CS 330 Milestone One Guidelines and Rubric

Overview

Now that you have begun to explore the different shapes that you can use to construct larger objects, you will be planning out your own 3D scene. The choices you make here will guide the work you complete later for your final project.

Scenario

Recall from reviewing the Final Project Guidelines and Rubric that you work as a C++ and OpenGL 3D graphics developer for Triangle and Cube Studios. You have been tasked with writing code in OpenGL to create objects, add texture, apply light, render, and control virtual environments relative to a virtual camera. Review the Final Project Guidelines and Rubric to refresh yourself on the full scenario.

Directions

Think about some possible 2D scenes that you might want to replicate in 3D. You have been shown examples of objects on a desk and a garden, a building, and a kitchen. The possibilities are endless!

Specifically, you must address the following rubric criteria:

1. **Select a 2D image with objects to replicate in a 3D scene.** It's recommended that you take your own photos of the 2D scene. Having multiple photos will let you look at the objects from several angles. Or you may create a sketch or find an image online. You will need to have at least four objects in your scene. At least one of these objects needs to be made of two or more basic 3D shapes. You will need to use at least four different basic 3D shapes in your work. Shape options to include in your scene are listed below:
    A. Box
    B. Cone
    C. Cylinder
    D. Plane
    E. Prism
    F. Pyramid
    G. Sphere
    H. Tapered cylinder
    I. Torus
2. **Discuss which objects will be replicated in 3D**. Select which items from your scene that you will be replicating in 3D. Then explain why these items are a good choice for your work.

3. **Explain which basic 3D shapes will be used to replicate the 2D objects**. Break down each of the objects you chose into their component shapes. Be sure to include a plane in your scene. The plane will be used to ground the rest of the objects. Explain why your choices make sense and how you will carry out the overall scope of the work. The goal is to ensure the selections you make are exciting to explore but also achievable.

What to Submit

Submit your completed proposal as a 1- to 2-page Microsoft Word document with 12-point Times New Roman font, double spacing, and one-inch margins. Any sources should be cited according to APA style. Include your selected images.

Milestone One Rubric

Criteria	Exceeds Expectations (100%)	Meets Expectations (85%)	Partially Meets Expectations (55%)	Does Not Meet Expectations (0%)	Value
2D Image	Exceeds expectations in an exceptionally clear, insightful, sophisticated, or creative manner; areas demonstrating exceeds expectations work may include selecting an image that is particularly clear or showing images with multiple angles of the same scene	Selects a 2D image with objects to replicate in a 3D scene	Shows progress toward meeting expectations, but with errors or omissions; areas for improvement may include selecting an image that is clear, has enough detail, or is not too complex	Does not attempt criterion	30
3D Objects	Exceeds expectations in an exceptionally clear, insightful, sophisticated, or creative manner; areas demonstrating exceeds expectations work may include demonstrating a particularly clear understanding of the appropriate level of complexity and creativity for the scene	Discusses which objects will be replicated in 3D	Shows progress toward meeting expectations, but with errors or omissions; areas for improvement may include identifying objects that are the right level of complexity or identifying enough objects	Does not attempt criterion	25

Criteria	Exceeds Expectations (100%)	Meets Expectations (85%)	Partially Meets Expectations (55%)	Does Not Meet Expectations (0%)	Value
3D Shapes	Exceeds expectations in an exceptionally clear, insightful, sophisticated, or creative manner; areas demonstrating exceeds expectations work may include using an innovative approach to an object or including a detailed examination of objects that use multiple shapes	Explains which basic 3D shapes will be used to replicate the 2D objects	Shows progress toward meeting expectations, but with errors or omissions; areas for improvement may include identifying the appropriate number of shapes or simplifying more complex objects to an achievable creation	Does not attempt criterion	40
Clear Communication	Exceeds expectations with an intentional use of language that promotes a thorough understanding	Consistently and effectively communicates in an organized way to a specific audience	Shows progress toward meeting expectations, but communication is inconsistent or ineffective in a way that negatively impacts understanding	Shows no evidence of consistent, effective, or organized communication	5
				Total:	100%