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Assignment 4

CIS 410

For this assignment I created four different materials. I chose to make a shiny golden material, a rough metal material, a wooden material and a basic plastic material. I started out with the plastic because we had already created a similar material in the Lego assignment. I started with a Phong shader and gave it a green color and added high diffuse and reflectivity. I then got to work trying to put it all together in code. After a bit of time spent translating all of the commands I had the ability to create a working plastic shader over nimble. I was having a lot of problems getting the material to assign to an object remotely at first so I put that part of the assignment off until later. Next I watched a YouTube tutorial and created a wooden material. I used a wood shading texture combined with a stucco for the woods veins to create my wooden texture. Next I moved on to the metals. The metals took me a very long time because I used outside images to add texture and specular shades. I had to watch many tutorials to figure it all out but this exercise was good because I came to understand the hypershade editor and all of its different functions well. I then had to figure out the Python commands for assigning a file path. This was not as easy as I anticipated because the script editor does not return a MEL command when you assign a path. I ended up using Python's OS library to get the absolute path to my files which I placed in the resource folder and then used the Maya DefaultNavigation function to connect my paths to the correct file objects. I created a dirty metal and a shiny gold which reflects a room using these techniques.

You will find the code for my shaders at src/mayapy/views/assignment4/shaders.py. The logic for creating the shapes can be found in src/mayapy/views/assignment4/Assignment4Widget.py along with the handling of the combo box and buttons. To run the application run src/mayapy/MayaPyApplication.py and then select the Assignment4 button on the main page. You can also find three rendered .png images in the same location. These images are of a golden ball, a metal pyramid and a wooden ring.

Note: I have closed and reopened Maya and my project several times and I can't figure out why, but when some particular objects are first created with the Shiny Gold material, the material doesn't seem to be assigned to the objects right away. The material is still created and it can be assigned manually but it will not do it automatically. I have found that if I do the operation several times it suddenly starts working for all of the objects so I think it is an error on the Maya side of things.