Austin Johnson

CS 330

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1. Justify development choices for your 3D scene. Think about why you chose your selected objects. Also consider how you were able to program for the required functionality.  
    To represent the curved shape of the teapot, I chose to utilize two tapered cylinders end to end. To me, this most closely resembles the shape and design look of the teapot. I used a shortened sphere combined with a cylinder to represent the teacup. I wanted to simulate the curved bottom that the teacups in my picture had. I used 4 longer boxes to represent the wooden panels on the side of the bigger wooden tray.
2. Explain how a user can navigate your 3D scene. Explain how you set up to control the virtual camera for your 3D scene using different input devices.  
    I set up the movement controls by setting the keyboard buttons to change the position of the camera in the xyz coordinate plane. The WASD keys control forward, left, backward, and right respectively. And then the QE keys control up and down respectively. The mouse movement controls the direction of the camera, and the mouse wheel scroll controls the speed of the camera movement. I set them up by modifying the respective modules in the viewmanager class.
3. Explain the custom functions in your program that you are using to make your code more modular and organized. Ask yourself, what does the function you developed do and how is it reusable?  
    One of the custom functions I used is the TextureOverlay function. This function puts an additional texture over the original one. This is used to create complex textures for objects and allows me to combine two textures into one. It is reusable and able to be applied to other parameters of the objects. For example I could reuse the code to be able to apply multiple materials to the object, allowing for complex materials.