CS488 – Assignment 1

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Manual

Program Description

This program is a tetris-like game with 3D graphics using OpenGL. It uses basic OpenGL techniques – drawing primitives and basic lighting.

Gameplay

The objective of this game is to place blocks compactly in order to form complete rows. Complete rows will break and open up more room. You must rotate and position blocks as they fall from the top of the screen. If a block is placed so that it rises above the top of the game well, the game is over. Try to last as long as you can!

Game Controls

- Use the left and right arrow keys to move the active block left and right.
- Use the up and down arrow keys to rotate the active block clockwise and counter-clockwise.
- Press space to drop a block all the way to the bottom.
- Click and drag the left mouse button left and right to rotate the game about the X axis.
- Click and drag the middle mouse button left and right to rotate the game about the Y axis.
- Click and drag the right mouse button left and right to rotate the game about the Z axis.
- For the above three mouse controls, you can make the game continue to spin around the axis after letting go of the mouse button by "flinging" the game - let go moving the mouse.
- Click and drag any mouse button left and right while holding shift to scale the game.

Options and Menu Items

Under the Application menu you'll find the menu items "New Game (N)", "Reset (R)", and "Quit (Q)". The letters in brackets are the keyboard shortcuts for the menu item. Selecting "New Game" will clear the game of blocks and let you start over. "Reset" will set the rotation and scale to default, stop any spinning, and reset the Draw Mode and Extras options to default (see below).

The Draw Mode menu contains options to change the appearance of the game blocks. They are "Wire-frame (W)", "Face (F)", and "Multicoloured (M)". Try them out!

The Speed menu can be used to set the falling speed of blocks. Note that a faster falling speed means the game will be more difficult. Number keys 1, 2, and 3 are shortcuts for slow, medium, and fast falling speeds.

The Extras menu lets you toggle extra features. You can turn off the guide that shows where the block will end up if you drop it (shortcut key 'G'). You can also disable OpenGL lighting from this menu (shortcut key 'L').