**2-3 Project Proposal**

This project is about turning a 2D picture of a minimalist living room into a 3D model. The image shows a simple yet stylish setup with five main objects: a sofa, a coffee table, a potted plant, a small side table, and a teacup. This scene is a great choice because it uses basic shapes, making it both manageable and interesting for a 3D modeling project.

The picture is of a clean, minimalist living room. The objects in the room include:

1. A sofa
2. A round coffee table
3. A potted plant
4. A small side table
5. A teacup

This image is attached for reference and will serve as the blueprint for creating the 3D scene.

**Objects to Be Created in 3D**

1. **Sofa**
   * The sofa has a rectangular base and soft, cushioned seats. It’s a major part of the scene and uses simple shapes like rectangles and cylinders for the base and cushions.
2. **Round Coffee Table**
   * This table is at the center of the room. It has a circular top and slender, angled legs that can be made with cylinders.
3. **Potted Plant**
   * The plant adds some natural variety to the scene. The pot is a tapered cylinder, the stem is a cylinder, and the leaves can be thin planes.
4. **Small Side Table**
   * This table is small and complements the coffee table. Its round top and simple, wooden legs make it easy to model with basic shapes.
5. **Teacup**
   * The teacup is a small but detailed piece. Its body is a cylinder, and its handle can be created with a torus shape.

**Basic 3D Shapes to Be Used**

* **Box**: To create the sofa’s base and backrest.
* **Cylinder**: For the coffee table’s top, the legs of the tables, the plant’s stem, and the teacup’s body.
* **Plane**: For the floor and to model thin items like plant leaves.
* **Tapered Cylinder**: For the plant pot and the rounded sofa cushions.
* **Torus**: For the handle of the teacup.

**Why These Objects Were Chosen** These items were chosen because they cover a mix of simple and detailed forms. This keeps the project fun and varied while staying realistic. The shapes used are versatile and perfect for accurately building these objects in 3D.

**Steps to Complete the Project**

1. **Preparation**: Collect more references for any tricky angles or details.
2. **Modeling**: Use OpenGL to recreate each object using the specified shapes.
3. **Texturing**: Add materials and colors to match the look of the original scene.
4. **Rendering**: Arrange the objects in a 3D space and render the scene to complete the project.

**Conclusion** This project will transform a simple 2D living room image into a detailed 3D scene using a mix of basic shapes. It’s a great way to practice breaking down objects into their simplest parts while creating something visually appealing and realistic. The variety of shapes used will make the project challenging but also rewarding.

A couch and coffee table in a room

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