CA417 Interactivity

Assignment 2

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CA417
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DCU Engineering & Computing
Assignment Submission

Student Name(s): **Daniel Malone**

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Programme: **CASE4 - BSc in Computer Applications (Sft.Eng.)**

Project Title: **CA417 Assignment 2**

Module code: **CA417**

Lecturer: **David Sinclair**

Project Due Date: **06-MAY-2014**

Declaration

I the undersigned declare that the project material, which I now submit, is my own work. Any assistance received by way of borrowing from the work of others has been cited and acknowledged within the work. I make this declaration in the knowledge that a breach of the rules pertaining to project submission may carry serious consequences.

I am aware that the project will not be accepted unless this form has been handed in along with the project.

Signed:Daniel Malone

10375043

CA417 Interactivity

Assignment 2

Tree Node

To join nodes together to form objects such as tables and chairs I used treenode as mentioned in the notes.

This allowed me to add legs etc to chairs and tables and move the table and its children as one conjoined piece. It essentially allowed me to preform operations on the entire object as a whole.

Camera

The Camera can be panned left & right, as well as moved up down left and right.

I use glLookAt to navigate the scene; I have the scene set to frustrum mode to have objects in the distance seem further away; unlike parallel projection. I move the camera around the scene as opposed to moving the scene around the camera, I believe there is an argument for both approaches but moving the camera seems more logical.

Selection

Treenode objects such as the Table or Chair can be selected by pressing tab, this applys a glColor effect to the parent which applys upon traverse to all children. This color gives the effect of 'selection' allowing a user to see the selected node.

The logic for applying the color and doing the selection test is based in the nodes declaration, in retrospect I would have preferred to have an outside handler that preforms a manipulation on a treenode pointer.

Movement

Each object has a draw position; a translation dictated in the 'item mover' struct defines the additional movement applied to the object, this movement is preformed separately to the original draw.

Lighting

Lighting can be toggled through use of the 1,2 and 3,4 keys.

Controls

W	A	S	D	UP	DOWN	LEFT	RIGHT	
forward	Back	left	right	forward	back	Pan left	Pan right	
1	2	3	4	5	6	|	ALT+UP	ALT+down
Light 1 Off	Light1 On	Light2 Off	Light 2 On	Light 3 Off	Light 3 On	Debug Mode	Zoom in	Zoom out

SHIFT + UP	SHIFT + DOWN	SHIFT + W	SHIFT + A	SHIFT + S	SHIFT + D	TAB	ESC
Move object up	**Move object down**	**Move Object Back(Inverted)**	**Move Object Left**	**Move Object Back(Inverted)**	**Move Object Right**	**Select Object**	**Escape**

DEMO

Please find a video demo at:
http://www.youtube.com/playlist?list=PLfD173pGL26I4cgjnAyeoilJYw11rtYRM