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CS-330

Design Decisions Reflection

The scene I chose involves an Atari 2600 game console, two controllers, a game, and television. The objects in this scene consist of many basic geometrically placed together. The controllers have a box shape, therefore I chose a box mesh to represent them. They joystick is naturally made from a cylinder. For the orange ring surrounding the joystick, I chose to use a torus mesh for this. I had to adjust the scale and position of each object in order to create each controller. Since they are identical in shape, all I had to do to place the second one properly is use the inverse of the first one’s x-axis position.

The television is simply two boxes, one for the tv casing, and one for the screen. I could have used a sphere to give curvature to the screen, but since the texture used on the screen appears too high of quality for a crt television, I decided to make it a flat panel monitor. The texture on the screen is meant to be a futuristic representation of tv white noise, which I decided to use to contrast the classic image of a 40+ year old console.

The console required a few more basic shapes to give it form. Starting with a box for the base, I rotated a prism and positioned it on top of the base to simulate the part containing the control switches and cartridge slot. The control switches are small cylinders placed at 45-degree angles. The cartridge is also done this way. I placed a different texture on the top and front of the cartridge to represent a label that has been worn out over the years.

A user can navigate through the scene quite easily. They can utilize the “ASDW” keys to move the camera forward, backward, left, and right. The “Q” key will move the camera up, and the “E” key will move the camera down. Their mouse will point the camera to different angles, and the scroll wheel will speed up or slow down the camera movement speed.

Regarding the various functions, I used PrepareScene to create the objects in the scene and to manipulate their scale and positions. This function is also allows me to add and remove textures, materials, and lighting. The RenderScene function allows me to add in camera movement options.

Keeping the functions and methods modular means that I can easily use them in other 3d scenes should the need arise. If all of these were simply kept in just one Main.cpp, then any adjustments made could mean having to redo many other lines of code. This will cost a company more time and money, which may not be in their budget.