CS380

Programming Assignment #2
Due Apr.-15 (Wed.) (before 11:59pm)

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Objective: Understand how to perform transformations to the model, idle-based animations, and simple interaction methods.
Developing environment: TA will test your code in **Visual Studio 2017** in Microsoft **Windows**.
Provided materials: Two header files(.h), two source files(.cpp), two modeling files(.obj), one sample binary(.exe)

Procedure:

1) Make project for PA2. Adding all *.h and *.cpp files into your project.
2) Compile and run the skeleton codes of PA2 for testing.
    a. The code requires reading a file of "cow.obj" and "camera.obj".
       This file should be in the working directory. (where *.vcxproj located)
3) Understand the basic structure of the skeleton code(SimpleScene.cpp).
4) Implement the **cow spinning** around an **arbitrary line**. Choose the line randomly.
   Rotation is done in the **modeling space.**
    a. Toggle the animation by typing **"r"**
    b. You can use the **idle-based animation method**
5) Provide **translation function** along **x, y, z directions** in the **modeling space**
    a. The amount of translations is determined by the **mouse movement**.
    b. If you type **"x", "y", or "z"**, then, the **cow model translates** along a direction corresponding the key map. In order words, if you type "x", then, the cow translates along x-direction in the modeling space.

Deliveries:

1) Binary (*.exe) and source codes (SimpleScene.cpp) of your solutions.
2) A report (*.pdf) that specifies the files you made/changed.
   (The report should contain the following 6 images.)
    a. Attach three images of spinning cow that has three arbitrary line, respectively. (3 images)
    b. Attach three images of cow that translated with respect to x, y, z axis, respectively. (3 images)
3) Submit your work in KLMS. You should submit *.zip file that contains your binary (*.exe), source codes (SimpleScene.cpp), and your report (*.pdf).

Scoring criteria (30 pts):

1) Rotation
    a) cow spinning (5 pts)
    b) arbitrary line (5 pts)
    c) toggle key "r" (5 pts)
2) Translation
    a) cow translation according to x, y, z direction in modeling space (10 pts)
    b) toggle "x", "y", or "z" (5 pts)

❖ Compile error will get 0 point.
❖ Implementation outside of implementing area is not allowed.
❖ Use variables presented in "(Project 2) Variables".
❖ There are two areas for implementation. Please search "(Project 2)".
❖ Name the zip file to studentID_PA2.zip (e.g., 20201234_PA2.zip).

Policies:

1. Everyone must turn in their own assignment. You can collaborate with others, but any work that you turn in should be your own.
2. If your zip file name does not match the format (i.e., studentID_PA2.zip), we will deduct your score by 2 points.