**Tool Development for Computer Games**

**Adding Navigation Points to a Level Editor**

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# User Guide

How to Change Camera Perspectives

To change between the camera perspectives, use 0 to change to Side View, use 1 to change to Perspective View, use 2 to change to Top View, and use 3 to change to Front View. The console will inform you what Camera is selected.

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How to Change Between Move Camera Mode and Move Object Mode

To change between Move Camera Mode and Move Object Mode, press M on the keyboard. The console will inform you what Move Mode you are currently in.

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How to Move the Camera

To move the camera, you must be in Camera Move mode, once in camera move mode, you can either move the camera by holding left click and moving your mouse, or by using the WASD keys, on your keyboard.

How to Add a Model

There are two ways to add a model to the scene. The first way is to click Add Model from the file menu, then choose the model you wish to add.

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The second way is to press Ctrl + A, which will open the file browser for you to select what Model you want to add.

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How to Add a Nav Point Node

There are two ways to add a Nav Point Node to the scene. The first way is to click Add Node from the file menu, which will then add a node to the centre of the scene.

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The second way is to press Ctrl + N, which will add a node to the centre of the scene without having to access the file menu.

How to Save the Scene

There are two ways to save the Scene. The first way to save is to select Save Scene from the file menu. The second way to save is to press Ctrl + S. The console will output if the Scene has saved successfully, or if there were any problems encountered.

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How to Load the Scene

There are two ways to load the Scene. The first way to load is to select Load Scene from the file menu. The second way to save is to press Ctrl + L. The console will output if the Scene has loaded successfully, or if there were any problems encountered.

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How to Select an Object in the Scene

There are two ways to select an object in the scene. The first way to select an object is via the Model Tree window. Where you can click on a model or Nav Point Node to select one. The second way to select an object in the scene is to click on the object in the viewport. This works for both Models and Nav Point Nodes.

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How to View the Properties of an Object

To view the properties of an object in the scene, you must first select an object in the scene. The properties will then appear in the properties window. The properties window will say if there is no object selected.

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How to Delete an Object in the Scene

To delete an object in the scene, you must first select the object you want to delete. Once the object is selected, you can select Deleted Selected Item from the Edit Menu, or you can press Delete on your keyboard.

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How to Clear all Models from the Scene

To clear all Models from the scene, you can select Clear Models from the edit menu, or you can press Ctrl + 9 on your keyboard.

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How to Clear all Nav Point Nodes from the Scene

To clear all Nav Point Nodes from the scene, you can select Clear Nodes from the edit menu, or you can press Ctrl + 0 on your keyboard.

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How to Move an Object in the Scene

To move an object in the scene, you must first be in Object Move mode, you can switch between Camera Move mode and Object Move mode by pressing M. The console will inform you what mode you are currently in.

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Once in Object Move mode, select the Object you wish to move, either from the Model Tree or by clicking on it. Once the object is selected, you can move the object around by holding left mouse button and moving your mouse. You can also move the object by changing the position values in the properties window directly.

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How to Rotate an Object in the Scene

To rotate an object in the scene, you must first be in Object Move mode, you can switch between Camera Move mode and Object Move mode by pressing M. The console will inform you what mode you are currently in.

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Once in Object Move mode, select the Object you wish to rotate, either from the Model Tree or by clicking on it. Once the object is selected, you can rotate the object around by holding right mouse button and moving your mouse. You can also rotate the object by changing the rotation values in the properties window directly. If rotating via the mouse method, changing your camera perspective will change what axis you rotate the object on.

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How to Scale an Object in the Scene

To scale an object in the scene, you must first be in Object Move mode, you can switch between Camera Move mode and Object Move mode by pressing M. The console will inform you what mode you are currently in.

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Once in Object Move mode, select the Object you wish to scale, either from the Model Tree or by clicking on it. Once the object is selected, you can scale the object by using your scroll wheel. You can also edit the scale properties in the properties window directly.

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# Line by Line Code Commentary

NavPoint.h

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NavPoint.cpp

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NavSet.h

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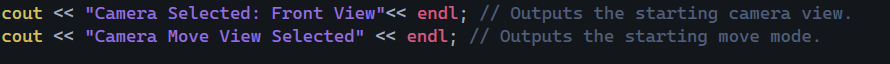
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NavSet.cpp

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LevelEditor.cpp







Scene.h

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Scene.cpp

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A computer screen shot of text

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A computer screen shot of a program code

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A screen shot of a computer code

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InputMgr.cpp

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GUIMgr.cpp

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A screen shot of a computer code

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A screen shot of a computer code

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# Appendix of Modified Files

NavPoint.h – Completely new file.

NavPoint.cpp - Completely new file.

NavSet.h - Completely new file.

NavSet.cpp - completely new file.

LevelEditor.cpp – Changed glClearColour to dark blue for the background. Added cout statements to display starting camera and move mode information.

Scene.h – Added function prototypes are various variables.

Scene.cpp – Provided bodies for the function prototypes. Changed save and load functions.

InputMgr.cpp – Changed key\_callback, mouse\_button\_callback, mouse\_callback, scroll\_callback.

GUIMgr.cpp – Changed drawMenu, drawPropertiesWindow.