Project 4

WebGL 3D Project

Overview

In this project you will create a unique 3D animated scene composed of WebGL graphic components. The scene should include animation, lighting, textures, frame buffers and multiple objects.

Requirements:

1. Using WebGL create a unique 3D animated scene. The scene has the following specifications:
    a. Size: minimum 640x480
    b. Includes at least 10 different objects.
    c. Uses multiple lighting effects on different materials
    d. Uses multiple textures
    e. Includes radio buttons, slider bars or other widgets to turn on or off certain components of the animation.
    f. Uses frame buffers to organize the memory resources that are needed to render the scene.

2. Use WebGL
3. All JavaScript source code should be written using Google JavaScript style guide.(http://google.github.io/styleguide/jsguide.html)
4. Prepare, conduct and document a test plan verifying your application is working as expected. This plan should include a test matrix listing each method you tested, how you tested it, and the results of testing

Deliverables:

1. All JavaScript source code used for this project. Code should adhere to the Google Javascript style guide.
2. Word or PDF file demonstrating with clearly labeled screen captures and associated well-written descriptions, the successful execution of your 3D WebGL animated scene. The document should be well-written, well-organized, include your test plan, include page numbers, captions for all screen captures, and a title page including your name, class, section number and date. References should be included for all sources used and formatted in APA style.

Grading guidelines:

Attribute	Meets
Design	**20 points** Methods used to isolate functionality (10 points) Code is efficient without sacrificing readability and understanding. (5 points) Code can easily be used and maintained. (5 points)
Functionality	**50 points** Creates a unique 3D animated scene. (10 points)

	Size is at least 640x480. (5 points)
	Includes at least 10 different objects. (5 points)
	Uses multiple lighting effects on different materials. (5 points)
	Uses multiple textures. (5 points)
	Includes radio buttons, slider bars or other widgets to turn on or off certain components of the animation. (10 points)
	Uses frame buffers to organize the memory resources that are needed to render the scene. (5 points)
	Uses WebGL (5 points)
Testing	**10 points** Prepares, conducts and documents a test plan verifying the application is functioning properly. (10 points)
Documentation and deliverables	**20 points** Submits all JavaScript source code used for this project. (5 points) Code adheres to the Google JavaScript style guide. (5 points) Submits Word or PDF file demonstrating with clearly labeled screen captures and associated well-written descriptions, the successful execution of your 3D Three.js scene. (5 points) The document is well-written, well-organized, includes the test plan, includes page numbers, captions for all screen captures, and a title page including your name, class, section number and date. References are included for all sources used and formatted in APA style. (5 points)