Tutorial 13: Switching nodes in OSG

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May 12, 2008

Abstract

Being able to dynamically turn on and off some nodes at run-time is a huge boon for some applications. A typical example is the ability to render an object with different states. For instance what about rendering a traffic light. You already know that some only one light should be on at a time! In this tutorial we will render several objects. By pressing a key on the keyboard (the 'n' key) you will be able to switch on and off some nodes. This tutorial will serve as an example of the switch node. That is why I have decided to write this example so that every OSG developer can have something to start with.

1 Swithing OSG

Switching nodes is a very useful feature of OSG. In fact, from the second tutorial you have already made use of this technique. Wondering how? Remember when you press the 's' key to dynamically display performance of your program. OSG switches on and off these information.
Here is the process of adding shaders to a particular node.

1. Create a switch handler class (lines 30–67)
2. Create the different nodes that will switched on and off at run-time (lines 70–115)

3. Create a switch node object (line 123)
4. Add an event handler to the newly created switch node (line 124)
5. Finally attach the different nodes to the switch node (lines 137–141)

2 Scene graph of our scene

The scene graph of our program is shown at the following picture.

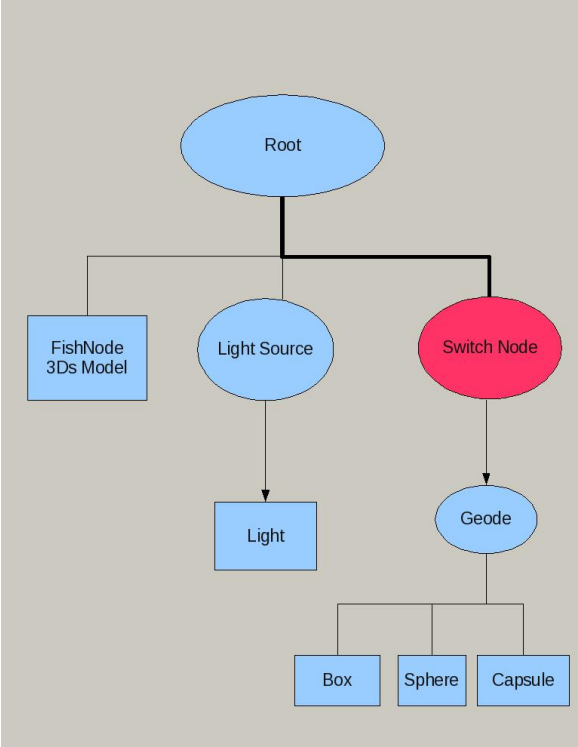

Figure 1: The scene graph

3 Results

The results of our scene is illustrated in the next skecth.

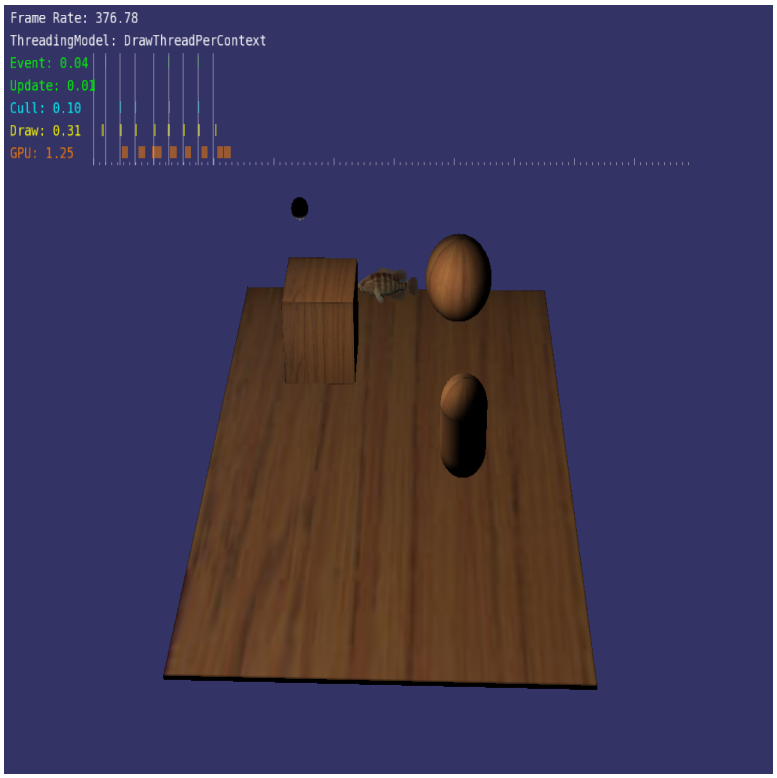

Figure 2: An RGB cube and a NPR rendering

4 Do-it-yourself

Here is your task list:

1. Run the program and press 'n' many times and enjoy!
2. Study carefully the code and add other objects