FURNITURE 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

Supervised By

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DAFFODIL INTERNATIONAL UNIVERSITY

DHAKA, BANGLADESH

MAY 28, 2022

APPROVAL

This project titled "**3D Furniture Modeling**", submitted by Sheikh Mohammad Ataul Hakim Zigor 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 was held on 28/05/2022

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I, at this moment, declare that I have done this project under the supervision of **MR Arif Ahmed, Associate Professor, Department of MCT** Daffodil International University. I also declare that neither this project nor any part of this project has been submitted elsewhere to award any degree or diploma.

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

ABSTRACT

The way people express their thoughts is changing every day. One of the newest forms of the medium is 3D animation. My pastime evolved into 3D visualization. So, the AAVA 3D institution has chosen me for my internship assignment. It became my goal to convey not just the paintings but also the complete process, from storyboarding through modeling, texturing, animation, light setup, rendering, and post-processing. The mission's ultimate product is a video picture that combines all of the paintings in a way that hopefully communicates the notion behind it.

The main objective of this internship is to gather knowledge about 3D modeling, 3D architectural visualization, texturing, rendering, professional work process, understanding client mind, and knowing how to work in the marketplace. Etc. And I am improving my 3D modeling skill more and more.

I have gathered knowledge about 3D modeling, texturing, and rendering. I have completed 150+ 3D furniture models in the last four months. And get good feedback from the studio of AAVA 3D. Now I am confident that I can make any furniture in Autodesk 3Ds Max software.

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CHAPTER 1

INTRODUCTION

A facility for 3D animation research and development. The First Complete 3D Animation and Visual Effects Learning Institute in Bangladesh. It's a gathering of specialists from both the technical and creative disciplines who have come together to provide good services. Based on concept drawings, 3D modelers create 3D characters and surroundings. The field of 3D modeling is quite specialized. As a result, 3D Modelers are in great demand across all industries. According to the Bureau of Labor Statistics (BLS), employment in this profession has expanded by 8-14 percent by 2018, depending on specialty. Modelers also create character skeletons, which tors subsequently control.

3D modeling is a technique in computer graphics for producing a 3D digital representation of any object or surface. 3D modeling is tough to work with people are don't know how to work correctly and efficiently. People think that it is too harsh and challenging can't perform in this sector; I can't work because it is too hard. That's why they are not involved in the 3D modeling sector. Many do hard work to make a good model, but they don't because they only focus on modeling. Everyone should maintain the topology in 3D modeling. After that, people will get good results. That's why Many industries, institutes, companies, and organizations are looking for a good and experienced 3D modeler, but they didn't get it.

Technology is updating daily; now, no one needs to go outside from home to purchase anything. You can buy everything from your home by using technology. In its continuity, 3D modeling gives you the freedom to make your home interior and exterior from your PC. You can make any furniture, create a character, and decorate your home in 3D. 3D animation is nowadays established. They're an excellent place to make animated movies and cartoons in the film industry. Those people interested in 3D modeling, if they know how to model or decorate quickly and easily, can establish their future in the 3D modeling and animation sector.

CHAPTER 2

CASE STUDY

I need to study a lot because I need to model 3d objects, furniture, and interior and exterior work. Determine the current market scenario. Because the firm provides me with particular items, it is easier for me to figure out how I may improve the product output to meet their needs.

The concept of picking a pattern, stylizing all items, and decorating the surroundings to their liking. To complete this project, we will also visit different architecture workshops and product modeling studios and view several demo reels from across the world to determine the gaps, and what style of design is now famous. What should make this industry more appealing to consumers? We attempted to make the visualization more effective for the organization by examining all existing designers' websites.

We opted to construct a list first since we worked as a team. We chose the first issue, which is product modeling. We did our furniture modeling, and finally, we performed a large architecture visualization project that included both the inside and exterior.

CHAPTER 3

DETAILS OF SOFTWARE

3.1 AUTODESK 3DS MAX:



Figure 3.1.1: Autodesk Logo

3D Studio was formerly used, followed by 3D Studio Max and 3DS Max. This is the most widely used 3D program for creating 3D models, animations, and gaming environments, among other things. The Yost Group built the unique 3D Studio software for the DOS platform, which Autodesk later published. After 3D Studio DOS Release 4, the software was renamed "3D Studio MAX" and reworked for the Windows NT platform. The Yost Group was also responsible for creating this paradigm at first. Kinetics released it, which was then Autodesk's media and entertainment division.

3.2 ADOBE SUBSTANCE PAINTER:



Figure 3.2.1: Adobe Substance Painter Logo

The Substance is a set of procedural texture tools developed by Allegorithmic, a French software company Adobe bought in January 2019. Computer animation, design, cinema, and video game sectors have embraced the technologies. Substance 3D Painter is extensively used in-game and film development and product design, fashion, and architecture. It's the go-to 3D texturing program for designers worldwide—complete creative control.

3.3 CHAOS V-RAY RENDER ENGINE:



Figure 3.3.1: V-ray Render Engine Logo

V-Ray is a rendering engine that employs global illumination technologies, including route tracing, photon mapping, irradiance maps, and directly calculated global illumination. This program is used to produce images in real-time. It takes a long time to render each frame, but the result is fantastic.

3.4 ADOBE PHOTOSHOP CC 2019:



Figure 3.4.1: Adobe Photoshop Logo

Adobe Photoshop is a raster image editor created and distributed by Adobe Inc. for Windows and Mac OS. Photoshop has limited skills in editing or producing textual information and vector photographs (mainly through the clipping path for the latter, three-dimensional photos and video, and raster photos. Its feature set may be expanded through the use of plug-ins. Photoshop should shop documents in various formats from the outset, including TIF, JPEG, and GIF. Because they lack the editing features of a PSD file, these documents are more minor than PSD files. This program was used for texture creation, post-production work, and color correction after the render.

CHAPTER 4

PROJECT WORKFLOW

4.1: MODELING:

3D modeling is the act of manipulating polygons, edges, and vertices in virtual 3D space to create a 3D representation of any surface or object. You may see unique and original animals and structures in movies, cartoons, and video games. The effects of 3D modeling are numerous. We've picked Autodesk Max 2020 as our modeling program for this project. The game's standard primitives are boxes, spheres, lines, and cylinders. Adjustments were made to build several models using this modeling approach. Extrude, insert, bridge, combine, and FFDs like bend, lattice, and so on are used to make adjustments. It's critical to keep all polygons in the models as quads while creating them. Here's a rundown of all the models I made and their numerous implications.

4.1.1: CARLO MID-CENTURY CHAIR:

Carlo Mid-Century Chair is the name of the model. This model's dimensions and a reference photo were sent to me. I had to first change the system and display units to millimeters and decimal inches. Then I got a box of the same size and started modeling within it to get the dimensions right.



Figure 4.1.1: Reference of Carlo Mid-Century Chair

I got the clients' measurements, and they told me that I have to make it in low poly. I have to make this Carlo Mid-Century Chair 3D model within 12,000 (Twelve Thousand) trigon, and I am happy to make it with the instruction. This chair was made with a box. At first, I took a box in which length segments were, width segments were one and the height segments also 1 (I will add components after editable poly because I have to make it in low poly, that's I can't take so much polygon) and make it to editable poly and make it 50% (delete half of the box). Then select the face mode by pressing 4, select the top and front face, and delete both selected faces. After that, I took the front view and left view JPEG image of this chair as a texture and added those images on a plane. After that, I opened the front view side and made the shape as possible. Then I opened the left view side and made the shape as possible. Then go to the modifier panel, search for "Shell," and use the modifier. If you see you need to work with the shape to make it perfect, you should work. Then go to the left side view panel and take the swift loop tool (press alt+x and search

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“Swift Loop” or simply command alt+1 (if you didn’t get the swift loop tool by pressing alt+1,

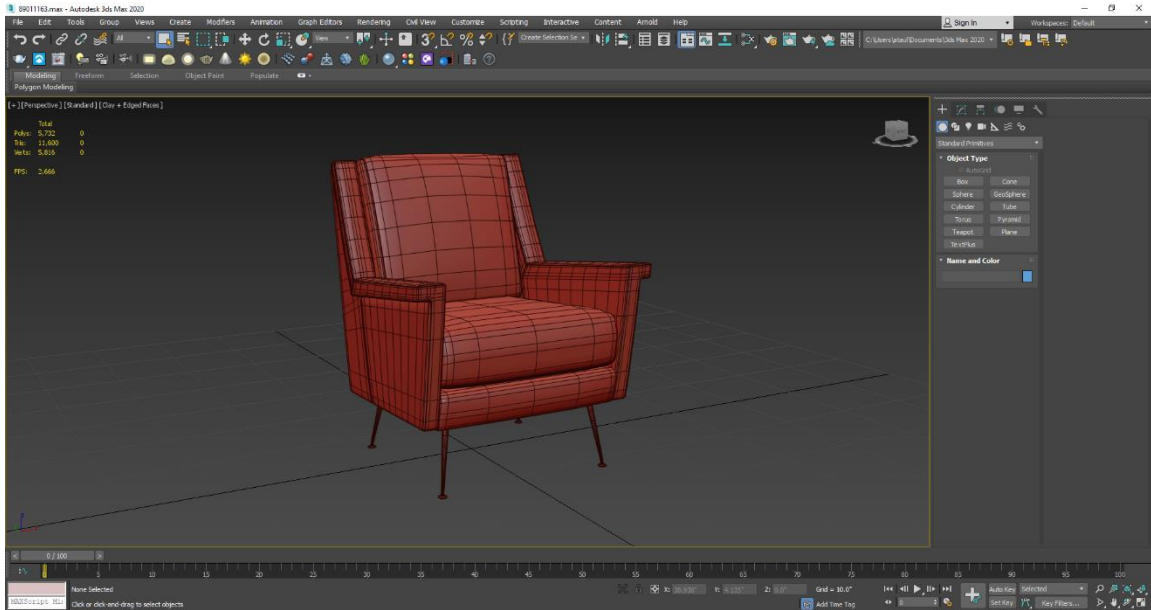


Figure 4.1.2: Wireframe of Carlo Mid-Century Chair

Don’t worry; you can assign a key bind. For this, go to customize, then Customize User Interface, then select the swift loop and make a hotkey.)) and make the outside shape of the chair. And extrude it with the proper measurements. Then take a box and make its shape like a seat (foam) as much as you want. Here I Have taken 3 (Three) boxes because I need three seats as you can see in the picture. Then use the cloth modifier, go to object properties and select the box, then select cloth and go down of the window (you can see pressure 0.0) and make pressure 2.2 and make gravity point as 0.0. Then click on simulate. After that, catch the accurate result you want by moving the animation frame bar. Then right-click one of the object and make it editable poly to delete the history. And then, click on modifier list and use turbo smooth to create this object smooth and eye-catching. After that, select edges by pressing two and select the preferable corner side edge, and extrude it inside the thing as you want.

Then take a cylinder to create the chair legs, then convert it to editable poly. Use front and left view to create the shape, and use angle down of the object. Then use chamfer modifier and steps 2 or 3. Now you see that your model is ready to texture and render. Thank You.

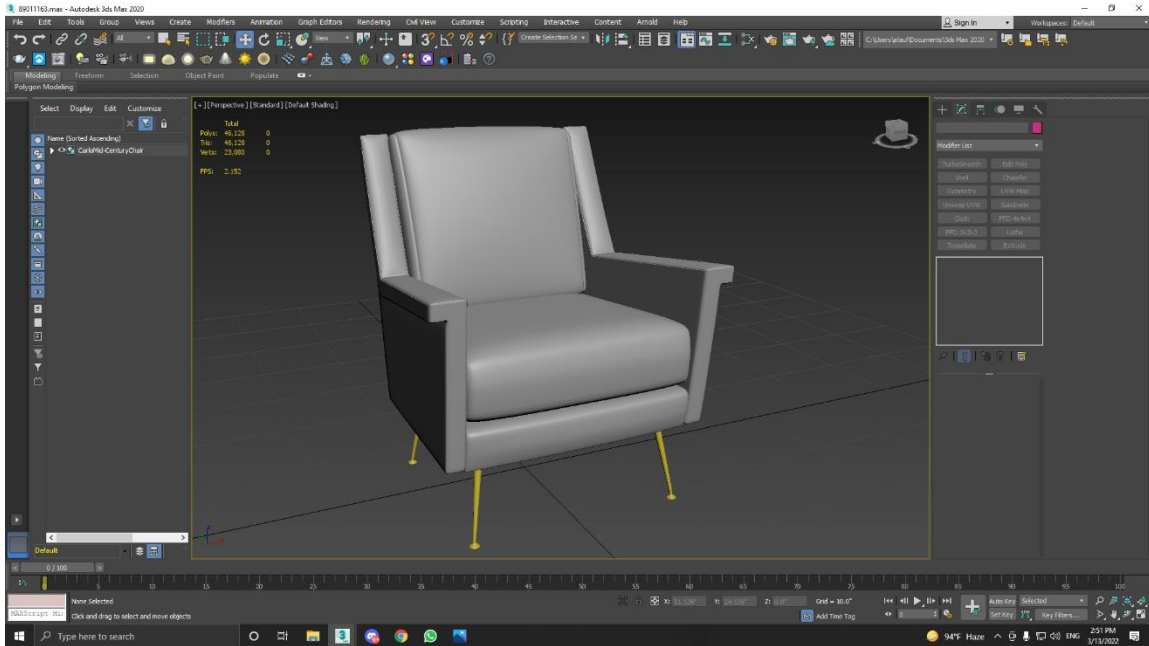


Figure 4.1.3: Final Model of Carlo Mid-Century Chair

4.1.2: MID-CENTURY SHOW WOOD LEATHER CHAIR:

I took the reference photograph and the dimension after setting up the machine and ensuring everything was in working order. I constructed a box with the same exact dimensions as the décor and modeled it in it to ensure it was the same size.



Figure 4.1.4: Reference of Mid-Century Show Wood Leather Chair.

I got the clients' measurements, and they told me that I have to make it in low poly. I have to make this Mid-Century Show Wood Leather Chair 3D model within 12,000 (Twelve Thousand) trigon, and I am happy that I make it with the instruction. This chair was made with a box. At first I have taken a box, which length segments was 1, width segments were 1 and the height segments also 1 (I will add segments after editable poly, because I have to make it in low poly, that's I can't take so much polygon). Then right click on the object and convert the object into editable poly. After I go to the left view panel and some poly

by pressing alt+1 (swift loop) then make the box shape as the handle, then go to the front and top view to make the shape perfectly. Then simply use the chamfer modifier to make it smooth and then select the object and go to the hierarchy window and select “Affect pivot only” then make X-axis 0, Y-axis 0. Then click on “Mirror” and select x and then copy it. After that take box as same plan (which length segments was 1, width segments were 1 and the height segments also 1).

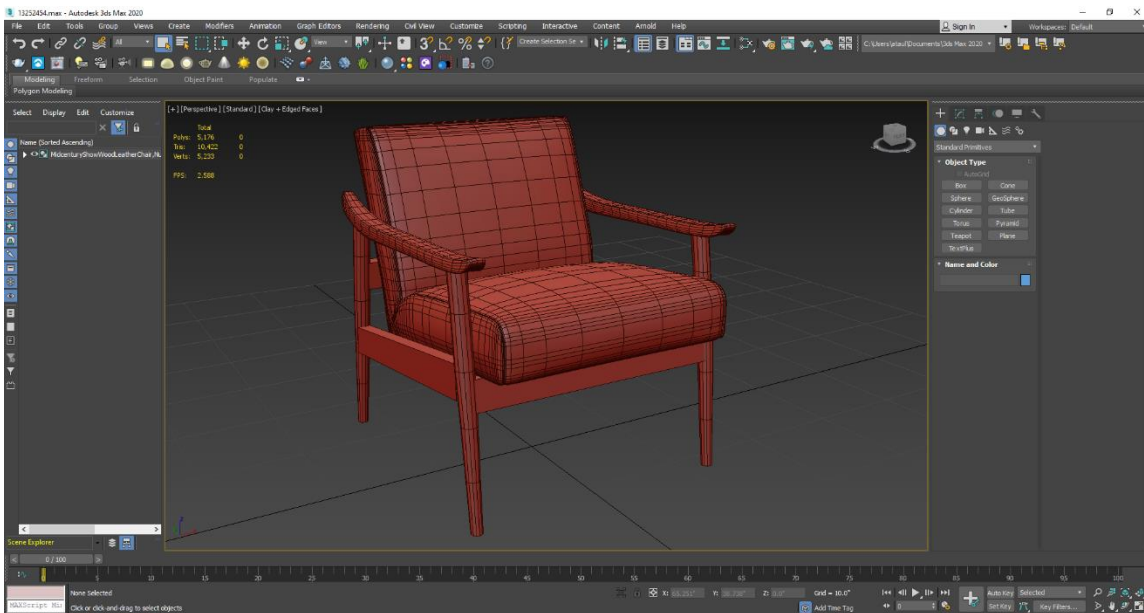


Figure 4.1.5: Wireframe of Mid-Century Show Wood Leather Chair

Then make it editable poly and select face option by pressing 4. And delete front and top faces. Then select the object and simply use shell modifier on this. Then go to the left view panel and make it shape like a seat (foam). After that use cloth modifier, go to object properties, select the box, check it as cloth and use pressure 1.8 - 2.2. and click on simulate. Then check it preferable place by moving the animation frame bar. Then convert it to editable poly to delete the history. Then select the vertex by pressing 1 and go to the left viewport and make it a good shape. Then go to the modifier window and search “FFD 4*4*4”. Select the modifier and use this for make the shape perfect. Then use turbo smooth to make this object smooth. Then select the edges mood by pressing 2, and select the corner side preferable edge and then extrude it inside of the object as much as you want. Now

your seat and handle is ready. After that take a cylinder and make this as this legs. Then simply use the chamfer modifier on this. Now your model is ready to texturing and render.

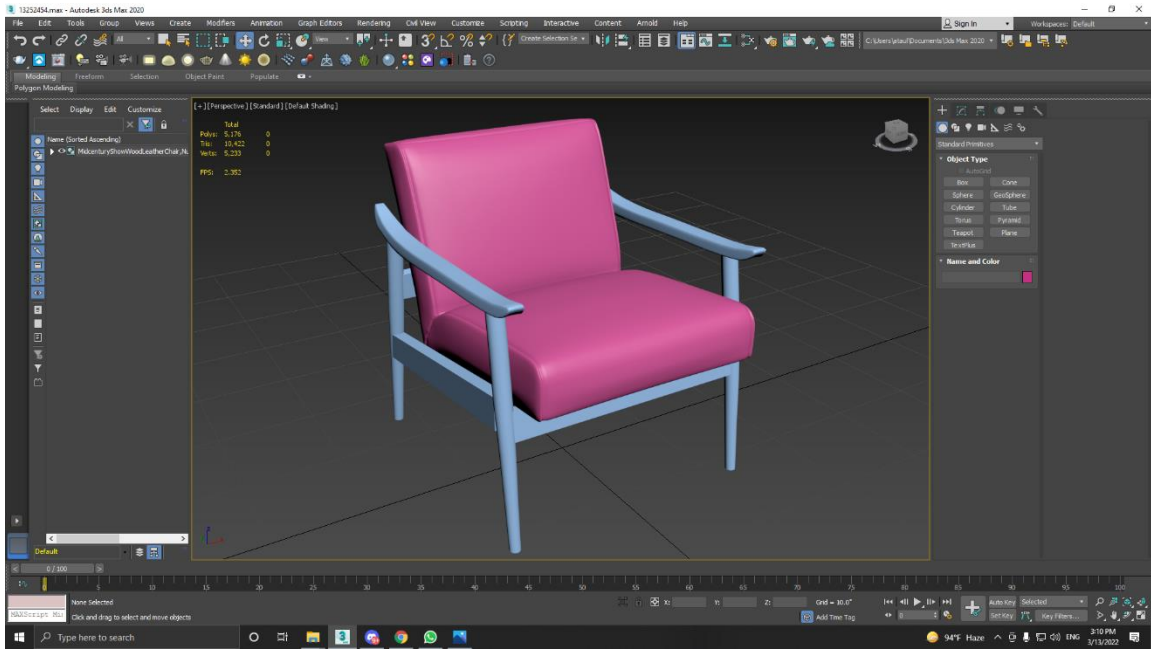


Figure 4.1.6: Final model of Mid-Century Show Wood Leather Chair

4.1.3: BROOKLYN LOW STORAGE CABINET:

Brooklyn Low Storage Cabinet is the name of the model. This model's dimensions and a reference photo were sent to me. I had to first change the system and display units to millimeters and decimal inches. Then I got a box of the same size and started modeling within it to get the dimensions right.



Figure 4.1.7: Reference of Brooklyn Low Storage Cabinet

I got the clients' measurements, and they told me that I have to make it in low poly. I have to make this Brooklyn Low Storage Cabinet 3D model within 12,000 (Twelve Thousand) trigon, and I am happy that I make it with the instruction. This chair was made with a box. At first, I took a box with length segments of 1, width segments of 1 and the height segments also 1 (I will add components after editable poly because I have to make it in low poly, that's I can't take so much polygon). Then right, click on the object and convert it to editable poly.

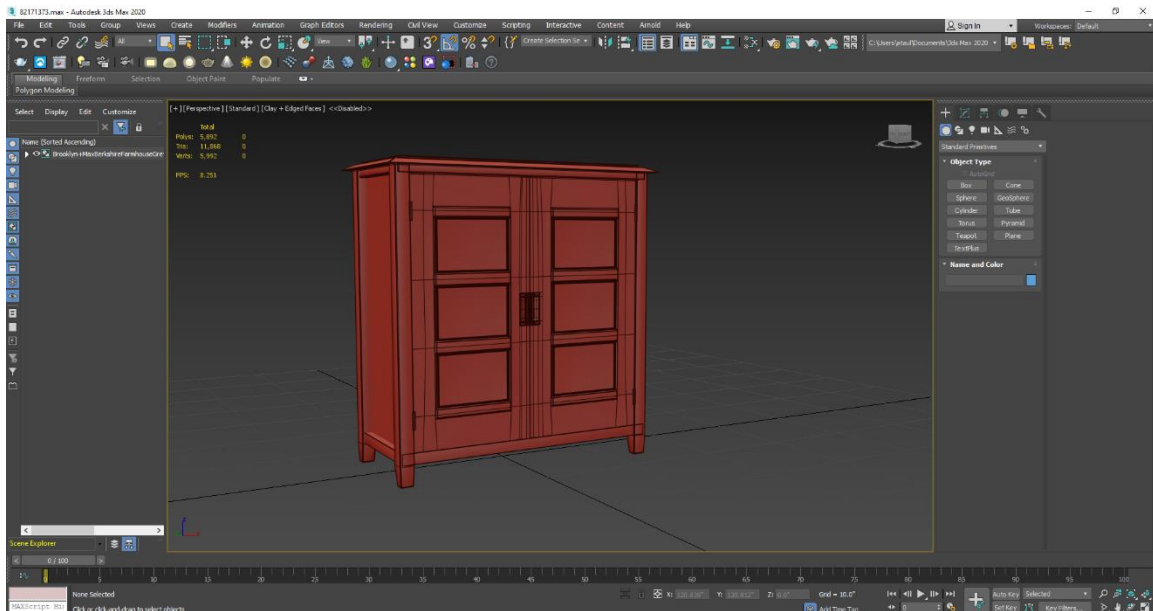


Figure 4.1.8: Wireframe of Brooklyn Low Storage Cabinet

I got the clients' measurements, and they told me that I have to make it in low poly. I have to make this Brooklyn Low Storage Cabinet 3D model within 12,000 (Twelve Thousand) trigon, and I am happy that I make it with the instruction. This chair was made with a box. At first, , I took a box with length segments of 1, width segments of 1 and the height segments also 1 (I will add components after editable poly because I have to make it in low poly, that's I can't take so much polygon). Then right, click on the object and convert it to editable poly. Then press 1 on vertex selection tool, select the top 4 vertexes press "r" for taking scale tool, and scale it inside the object. Then press 4 to take face selection tool, and select the face. And then extrude it as the image. Then use chamfer modifier to make the corner smooth. After that take another box for the legs, and makes it shapes. Then select the object and go to the hierarchy window and select "Affect pivot only" then do X-axis 0, and Y-axis 0. Then click on mirror and copy it x-axis and select both legs and mirror it y-axis. Then take a plane and set it left and right side of the cabinet. Then take another plane and set it the backside of the cabinet. Then take another plane and set it the front side of the cabinet.

Then select top and bottom edges and click on “connect” and take edges as you need. After that use bevel for make the front design. Then take a box and make shape like a handle. Then set it front of the cabinet and set it a middle alignment. Then take a cylinder top left and top right of the cabinet, and bottom left and bottom right of the cabinet as screw hook. Set it carefully on the cabinet. Then Select all object and then attached. After that simply use “Chamfer” modifier from the modifier window to make the cabinet smooth in low poly. Now your model is ready to texture and render. Thank You.

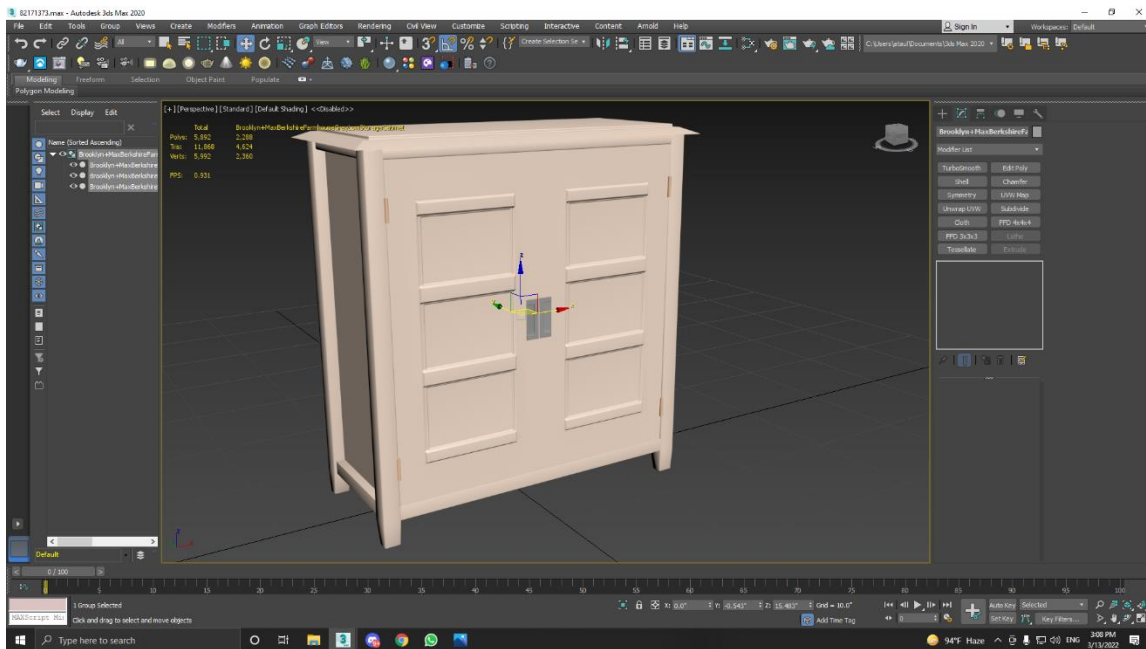


Figure 4.1.9: Final Model of Brooklyn Low Storage Cabinet

4.1.4: THE BLOCK NOMAD LEATHER ARMCHAIR:

Because there are soft surfaces, this is also a complicated model. However, the reference image was pretty clear, so I started modeling the Block Nomad Leather Armchair using the dimensions.



Figure 4.1.10: Reference of The Block Nomad Leather Armchair

I got the clients' measurements, and they told me that I have to make it in low poly. I have to make this Brooklyn Low Storage Cabinet 3D model within 12,000 (Twelve Thousands) trigon and I am happy that I make it with the instruction. This chair was made with a box. At first I have taken a box, which length segments was 1, width segments were 1 and the height segments also 1 (I will add segments after editable poly, because I have to make it in low poly, that's I can't take so much polygon). Then right click on the object and convert it to editable poly. Open the front view port and make its shape and then open the left view port and make its shape. And then use cloth modifier then click on object properties and make the object as cloth and pressure 2.2.

Then simply click on simulate. After that get the proper shape by moving the animation frame bar. Then, please right-click on the object and make it editable poly to delete the history. Then use the turbo smooth modifier to make the object smooth.

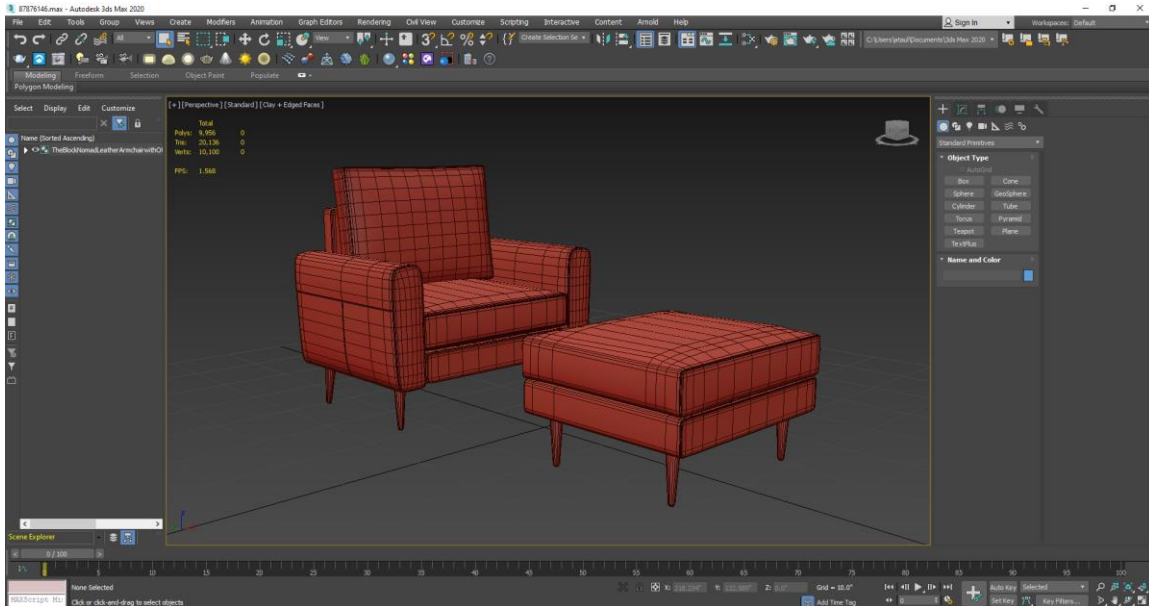


Figure 4.1.11: Wireframe of The Block Nomad Leather Armchair

Then take swift loop by pressing alt+x and search swift loop or simply command alt+1. Then take an edge left-right and middle of the edge take another edge top to bottom. And then select both edges and click on extrude modifier and then extrude it inside of the object to make the shape. Then select the front side corner edge and use extrude modifier and then extrude it inside of the object as much as you want. Then select the object and go to hierarchy window and select “Affect pivot only” then make the pivot X-axis 0, and Y-axis 0. Then click on the mirror tools and copy the object into x-axis. Then take a box for the seat stand as you can see in the image. Just use turbo smooth modifier to smooth this object for good looking. Now set the object as preferable place. After that take another box for the seat, now you can use length segment as 30, width segment as 30 and height segments as 10. Then simply use the cloth modifier and click on the then click on object properties and make the object as cloth and pressure 2.2. Then simply click on simulate. After that get the proper shape by moving the animation frame bar.

Then right click on the object and make it editable poly to delete history. Then use the turbo smooth modifier to make the object smooth. Then select the corner edge bottom and top and go to modify window and select “Create shape” then select the shape and modify it as cloth roll. After that take another box for back seat. Now set the object as preferable place. After that take another box for the seat, now you can use length segment as 30, width segment as 30 and height segments as 10. Then simply use the cloth modifier and click on the then click on object properties and make the object as cloth and pressure 2.2. Then simply click on simulate. After that get the proper shape by moving the animation frame bar. Then right click on the object and make it editable poly to delete history. Then take a box for the back seat stand as you can see in the image. Just use turbo smooth modifier to smooth this object for good looking. Then take a cylinder and make it shape look like shown in the image then user chamfer modifier to smooth the object in low poly. And copy it 3 times and set it as the preferable places. Now set the object as preferable place. Now your model is ready to texture and render. Thank You.

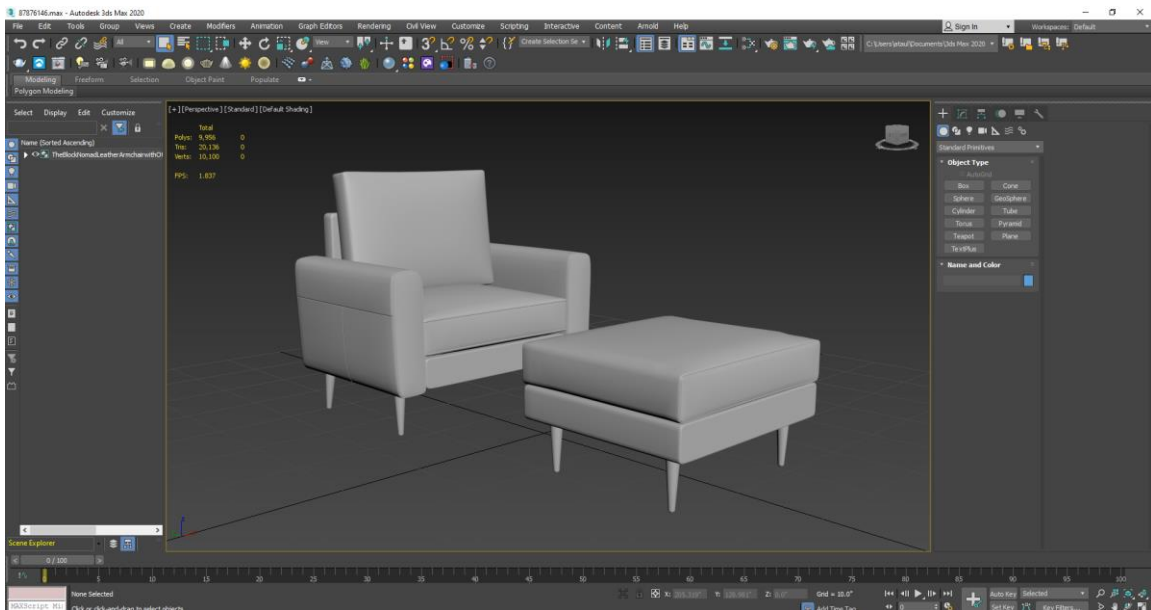


Figure 4.1.12: Final Model of the Block Nomad Leather Armchair

4.1.5: DAYBED:

The model's name is Daybed. I was supplied with the measurements of this model as well as a reference photo. At first, I needed to convert the system and display units to millimeters and decimal inches. Then I purchased a box of the same size and started modeling inside of it to make sure the measurements were correct.



Figure 4.1.13: Reference Image of the Daybed

I get the measurements from the clients and they told me that I have to make it in low poly. I have to made this Brooklyn Low Storage Cabinet 3D model within 12,000 (Twelve Thousands) trigon and I am happy for I make it with the instruction. This chair was made with a box. At first I have taken a box, which length segments was 1, width segments were 1 and the height segments also 1 (I will add segments after editable poly, because I have to make it in low poly, that's I can't take so much polygon). Then right click on the object and convert it to editable poly. It's for the seat stand as you can see in the images. So simply use turbo smooth modifier to smooth the object for eye catching and looks good and soft. After take another box and simply use the cloth modifier and click on the then click on object properties and make the object as cloth and pressure 2.2. I get the measurements from the clients and they told me that I have to make it in low poly. I have to made this Brooklyn Low Storage Cabinet 3D model within 12,000 (Twelve Thousands) trigon and I am happy for I make it with the instruction. This chair was made with a box. At first I have taken a box, which length segments was 1,

width segments were 1 and the height segments also 1 (I will add segments after editable poly, because I have to make it in low poly, that's I can't take so much polygon).

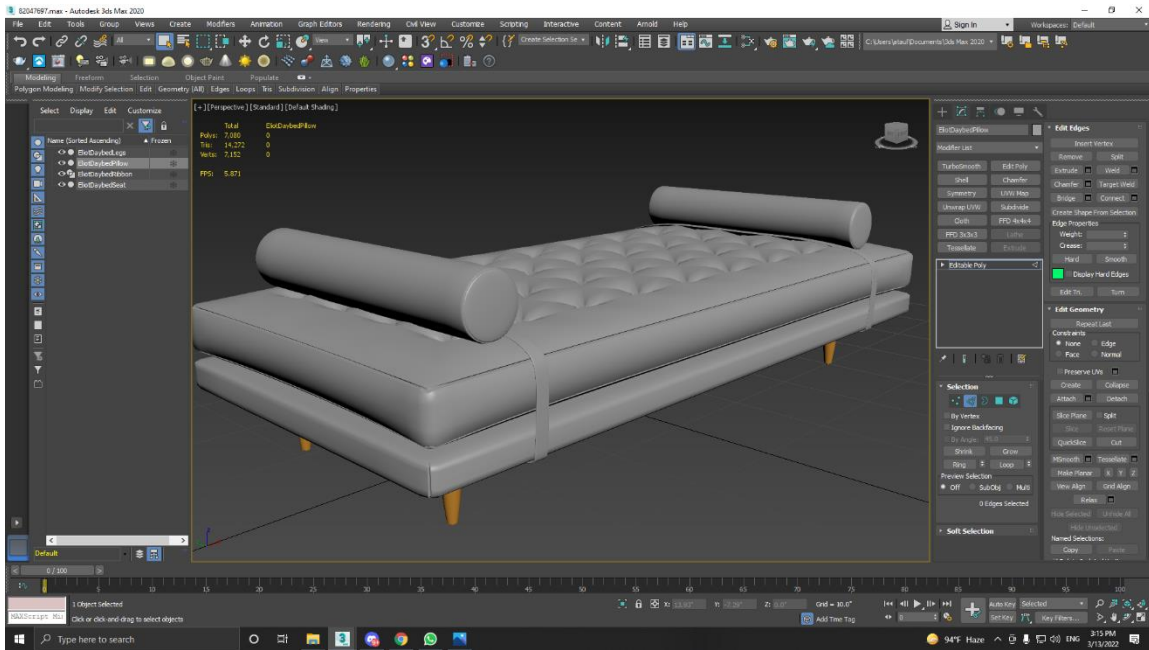


Figure 4.1.14: Wireframe of the Daybed

I get the measurements from the clients and they told me that I have to make it in low poly. I have to made this Brooklyn Low Storage Cabinet 3D model within 12,000 (Twelve Thousands) trignon and I am happy for I make it with the instruction. This chair was made with a box. At first I have taken a box, which length segments was 1, width segments were 1 and the height segments also 1 (I will add segments after editable poly, because I have to make it in low poly, that's I can't take so much polygon). Then right click on the object and convert it to editable poly. It's for the seat stand as you can see in the images. So simply use turbo smooth modifier to smooth the object for eye catching and looks good and soft. After take another box and simply use the cloth modifier and click on the then click on object properties and make the object as cloth and pressure 2.2. Then simply click on simulate. After that get the proper shape by moving the animation frame bar. Then right click on the object and make it editable poly to delete history. Then use the turbo smooth modifier to make the object smooth. Then go to the top view port and take some edges. Then select all vertex top front from the top view port. Then extrude inside of the object.

Then select another time all main vertex and simply go down. Then select the face of vertex which is we extrude and simply go down to make the good shape of this. Then select the corner side edge and extrude it inside of the object. Then take a cylinder and simply use the cloth modifier and click on the then click on object properties and make the object as cloth and pressure 2.2. Then simply click on simulate. After that get the proper shape by moving the animation frame bar. Then right click on the object and make it editable poly to delete history. Then use turbo smooth to make the object smooth. Then select the corner side edge and extrude it inside of the object. Then select the object and go to hierarchy window and select “Affect pivot only” then make the pivot X-axis 0, and Y-axis 0. Then click on the mirror tools and copy the object into x-axis. After that go to the left side view port and go to the shape modes and select spline or take a rectangle to make the ribbon. Then make it ribbon shape and use shell modifier from modifier window. Then take some poly for support and use turbo smooth to make the object smooth. After that take a cylinder and make its shape look like the legs of the daybed. Then simply use the chamfer modifier and use segments 2. And boooooom. Now your model is ready to texture and render. Thank You.

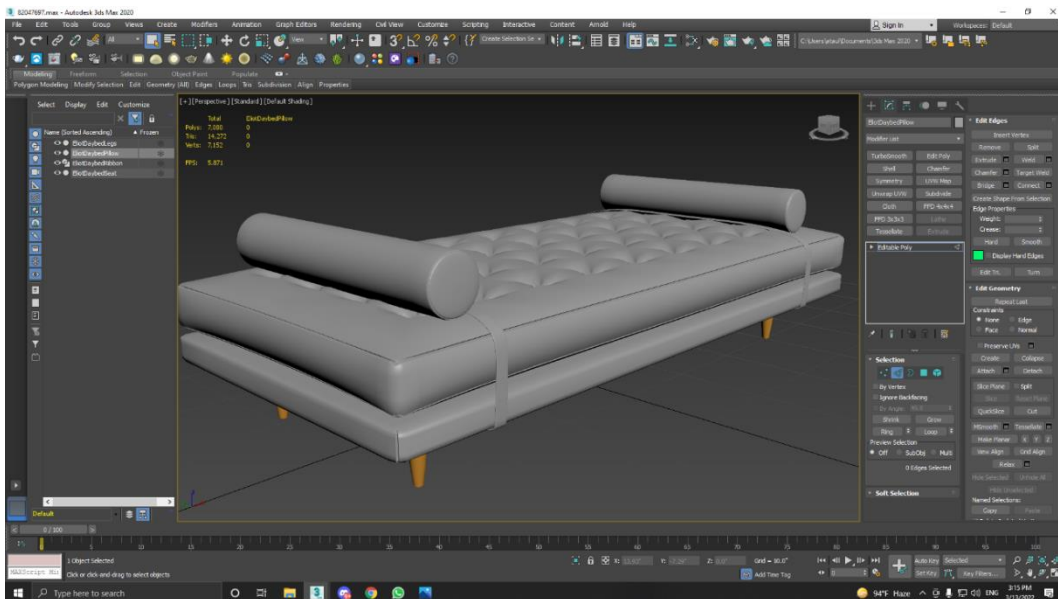


Figure 4.1.15: Final Model of the Daybed

4.1.6: DIANE 7 DRAWER DRESSER:

Diane 7 Drawer Dresser is the name of the model. This model's dimensions and a reference photo were sent to me. I had to change the system and display units to millimeters and decimal inches at first. Then I got a box of the same size and started modeling within it to get the dimensions right.



Figure 4.1.16: Reference of the Diane 7 Drawer Dresser

I got the clients' measurements, and they told me that I have to make it in low poly. I have to make this Diane 7 Drawer Dresser 3D model within 12,000 (Twelve Thousand) trigon, and I am happy to make it with the instruction. After that, I take a box with the measurements and try the shape of this lower deck model. Then select the face of this model and extrude it, then select the face again and make the inset as you want, then extrude the selected face. Use these methods three times to make the shape. After that, take a box with proper measurements and set it. Then press alt+1 to get the swift loop tools, and use it left on the box as the size. Then select the face and extrude the chosen inside of the box to get the left side style.

And copy these steps on the right side of the box. Then press 2 to get the polygon selection, select front side flat poly and click on connect from the parameters window. Then connect three polygons and then use chamfer to get the space between 2 boxes.

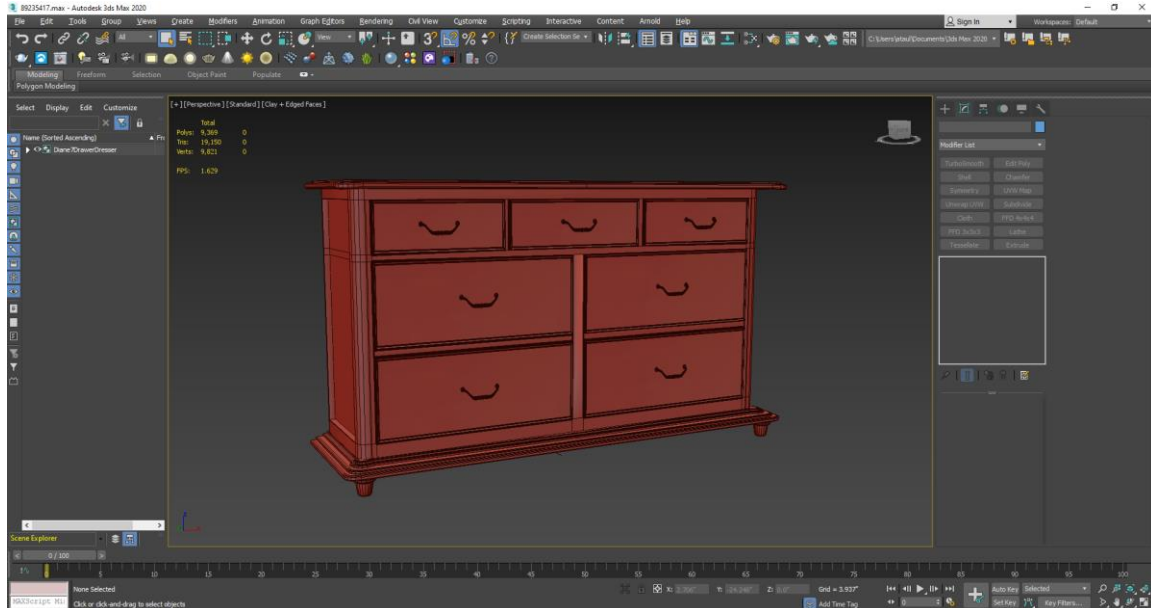


Figure 4.1.17: Wireframe of the Diane 7 Drawer Dresser

Then select the vertical polygons, connect one, and use the chamfer modifier to get the space. Then select the upper three-box face and extrude it outside of the box, then inset some space then extrude it inside of the box, again inset some of space and extrude the face outside of the box. Follow this step on every box. Then take a box for the upper plane of the dresser and make it shape and inset it some space then extrude the upper face. After completing the model select all of the objects of this and simply use the chamfer modifier to look smooth the model. After that make the handle in the same process and finally use turbo smooth to look good. Now your model is ready for texturing and rendering.

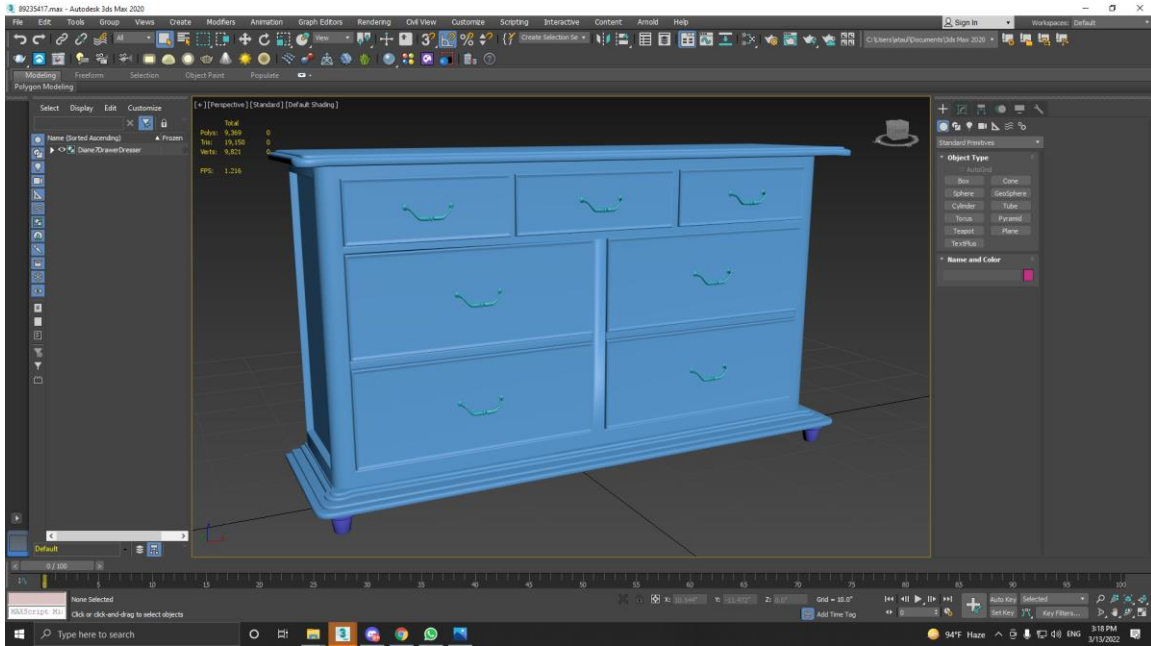


Figure 4.1.18: Final Model of the Diane 7 Drawer Dresser

4.1.7: BAR STOOL:

The model's name is Bar Stool. I was supplied with the measurements of this model as well as a reference photo. At first, I needed to convert the system and display units to millimeters and decimal inches. Then I purchased a box of the same size and started modeling inside of it to make sure the measurements were correct.



Figure 4.1.19: Reference of the Bar Stool

I got the clients' measurements, and they told me that I have to make it in low poly. I have to make this Bar Stool 3D model within 12,000 (Twelve Thousand) trigon, and I am happy to make it with the instruction. After that, I take a box and make it to editable poly. Then select the face by pressing 4 on the keyboard. Then remove the top, left, right, and front surfaces. And make the shape like the tool. After that use, FFD 4*4*4 to make the exact shape of the model then use a turbo-smooth modifier to look smooth the model.

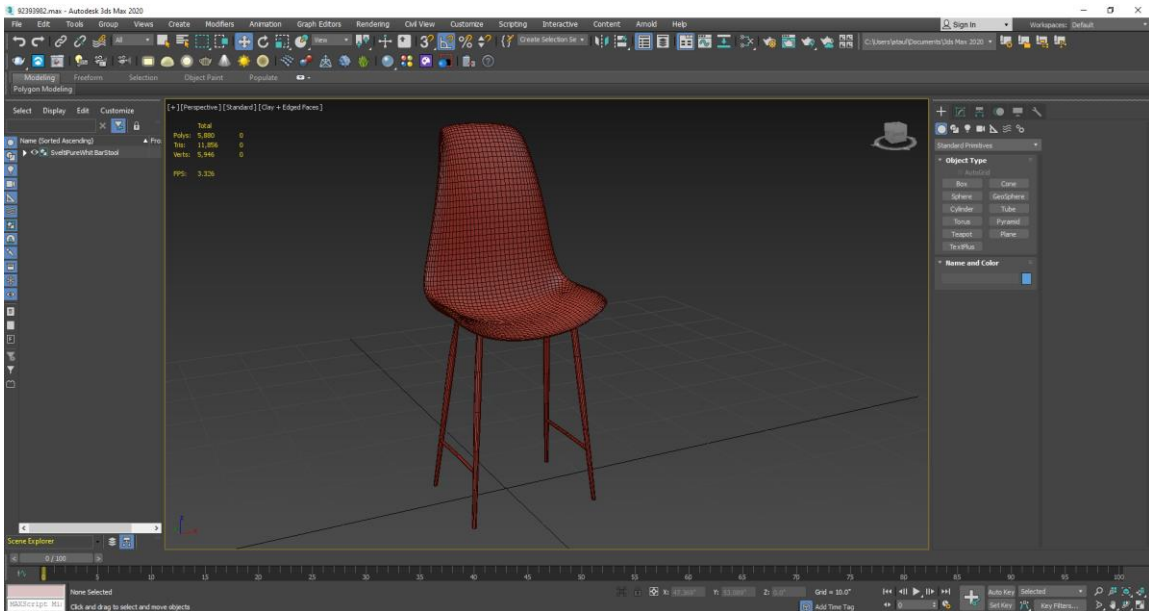


Figure 4.1.20: Wireframe of the Bar Stool

Then take a cylinder to make all legs of the bar stool model. Go to the front viewport and make the shape of those legs as we have in the reference image. Now your model is ready to texturing and rendering.

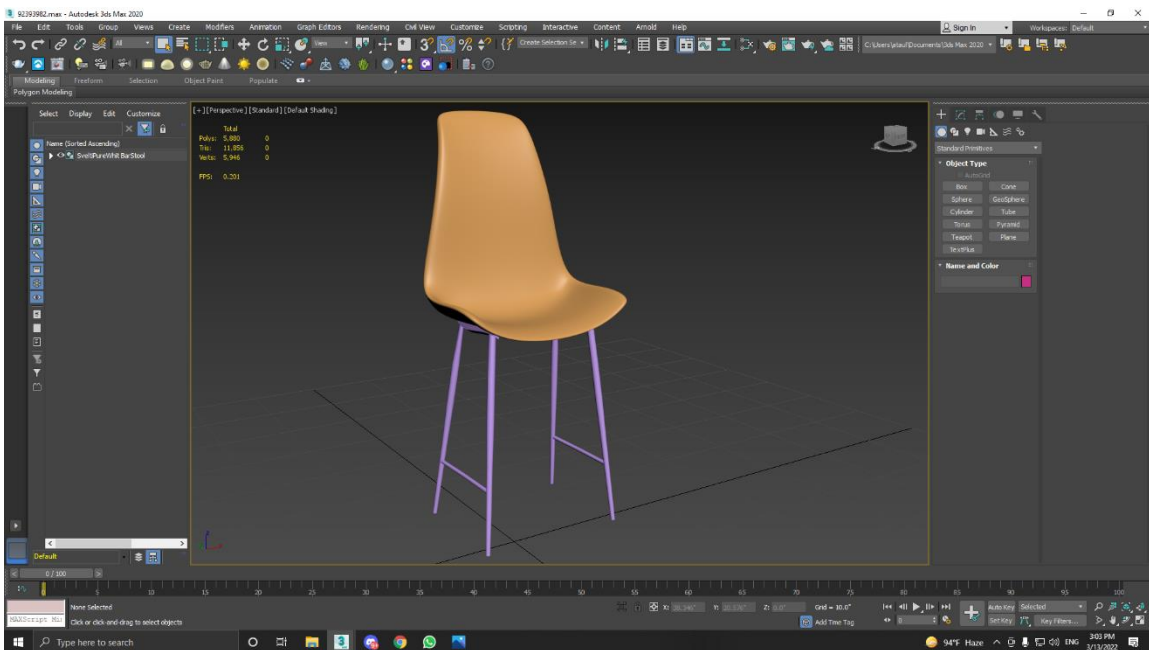


Figure 4.1.21: Final model of the Bar Stool

4.1.8: The Field 8-Piece Open U Sectional Double Lounger in Carbon:

The model's name is The Field 8-Piece Open U Sectional Double Lounger in Carbon. I was supplied with the measurements of this model as well as a reference photo. At first, I needed to convert the system and display units to millimeters and decimal inches. Then I purchased a box of the same size and started modeling inside of it to make sure the measurements were correct.



Figure 4.1.22: Reference of The Field 8-Piece Open U Sectional Double Lounger in Carbon

I got the clients' measurements, and they told me that I have to make it in low poly. I have to make this Field 8-Piece Open U Sectional Double Lounger in Carbon 3D model within 35,000 (Thirty-Five Thousand) trigon, and I am happy to make it with the instruction. After that, I take a box and make it to editable poly. I can say that an easy model from the others. Just take a box and use a good polygon then simply use a cloth modifier on the box. Now it's going to look like a seat on a sofa. Then copy and make it like this Field 8-Piece Open U Sectional Double Lounger in Carbon.

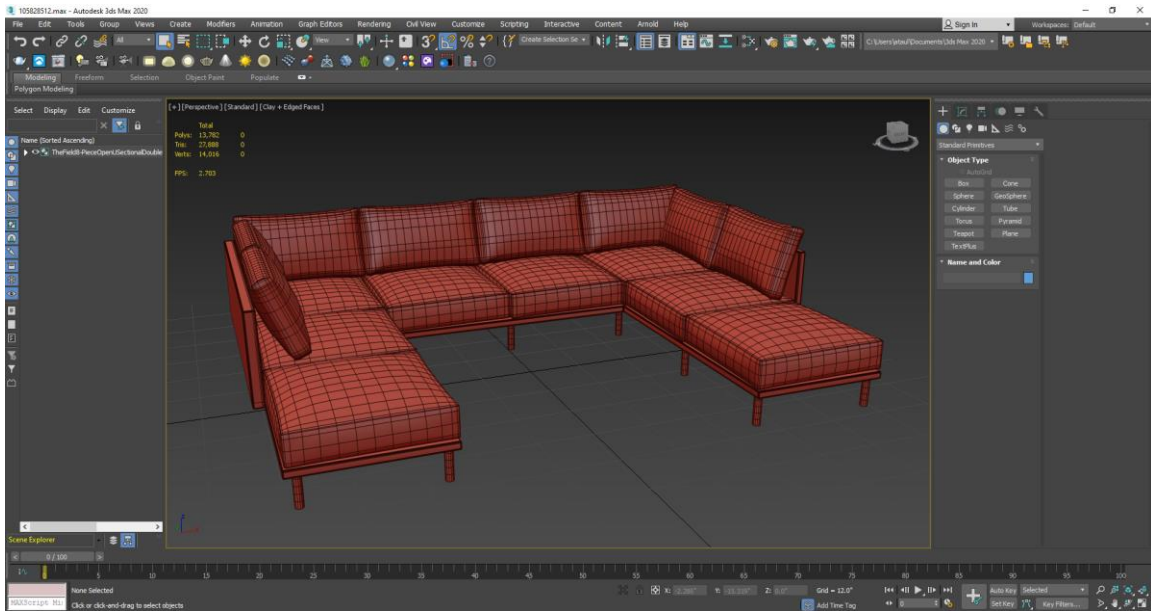


Figure 4.1.23: Wireframe of The Field 8-Piece Open U Sectional Double Lounger in Carbon

After that, take a cylinder and make all of the legs of The Field 8-Piece Open U Sectional Double Lounger in Carbon, and set it as the reference image. Now you can see that your model is ready texturing and rendering.

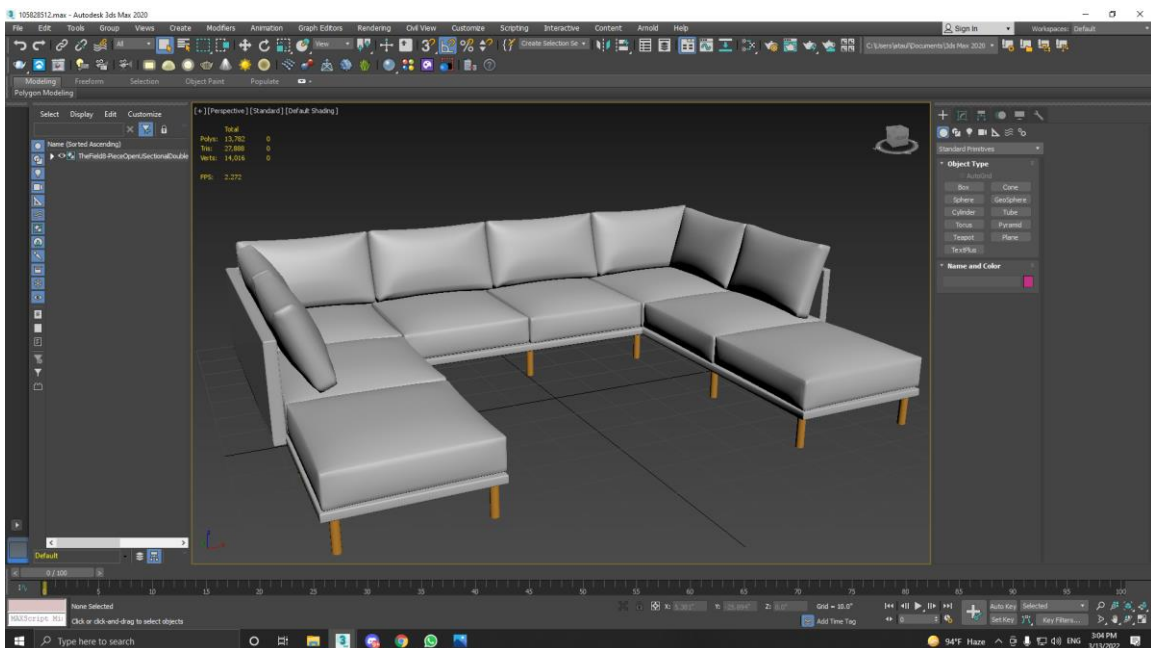


Figure 4.1.24: Final Model of the Field 8-Piece Open U Sectional Double Lounger in Carbon.

4.1.9: DEKA, ACCENT TABLE:

Deka, Accent Table is the name of the model. This model's dimensions and a reference photo were sent to me.



Figure 4.1.25: Reference of Deka, Accent Table.

In my perspective, it's too easy to make the model in 3Ds max. I got the clients' measurements, and they told me that I have to make it in low poly. I have to make this Field 8-Piece Open U Sectional Double Lounger in Carbon 3D model within 12,000 (Twelve Thousand) trigon, and I am happy to make it with the instruction.

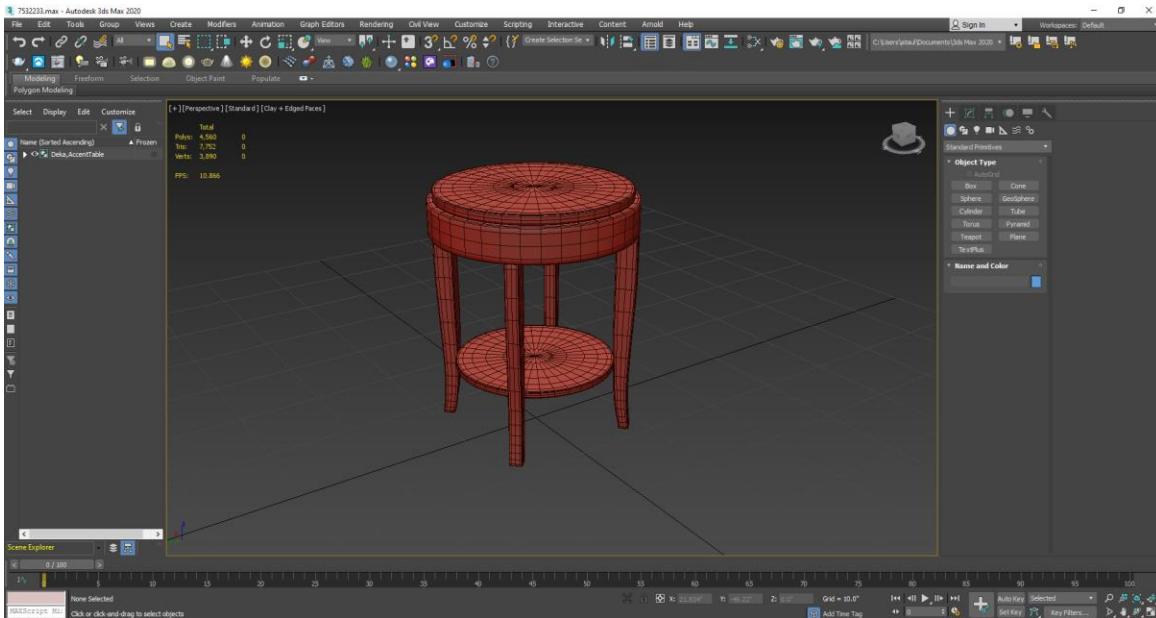


Figure 4.1.26: Wireframe of Deka, Accent Table.

After that, first, take a cylinder with the proper measurements and set it on the top of the table. Then take another cylinder. And set it down of the first one. Then take a box and make the shape of the leg then copy the object three times. Now take another cylinder and set it down of the object as you can see in the reference image. Now you model is ready to texturing and rendering.

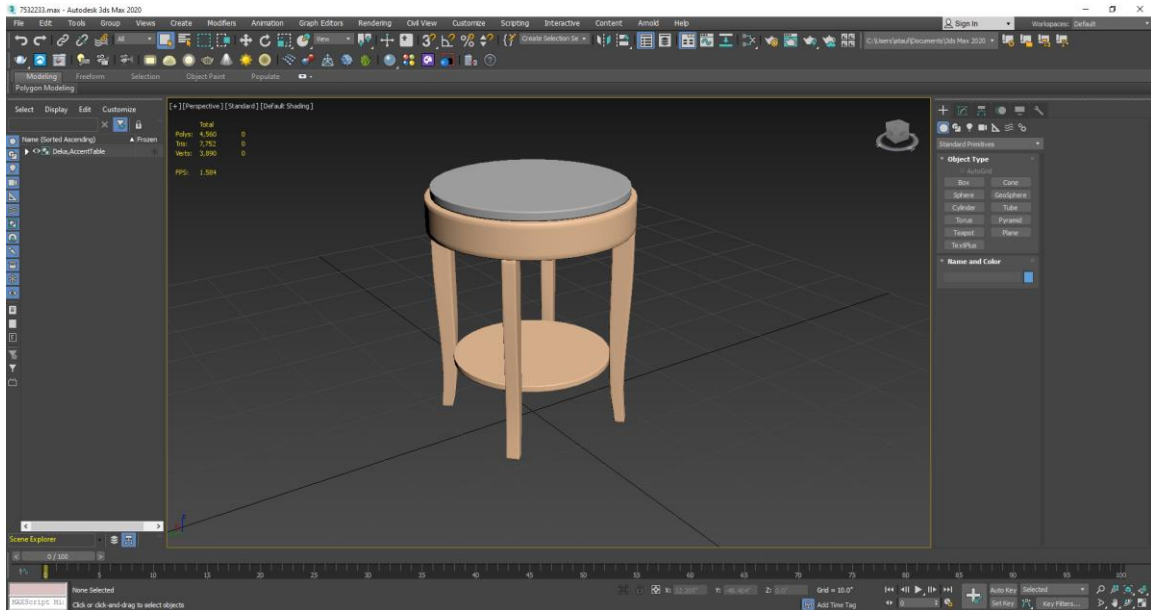


Figure 4.1.27: Final model of Deka, Accent Table.

4.1.10: PB COMFORT SLIPCOVERED SOFA, MEMORY FOAM CUSHIONS, TWILL PARCHMENT:

The model's name is PB Comfort Slipcovered Sofa, Memory Foam Cushions, Twill Parchment. I was supplied with the measurements of this model as well as a reference photo. At first, I needed to convert the system and display units to millimeters and decimal inches. Then I purchased a box of the same size and started modeling inside of it to make sure the measurements were correct.



Figure 4.1.28: Reference of the PB Comfort Slipcovered Sofa, Memory Foam Cushions, Twill Parchment.

I got the clients' measurements, and they told me that I have to make it in low poly. I have to make this PB Comfort Slipcovered Sofa, Memory Foam Cushions, Twill Parchment 3D model within 35,000 (Thirty Five Thousand) trigon, and I am happy to make it with the instruction. This chair was made with a box. At first, I took a box in which length segments were, width segments were one and the height segments also one (I will add components after editable poly because I have to make it in low poly, that's I can't take so much polygon) and make it to editable poly and make it 50% (delete half of the box). Then select the face mode by pressing 4, select the top and front face, and delete both selected faces. After that, I took the front view and left view JPEG image of this chair as a texture and added those images on a plane. After that, I opened the front view side and made the shape as possible. Then I opened the left view side and made the shape as possible. Then go to

in the modifier panel, search for “Shell,” and use the modifier. If you see you need to work with the shape to make it perfect, you should work. Then go to the left side view panel and take the swift loop tool (press alt+x and search “Swift Loop” or simply command alt+1 (if you didn’t get the swift loop tool by pressing alt+1,

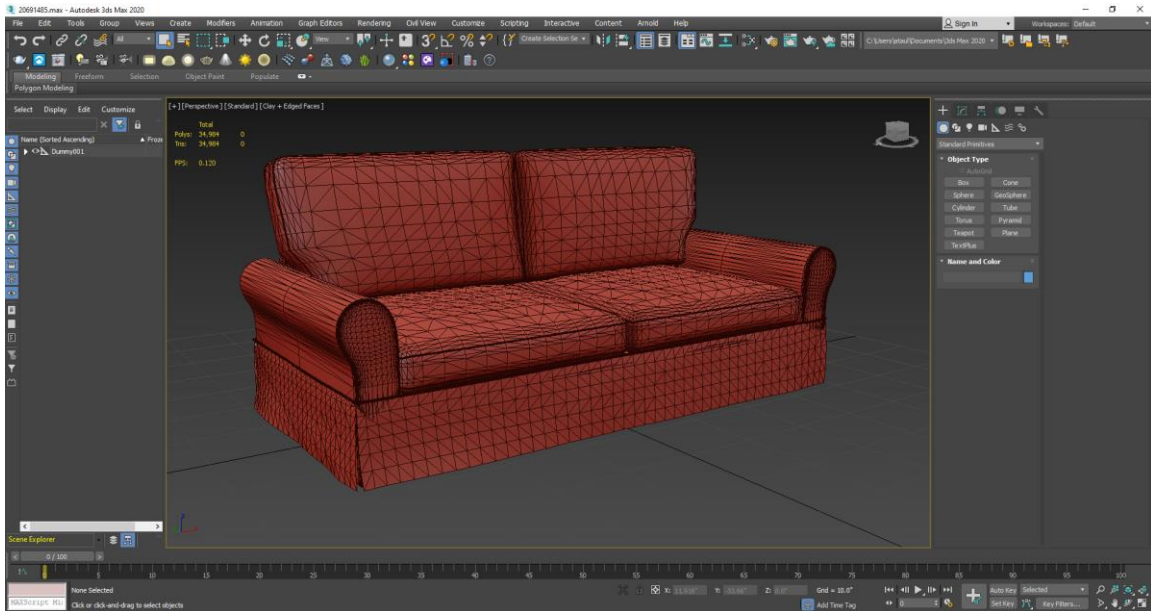


Figure 4.1.29: Wireframe of the PB Comfort Slipcovered Sofa, Memory Foam Cushions, Twill Parchment.

Don’t worry; you can assign a key bind. For this, go to customize, then Customize User Interface, then select the swift loop and make a hotkey.)) and make the outside shape of the chair. And extrude it with the proper measurements. Then take a box and make its shape like a seat (foam) as much as you want. Here I Have taken 3 (Three) boxes because I need three seats as you can see in the picture. Then use the cloth modifier, go to object properties and select the box, then select cloth and go down of the window (you can see pressure 0.0) and make pressure 2.2 and make gravity point as 0.0. Then click on simulate. After that, catch the accurate result you want by moving the animation frame bar. Then right-click one of the object and make it editable poly to delete the history.

And then, click on modifier list and use turbo smooth to create this object smooth and eye-catching. After that, select edges by pressing two and select the preferable corner side edge, and extrude it inside the thing as you want. Now you see that your model is ready to texture and render. Thank You.

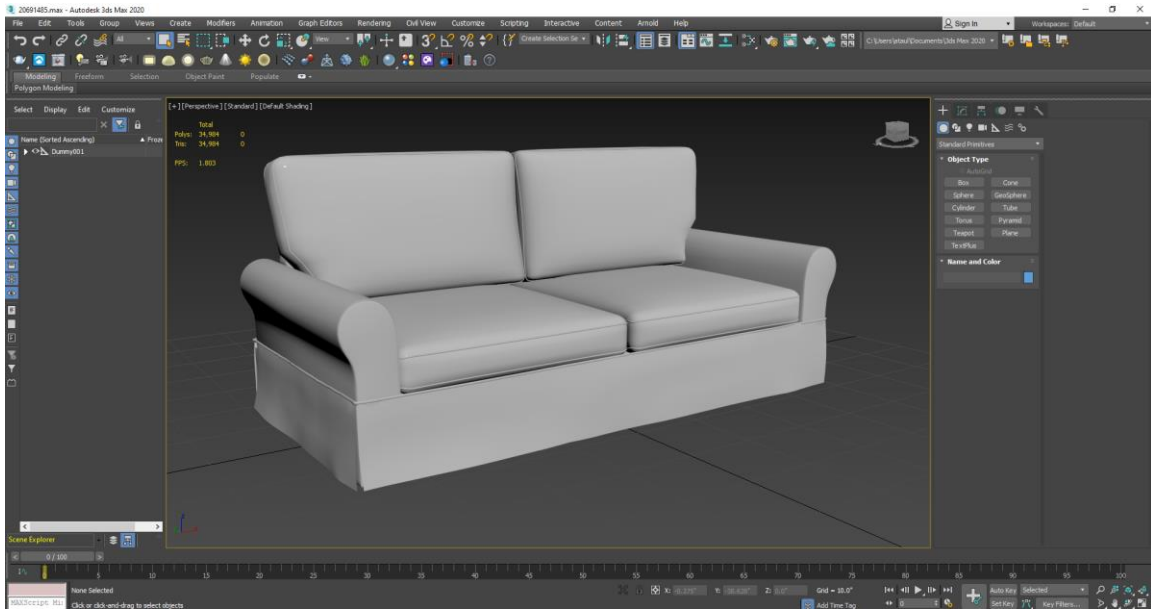


Figure 4.1.30: Final Model of the PB Comfort Slipcovered Sofa, Memory Foam Cushions, Twill Parchment.

4.2: Texturing:

Whenever we are going to texture any 3D objects we have to do Unwrap UVW Map at first. Unwrap is a common way of performing UV on any 3D object. A flat 2d face is used to depict the face of a 3d object. It's used to seamlessly texture 3D objects. UV unwrapping is the process of producing a UV map. The U and V then stand for two axes in two-dimensional space and there are in three-dimensional space. Three axes (X, Y, and Z) denote three dimensions.

Texturing is a technique for adding fine detail, surface texture, and color information to a computer-generated 3D model or graphic. We texture most of our models in "Adobe Substance Painter 3D" for our project. The items are textured with PBR. PBR (physically-based rendering) is a shading technique for correctly representing light's interaction with surfaces.

Many real-time engines employ PBR to define a collection of reduced shading models that are entirely driven by a limited number of texture maps. While the Physical Material already supports these shading models, PBR has a lot of capabilities that aren't. As a result, these simpler programmed materials were produced, along with a front-end UI for the Physical Material [3]. The firm provides this service.

4.2.1: MARLEY ROCKER:

The model's name is Marley Rocker. This model's dimensions and a reference photo were sent to me. I have made the Marley Rocker 3D model in 3Ds max 2020 and textured it in Adobe Substance Painter 3D. After completing my model I have exported the model in (.FBX) file format. Then I imported the model in Adobe Substance Painter 3D. You have to maintain the document resolution in 2k. After that, Bake Mesh Maps from Mesh Maps for good texturing. Then I chose a fabric and a wood material for this model and applied them to this model. And I have changed all of the parameters that I have gotten from the material. I change what I need to do for this model. Then I exported the texture as a PBR material. Then I import the material in 3Ds Max and use V-Ray 5 material and render engine. Then I rendered the image in 2k resolution.



Figure 4.2.1: Render Output of Marley Rocker.

4.2.2: GEORGE BEIGE LINEN DINING CHAIR:

The model's name is George Beige Linen Dining Chair. This model's dimensions and a reference photo were sent to me. I have made the George Beige Linen Dining Chair 3D model in 3Ds max 2020 and textured it in Adobe Substance Painter 3D. After completing my model I have exported the model in (.FBX) file format. Then I imported the model in Adobe Substance Painter 3D. You have to maintain the document resolution in 2k. After that, Bake Mesh Maps from Mesh Maps for good texturing. Then I chose a fabric, a metallic, and a wood material for this model and applied them to this model. And I have changed all of the parameters that I have gotten from the material. I change what I need to do for this model. Then I exported the texture as a PBR material. Then I import the material in 3Ds Max and use V-Ray 5 material and render engine. Then I rendered the image in 2k resolution.



Figure 4.2.2: Render Output of George Beige Linen Dining Chair.

4.2.3: SOMA ISAAC UPHOLSTERED ARMCHAIR, POLYESTER WRAPPED CUSHIONS, TWILL SIERRA RED:

The model's name is Soma Isaac Upholstered Armchair, Polyester Wrapped Cushions, Twill Sierra Red. This model's dimensions and a reference photo were sent to me. I have made the Soma Isaac Upholstered Armchair, Polyester Wrapped Cushions, Twill Sierra Red 3D model in 3Ds max 2020 and textured it in Adobe Substance Painter 3D. After completing my model I have exported the model in (.FBX) file format. Then I imported the model in Adobe Substance Painter 3D. You have to maintain the document resolution in 2k. After that, Bake Mesh Maps from Mesh Maps for good texturing. Then I chose a fabric, and wood material for this model and applied them to this model. And I have changed all of the parameters that I have gotten from the material. I change what I need to do for this model. Then I exported the texture as a PBR material. Then I import the material in 3Ds Max and use V-Ray 5 material and render engine. Then I rendered the image in 2k resolution.



Figure 4.2.3: Render Output of Soma Isaac Upholstered Armchair, Polyester Wrapped Cushions, Twill Sierra Red

4.2.4: TOWNSEND SQUARE ARM UPHOLSTERED SECTIONAL:

The model's name is Townsend Square Arm Upholstered Left Arm 4-Piece Chaise Sectional, Polyester Wrapped Cushions, Park Weave Charcoal. This model's dimensions and a reference photo were sent to me. I have made the Townsend Square Arm Upholstered Left Arm 4-Piece Chaise Sectional, Polyester Wrapped Cushions, Park Weave Charcoal, Polyester Wrapped Cushions, Twill Sierra Red 3D model in 3Ds max 2020 and textured it in Adobe Substance Painter 3D. After completing my model I have exported the model in (.FBX) file format. Then I imported the model in Adobe Substance Painter 3D. You have to maintain the document resolution in 2k. After that, Bake Mesh Maps from Mesh Maps for good texturing. Then I chose a fabric, and wood material for this model and applied them to this model. And I have changed all of the parameters that I have gotten from the material. I change what I need to do for this model. Then I exported the texture as a PBR material. Then I import the material in 3Ds Max and use V-Ray 5 material and render engine. Then I rendered the image in 2k resolution.



Figure 4.2.4: Render Output of Townsend Square Arm Upholstered Left Arm 4-Piece Chaise Sectional, Polyester Wrapped Cushions, Park Weave Charcoal.

4.2.5: PB COMFORT SLIPCOVERED SOFA, MEMORY FOAM CUSHIONS:

The model's name is PB Comfort Slipcovered Sofa, Memory Foam Cushions, Twill Parchment. This model's dimensions and a reference photo were sent to me. I have made the PB Comfort Slipcovered Sofa, Memory Foam Cushions, Twill Parchment 3D model in 3Ds max 2020 and textured it in Adobe Substance Painter 3D. After completing my model, I exported the model in (.FBX) file format. Then I imported the model in Adobe Substance Painter 3D. You have to maintain the document resolution in 2k. After that, Bake Mesh Maps from Mesh Maps for good texturing. Then I chose a fabric material for this model and applied them to this model. And I have changed all of the parameters that I have gotten from the material. I change what I need to do for this model. Then I exported the texture as a PBR material. Then I import the material in 3Ds Max and use V-Ray 5 material and render engine. Then I rendered the image in 2k resolution.



Figure 4.2.5: Render output of PB Comfort Slipcovered Sofa, Memory Foam Cushions, Twill Parchment.

4.2.6: HAEFNER WOOD BENCH:

The model's name is Haefner Wood Bench. This model's dimensions and a reference photo were sent to me. I have made the Haefner Wood Bench 3D model in 3Ds max 2020 and textured it in Adobe Substance Painter 3D. After completing my model, I exported the model in (.FBX) file format. Then I imported the model in Adobe Substance Painter 3D. You have to maintain the document resolution in 2k. After that, Bake Mesh Maps from Mesh Maps for good texturing. Then I chose a wood material for this model wood part and an iron material for this model iron part; then applied them to this model. And I have changed all of the parameters that I have gotten from the material. I change what I need to do for this model. Then I exported the texture as a PBR material. Then I import the material in 3Ds Max and use V-Ray 5 material and render engine. Then I rendered the image in 2k resolution.



Figure 4.2.6: Render Output of Haefner Wood Bench.

4.2.7: KINSEY 2 DOOR ACCENT CABINET:

The model's name is Kinsey 2 Door Accent Cabinet. This model's dimensions and a reference photo were sent to me. I have made the Kinsey 2 Door Accent Cabinet 3D model in 3Ds max 2020 and textured it in Adobe Substance Painter 3D. After completing my model, I exported the model in (.FBX) file format. Then I imported the model in Adobe Substance Painter 3D. You have to maintain the document resolution in 2k. After that, Bake Mesh Maps from Mesh Maps for good texturing. Then I chose two different wooden materials for the cabinet and the cabinet legs and a metallic material for this cabinet knob model; then, I applied them to this model. And I have changed all of the parameters that I have gotten from the material. I change what I need to do for this model. Then I exported the texture as a PBR material. Then I import the material in 3Ds Max and use V-Ray 5 material and render engine. Then I rendered the image in 2k resolution.



Figure 4.2.7: Render output of Kinsey 2 Door Accent Cabinet.

4.2.8: HANA FLOOR LAMP BY ANTHROPOLOGIE IN GOLD:

The model's name is Hana Floor Lamp By Anthropologie in Gold. This model's dimensions and a reference photo were sent to me. I have made the Hana Floor Lamp By Anthropologie in Gold 3D model in 3Ds max 2020 and textured it in Adobe Substance Painter 3D. After completing my model, I exported the model in (.FBX) file format. Then I imported the model in Adobe Substance Painter 3D. You have to maintain the document resolution in 2k. After that, Bake Mesh Maps from Mesh Maps for good texturing. Then I chose a metallic and plastic fiver material for this model and applied them to this model. And I have changed all of the parameters that I have gotten from the material. I change what I need to do for this model. Then I exported the texture as a PBR material. Then I import the material in 3Ds Max and use V-Ray 5 material and render engine. Then I rendered the image in 2k resolution.



Figure 4.2.8: Render output of Hana Floor Lamp By Anthropologie in Gold.

4.2.9: FERN STORAGE CABINET BY ANTHROPOLOGIE IN GREEN:

The model's name is Fern Storage Cabinet By Anthropologie in Green. This model's dimensions and a reference photo were sent to me. I have made the Fern Storage Cabinet By Anthropologie in Green 3D model in 3Ds max 2020 and textured it in Adobe Substance Painter 3D. After completing my model, I exported the model in (.FBX) file format. Then I imported the model in Adobe Substance Painter 3D. You have to maintain the document resolution in 2k. After that, Bake Mesh Maps from Mesh Maps for good texturing. Then I chose two different wooden materials and a metallic for this model and applied them to this model. And I have changed all of the parameters that I have gotten from the material. I change what I need to do for this model. Then I exported the texture as a PBR material. Then I import the material in 3Ds Max and use V-Ray 5 material and render engine. Then I rendered the image in 2k resolution.



Figure 4.2.9: Render output Fern Storage Cabinet By Anthropologie in Green.

4.2.10: HATTAWAY 35.5" WIDE TUFTED SQUARE COCKTAIL OTTOMAN:

The model's name is Hattaway 35.5" Wide Tufted Square Cocktail Ottoman. This model's dimensions and a reference photo were sent to me. I have made the Hattaway 35.5" Wide Tufted Square Cocktail Ottoman 3D model in 3Ds max 2020 and textured it in Adobe Substance Painter 3D. After completing my model, I exported the model in (.FBX) file format. Then I imported the model in Adobe Substance Painter 3D. You have to maintain the document resolution in 2k. After that, Bake Mesh Maps from Mesh Maps for good texturing. Then I chose a fabric and wood material for this model and applied them to this model. And I have changed all of the parameters that I have gotten from the material. I change what I need to do for this model. Then I exported the texture as a PBR material. Then I import the material in 3Ds Max and use V-Ray 5 material and render engine. Then I rendered the image in 2k resolution.



Figure 4.2.10: Render output of Hattaway 35.5" Wide Tufted Square Cocktail Ottoman.

CHAPTER 6

LIMITATIONS AND CHALLENGES

6.1: LIMITATIONS:

I arrive with enough vigor to break and avoid their coming back. The hurdles I experienced and the outcomes will be addressed in this chapter. While working on this design, there were several impalpable constraints. These constraints impacted our strategy in one way or another. or the other. A few of these are covered farther down. The impossible discretion was an awful experience. Some gests along the road, but the procedure was completed correctly. No channel was ever followed. In addition, the range of skill execution was limited. We stumbled when it came to such a large design that required a correct channel to be followed. Suddenly, an event occurred that disrupted time operation and resulted in complications faced.0

The main limitations were the low polygon. Clients always said that I have to make every piece of furniture, like Sofa, Chair, Table, etc., in the low polygon. Several insurmountable challenges were faced while working on this project. These obstacles hampered the efficacy of our effort in one way or another.

Low-poly art has several downsides. First, the low-poly art's simplicity can be distracting and difficult to resist. The lack of visual detail supplied by low-poly imagery might turn off players who are used to highly detailed textures and features. This sensation might be overpowering for gamers who want complete immersion in certain games. Other gamers who want a cleaner, more vintage feel may find low-poly graphics extremely delightful!

6.2: CHALLENGES:

Render time is a significant consideration when it comes to creating computer graphics. With computer restrictions in mind, appropriate time slots for the picture member were required. Many new software and instructions from existing software had to be taught briefly to make the requested labors. Problem-solving became a significant challenge due to the insufficient understanding of this program.

All of the things utilized for 3D operation and dissemination require high-arrangement PCs. For this scenario, the higher the design, the better the outcome. Nonetheless, dealing with our regular high-quality PCs proved tricky. The thing then slammed or stalled out. They were sometimes gentle and did not thoroughly read and follow the guidelines.

They also have a limited amount of polygon; therefore, we must reduce the quality of particular work to meet the limited polygon, which is inconvenient for us.

CHAPTER 7

CONCLUSION

Almost every platform now has a 3D editor as part of its standard functionality. Working with a 3D editor allows you to realize any project, with a limitless number of options for each one. In the building of homes, dwellings, or landscape architecture, construction firms develop and bring an idea to reality in 3D. This strategy pushes businesses to offer the initiative to customers in the best possible light.

During the course of this research, the fundamental methods for creating 3D models as well as methods for viewing them were investigated. Following an examination of the most prevalent three-dimensional modeling packages, the following were selected for use in the project:

This project has allowed us to investigate a few new software programs as well as expand our knowledge of existing software programs. Inside the Challenge paper, the workflow, modeling approaches, and UV unwrapping texturing are defined. We discovered a brand-new UV technique in this task.

This is the most essential general and precise shape for growing consumers to date, with a significantly higher return on investment. Although the notion of 3D product modeling for ads is relatively new in our nation, creating excellent 3D commercials is not an easy feat. Consumers can locate items more easily with 3D advertising than with plain photos. Our goal is to provide a complete 3D depiction of hard surface modeling on difficult flooring, including product modeling, furniture modeling, and various architectural artwork. As requested by the customer, we completed our task quickly and at a high standard. We are happy to work with them and the AAVA 3D Institute since they are satisfied.

CHAPTER 8

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