

Computer Graphics (COMP3271)

Programming Assignment 2:

3D Modeling and Interface Design

Date assigned: Oct. 22, 2019
Date due: 23:59 pm Nov. 9, 2019

General Description

In this programming assignment you are required to implement part of 3D objects modeler with functions like mouse controlled model editing.

Requirements

In order to make this assignment simple, only mouse interaction control is required. You should implement a few event handlers to handle model transformation(rotation, translation and scaling). You also need to draw a set of editing handle for model editing.

Template

A project template as well as an executable sample is prepared for you to help you focus on the interface design.

Functions of the template include:

- 3D primitives modeling (cube pyramid tetrahedron octahedron icosahedron dodecahedron sphere cone cylinder)
- object(s) Selection
- navigate control mode
- shading

Implementation

There are two functions need to be implemented, both of them are in "rayView.cpp".

void UserMouseMove(int x, int y);

This function is called by the template whenever the mouse is moved, regardless the click condition. x and y are the screen coordinate of the mouse position.

void UserDrawControlHandle();

This function is called by the template in DrawScene, to draw the editing handles.

Hand in

Hand-in only changed source files. After deadline, the web handin will still be available for 3 more days for those who haven't uploaded the assignment by the

deadline. Late policy is fifty percent penalty per day. Re-submission after deadline is treated as late submissions. No assignment will be accepted after 3 days.

Necessary comments to explain your code is required.