Portfolio 1 Documentation

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Modeling Approach

Design/Artistic Approach

The artistic method used to accomplish my portfolio 1 project consist of using one of the backgrounds required from my team project as the base, which is a 3D environmental space of a wine shop. In order to create a luxurious, yet small wine store layout, I created a wine rack that has diamond shape shelves to give it a modern look, a bar table at the back for people to test the wine that they would like to buy and that at the front, there are two wine barrels placed that affords an invitation to customers about the promotional wine available to be purchased. Furthermore, the colour and texture used were mostly dark wood as a sense of luxury as well and that for the wall, a grainy white texture has been used to provide a clean look and feel since it is more ethical to have a tidy store than a store with multiple colours because it does not look like it can be trusted. As for the glass materials, they have been rendered with different colours to represent a variety of wine that can be bought. As a result, the interior composition is rendered as a photorealism piece for the portfolio and that with slight adjustments to the texture, it will then be used in a cartoon style for the final team project so that the layout is already done.

Technical Approach

On the other hand, various Maya techniques have been used to generate the interior composition of the wine shop. The process first started by creating a box and removing one of the faces as the outline of the store size. Afterwards, all the objects have been modelled separately which can be easily placed into the environment after they have been completed.   In order to model all the products, a reference image has been embedded into Maya as a sense of outline guidance to get the shapes with slight alterations as explained in the following:

Wine racks: To model the wine racks, I found a front view of a wine rack and started extruding a box, followed by creating diamond shaped shelves by using a cube polygon, then rotating it 45 degrees and lastly to use the Boolean method of difference with the large cube. Afterwards, to get the triangular sections, I drew a triangle using the NURBS CV curve on Maya, then converted it to a polygon and used the Boolean method of difference with the large cube as well.

Wine barrels: This object has been modeled by first extruding a cylinder polygon and then adding a wine barrel texture. With the texture's guidance, I separated the metal rim sections using isoparms and then extruding the particular sections outwards by selecting the faces. I also had to create an edge in the middle and expand it outwards to create the bulging shape in the centre.

Wine glasses: As practiced from a previous exercise, to model the wine glass, I used a CV NURBs curve to create a profile of the wine glass, followed by using the revolve tool to get the round shape. Prior to creating the wine glass, the wine liquid was created

inside the wine glass using the same method by outlining the interior liquid shape which can be textured later to look line wine.

Wine bottles: The bottles were modeled using the same method as the wine glass using an image for four different bottles for variety. However, I had to model the cap and the bottle portion separately so that I can texture the cap using one type of material and the bottle section into another. Furthermore, to model the label section, I simply extruded a cylinder and adjusted its height and depth size.

Bar table: This was the only piece of furniture that was not modeled using a reference image where I wanted to create a bar table that was minimalist that can be supported from the wall and a pole. Hence, I simply extruded a cube polygon to make the height thin and the width long, as well as extruding a cylinder polygon for support.

Lamps: For the light portion that hangs off the ceiling, I modeled all the elements using the revolve tool similar to the wine glass and bottles by first creating the stem of the lamp followed by the light bulb.

Material and Lighting Descriptions

Surface

Wine store walls: The surface applied for the surrounding walls, the roof and the floor is simply a white-grained-matte texture found on the internet. The reason for such is that walls have minimal reflection and that they are often a soft and grained tone of white.

Wine racks: For the wine rack, the texture is a dark wood image also found on the internet. However, slight adjustments had to be changed using the UV texture editor in Maya to get more realistic streaks running along the piece of furniture. Since wood typically absorb light, no refraction was necessary to implement in order to provide a matte finish as well.

Wine barrels: In terms of the wine barrel, an unrolled piece of texture was found on the internet which was then imported to the working file and using UV texture editor to manipulate the texture and object to fit.

Wine glasses: To render glass material, the plug-in Mental Ray has been used. First, I would create the texture by opening hypershade and applying the mia_material, followed by adjusting elements in the attribute editor such as giving a preset of a thick glass material, and adjusting its reflection state. Afterwards, the short cut that I learned to assign a material is to first select the object and then left click on the mouse and dragging to the top element and this assigns the material. As for the liquid, the same material offers a water texture found under the preset which I used and changed its colour.

Wine bottles: For this object, I wanted the material to be a somewhat reflective glass, but more opaque. An alternative technique learned was to use a phongE material and to adjust various settings in the attribute editor such as giving a colour (green, yellow, pink and black) at the transparency level, changing the roughness and highlight size levels, turning on refraction, brightening the whiteness and specularity. Afterwards, I used the same technique as how I applied the wine glass to apply my material onto the object. Also for the label, the texture applied is using the lambert material and to put a white colour on it.

Bar table: For the table, I used the same texture and texture mapping method as the wine rack by first assigning the material onto the flat surface of the table and changing the placement of the texture on the table, followed by applying the texture again on the cylinder pole and changing the position in the UV texture editor.

Lamps: As for the lamps, the stem uses a metallic material found under the mental ray section. To get the glow on the light bulb, a Blinn material is first applied to the light, then to add the glow, a surface shader is added by changing its out colour and out glow colour.

Lighting

The two different lighting conditions attempted are a daytime sunlight and a night time sundown.

Wine store walls: To light the walls and the interior of the wine shop, I simply started with an ambient light that uses a soft white glow to fill lights around the environment by lowering its intensity. In order to get the daytime effect with sunlight penetrating from outside, I used a point light and widen its diameter for more light to pass through and to decrease the intensity level to give more of a soft effect, as well as to implement a bright and light orange-yellow colour for the light. On the contrary, in the night time renderings, the point light from the sun colour has been changed to a darker orange-yellow colour to simulate night lights coming from the lamps outside.

Wine racks: In addition to the ambient light and point light of the sun where these two lights act as they key light, a fill light was required facing the wine rack because the shelves and bottles were too dark to be seen when it gets rendered. In order to add light, I simply widen the diameter of the point light as well and changing the intensity and decay level at the attribute editor so that it does not contradict with the other lighting surrounding it.

Wine barrels: In terms of the lighting for this object, it has been lit the same way as the wine store walls by using an ambient light. For the daytime renderings, a sun-coloured point light shines on the object while for night time, a point light has been simulated with a dark orange-yellow colour to look like street lights penetrating through, just like the lighting technique for the spatial environment.

Wine glasses: The wine glasses were also lit in the same fashion as other components of the store.

Wine bottles: Besides being lit the same method as other elements of the wine shop, the wine bottles found on the wine rack has been lit with an additional point light like the wine rack as well.

Bar table: The table has been lit the same technique as all the products found around the interior space.

Lamps: The lamps have been lit by the ambient light and the point light that simulates a sun effect. On the other hand, the glow on the light does not have any lighting implemented, but it was created using a glow effect.

Composition and Mood

Wine store walls: The walls use a white-grained-matte texture to set the surrounding spatial environment. Furthermore, in a small environment, when the colour white is used, it generally allows a psychological appeal that it's clean and spacious which is the intend for this wine store.

Wine racks: The two racks are placed on the side, against the wall which acts as a display of the variation of wine that can be bought by customers. Also, with the open shelf, it allows customers to easily grab their favourite drinks to purchase. Furthermore, the dark wood shelf also suggests a tone of luxurious drinks.

Wine barrels: The purpose of the two barrels mainly serves as and indication of wine barrels containers that wine gets produced. As it is placed at the front, acting as a table, it helps display promotional wine to customers.

Wine glasses: The placement of the wine glass indicates that the store sells wine and that customers can get taste testing for a particular drink they are interested in. Due to its glass material, it also indicates that wine is a type of high end drink.

Wine bottles: Various types of wine bottles are placed on the wine rack to populate it, as well as on the counter at the back and on the front two barrels as a sense of promotion.

Bar table: The table is placed at the back where customers can walk through the store to look at the types of wine available and if they are interested, they can have a sample at the back and to socialise at the table. The reason why the table has a minimalistic design is to allow a socialising purpose and to create an open environment.

Lamps: Lights found at the top which are minimalistically designed lamps with only the light bulb present is an attempt to create a modern look along with its gold metallic stem.

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