Qualium Systems

TEST TASK

Entertainment Media

Using the attached template, write a mini game.

Requirements:

1. The implementation should be in 3D using OpenGL (for the Web - WebGL, respectively) without the use of libraries.

2. For the web: it is forbidden to use third-party libraries like ThreeJS. Everything is done with primitive WebGL tools.

3. Work with textures is not necessary (cubes can be without textures).

Task:

1. By pressing the start button, the number of points is reset and on the playing field on the upper boundary in a random place at random times cubes of random color begin to appear and they move with a different (random) speed to the bottom of the playing field.

2. If the user clicks on the cube, you need to remove it from the game field and increase the score counter by 1.

3. Clicking on cubes should take depth into account (that is, if one block blocks the other, then the one that is closer to the observer should disappear).

4. By clicking the stop button, the appearance of new cubes should stop and the playing field should be cleared.

Objectives:

1. The basic implementation of the 3-dimensional scene (working with the camera, objects, lighting).

2. Working with objects in OpenGL (vertex, triangles, polygons).

3. Interaction with objects on the stage (position of objects in depth).

Variability:

1. Allow only one type of projection: orthographic or perspective.

2. Limit the construction of the cube model to one version: GL_TRIANGLES, GL_TRIANGLE_STRIP, GL_QUADS.

3. Use only directional light.

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