Assignment 2 (Individual)

Hide and Seek in the Garden Game

Deadline: Wednesday 9/12 at 11:59 pm

Description:

In this assignment, you are required to implement a 3D garden scene. The garden should have different objects and a character seeking for a hidden goal in the scene. This goal appears in random position. The game ends after an interval of time or the player reaches the goal within time.

Theme:

You are required to draw a garden including **fence** surrounding the garden, **grass** on the ground. Additionally, you have to draw **any** four different objects in the garden (the whole scene has at least six different models).
You can choose four models from the following list:

1. Pergola
2. Swimming pool
3. Park Bench
4. Trees (more than one tree in the scene)
5. Umbrella
6. Swing
7. Slide
8. Flowers (more than one flower in the scene)

Modeling:

- The ground of the garden has to be drawn with minimum one primitive.
- The grass has at least two primitives.
- The fence surrounding the garden (three sides) has at least six primitives for each side.
- The other objects must have at least four primitives each.
- The player should have head and body with minimum four primitives.
- The goal can be any shape along as it consistent with scene. The minimum is one primitive.
- **Models must appear as realistic as possible (Not just a random arrangement of primitives).**
- **Every object should be colored. Use the attached file (color).**

Collisions:

The player can only move throughout the garden, which means the player can't move outside of the fence of the garden.

Animation:

1. Each object in the garden has a different key to start the animation of this object and to stop it.
2. The object can be rotated (clockwise and anti-clockwise), translated (back and forth) or scaled (up and down).
3. The colors of the fence keep on changing randomly every interval of time.
4. The goal appears in a random position each run of the game, and does not change once the game starts.

Controls:

1. For each object, the animation can be played or stopped by keyboard functions.
2. The player can move in any direction using keyboard.

Camera:

You are required to make three different views of camera

1. Top View
2. Side View
3. Front View

The user can alternate between the different camera views using the keyboard.

Bonus (any one of these):

1. Complex 3D models.
2. Sound for every action.

Submission Guidelines:

- ➔ The assignment should be implemented in OpenGL
- ➔ This is an **INDIVIDUAL** assignment. Cheating cases will lead to a **ZERO**. Also, copying the code from the Internet will lead to a **ZERO**.
- ➔ This assignment is worth 7.5%
- ➔ Deadline for the assignment: Wednesday 9/12 at 11:59 pm
- ➔ To submit, add only your (*.cpp) files NOT the whole project/solution to a zipped folder named after your id **(T-01 43-XXXX)**
- ➔ Submission email address: dmet502.2020@gmail.com
- ➔ Email subject: Your tutorial number followed by your id **(T-01 43-XXXX)**
- ➔ **Emails without a subject will not be graded.**