## IDS 4687 Games Engines – UnrealEd Tutorial 4

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This document can be downloaded at: www.planetunreal.com/squacky/UnrealEd-Tutorial4.doc

Tutorial 4 – Duplication / Using the 2D Editor / Intersection / Deintersection

The 2D Editor is EXTREMELY useful and you will likely find yourself using it often. This tutorial is based on the map created in Tutorial 1, so open that map if you haven't already. We will use the 2D to create a custom shaped hallway from our main room to another room.

First we need another room for our hallway to lead to. So let's build a new 1024*1024*1024 next to our main room. Instead of using the CUBEBUILDER, let's just DUPLICATE our old room. Using the 2DWINDOW, right click on the large subtracted cube that makes our old room, then select DUPLICATE from the menu.
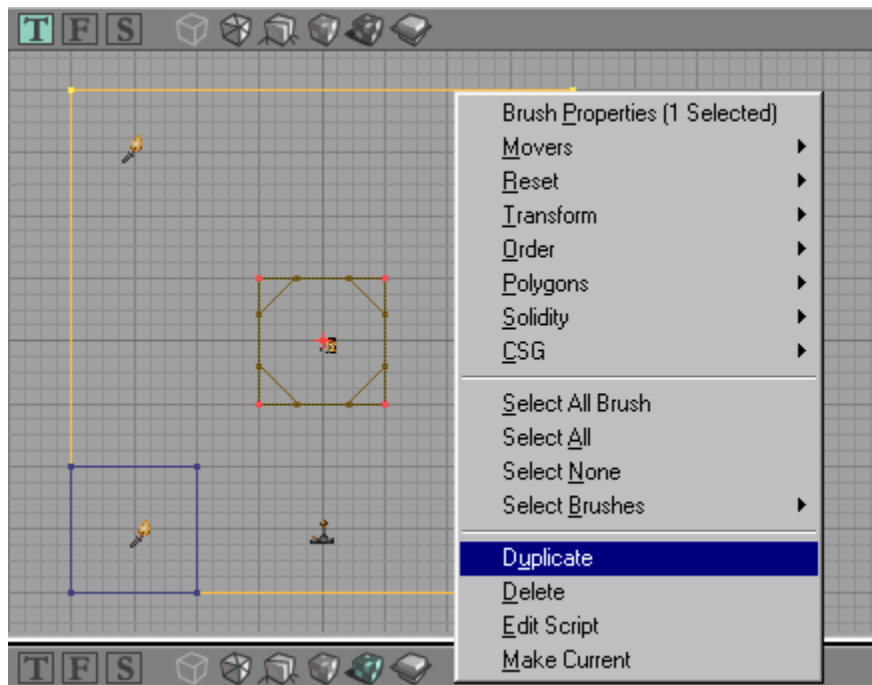

You should now see a duplicated cube next to the old cube. Drag the duplicated cube to the right until it is 256 units (2 large grid squares) to the right of the old cube. Your map should look like the one below.
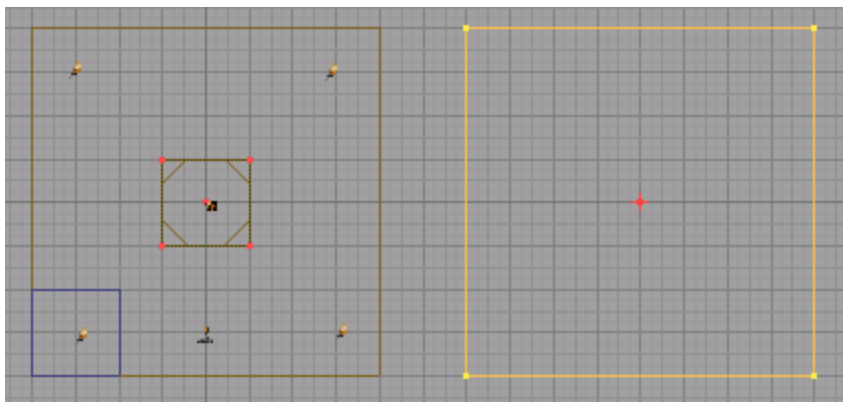
Now that we have a new room, lets just DUPLICATE the lights from the other room as well. First, CTRL and left click all 4 lights. Then right click any one of the selected lights and select DUPLICATE. Now drag the duplicated lights that appear to their appropriate positions in the new cube.

Notice that the new cube does not yet appear in the 3DWINDOW. Do a BUILD ALL and your map will be updated with the new duplicated geometry. When you are done your map should look like the one below.
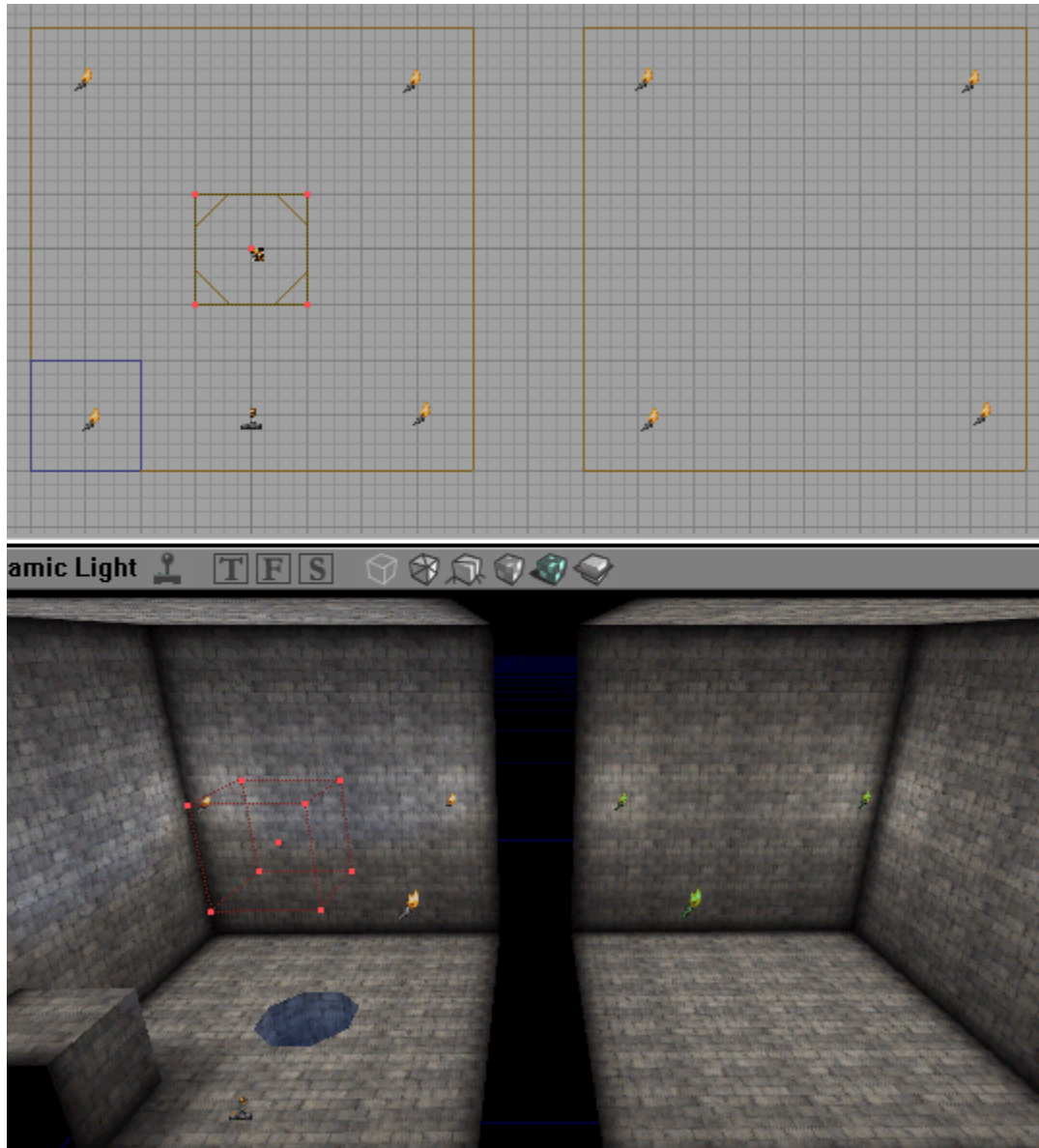

Now we will use the 2D SHAPE EDITOR to make a passageway between these two rooms. Click on the 2D SHAPE EDITOR icon to bring it up.
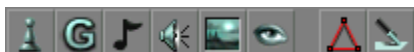

2D SHAPE EDITOR

You should see a grid, a box with 4 vertices and 4 sides. Maximize the 2D SHAPE EDITOR so it is easier to work with. The first thing we will do is add a vertex to the box. Select the top edge by click on the top left vertice. Note that you cannot select an edge by clicking on it. Each vertex is associated with an edge. When you have selected the top edge it should look like this.
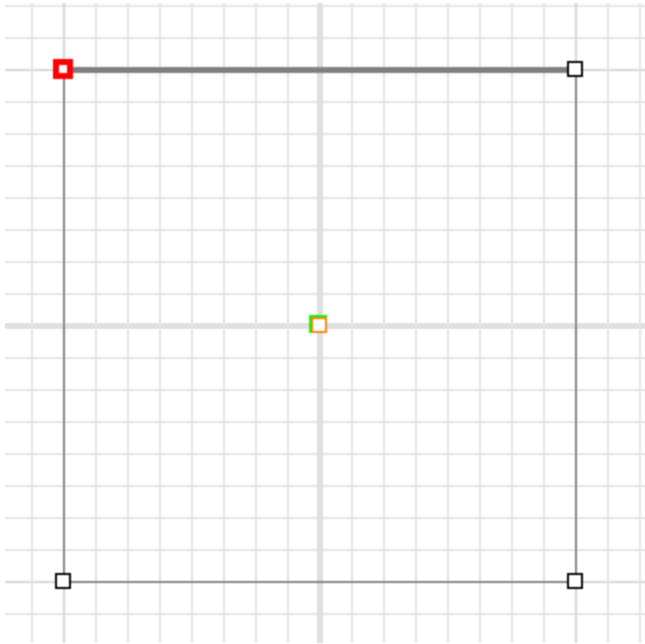
Now right click the selected edge and choose the option SPLIT SIDE. You will see a new vertex added to the shape.
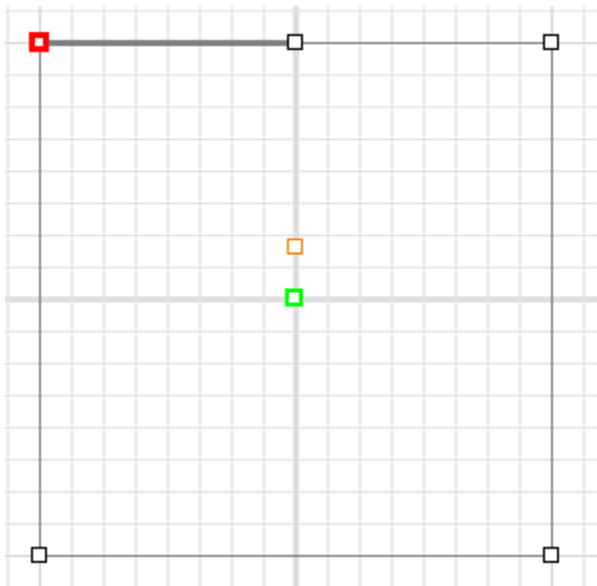
Now try moving the vertices to make new shapes. Add another vertice and try to arrange your shapes to look like the arch below.
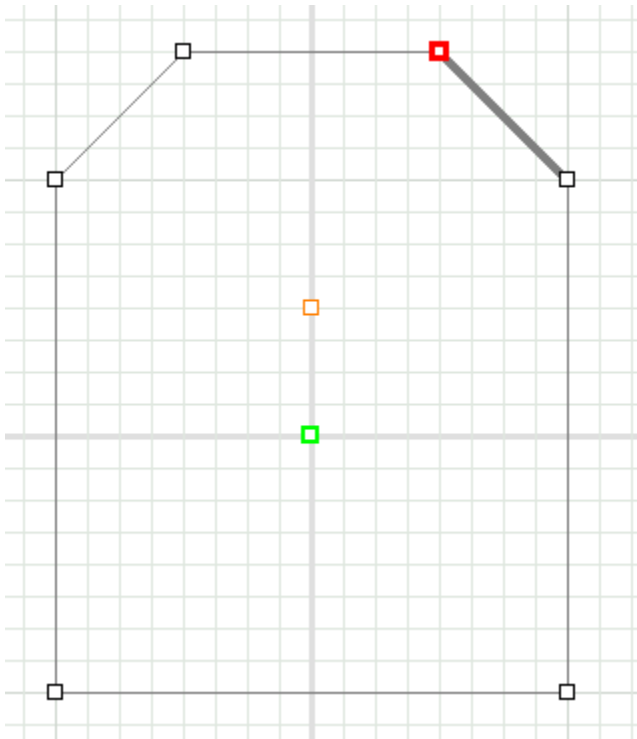
This will be the shape of our custom hallway. Note that each grid square in the 2D EDITOR corresponds to a grid square in the 2D and 3D WINDOWS. This will help you scale objects you make in the 2D editor correctly. Now that we have our shape we need to turn it into a brush. To do that hit EXTRUDE on the 2D EDITOR menu bar.
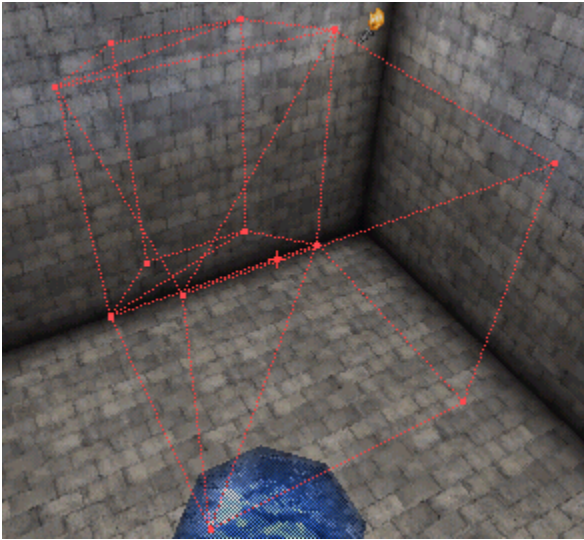
EXTRUDE

The extrude menu shown above should pop up. We know that our rooms are 256 units apart so we will extrude our hallway to a depth of 256 units. Now minimize your 2D editor, don't close it.

You should see your BUILDING BRUSH has take the form of the 2D shape we made in the 2D EDITOR.


Now we need to position our new hallway between the 2 large rooms. Using the 2DWINDOWS move the brush you have created between the 2 rooms and level with the floor. When you have aligned it correctly it should look like the map below.
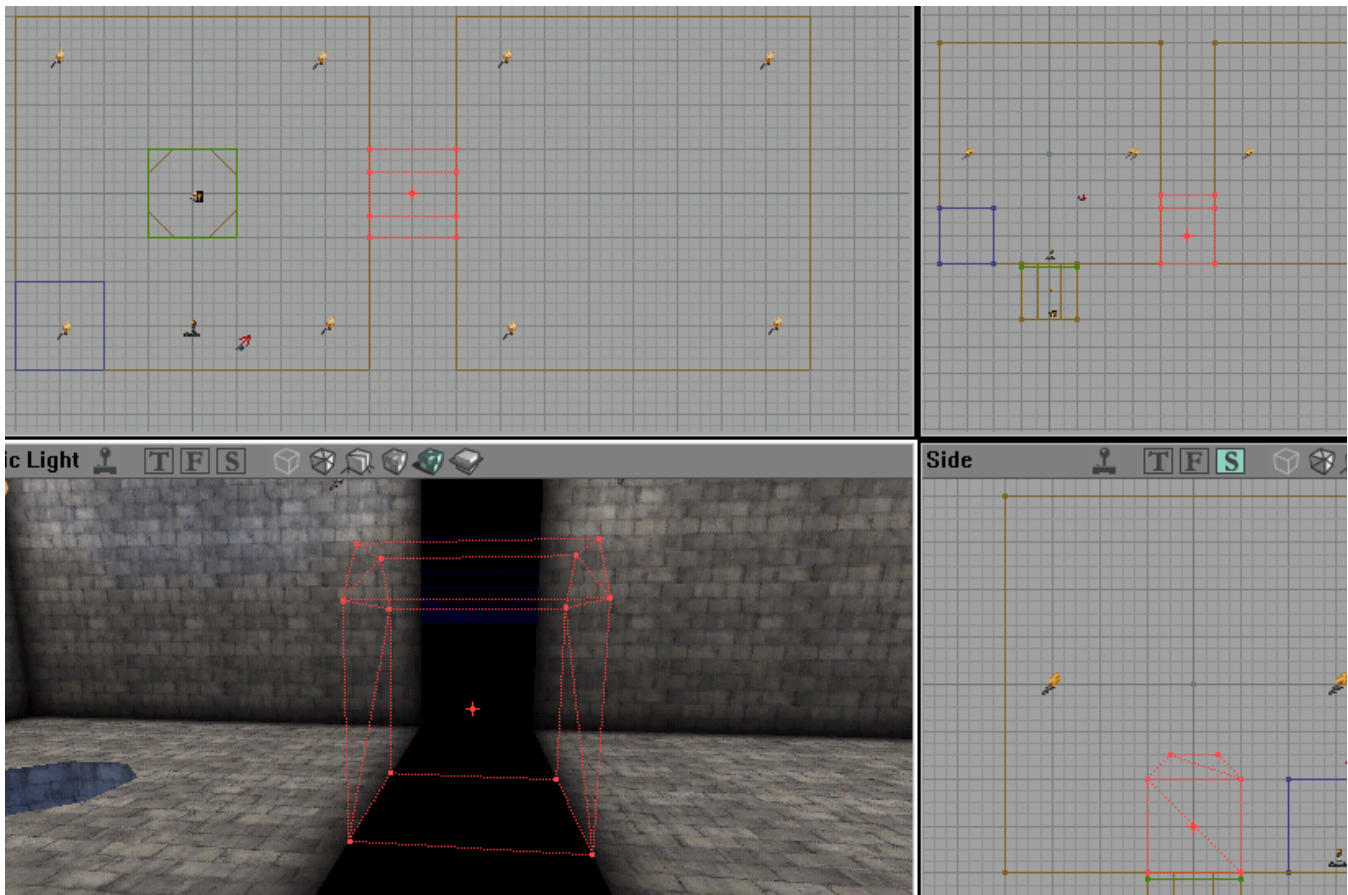
Don't subtract the doorway yet! First, make sure you have the proper texture selected from the texture browser.

Notice that the door has some nasty looking lines crossing through it. We can simplify our new brush by using the INTERSECT command.

INTERSECT   **DEINTERSECT**
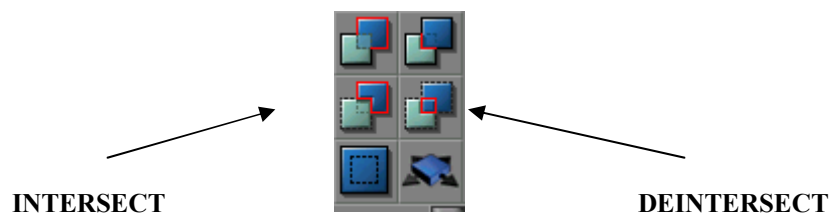
INTERSECT is used to make the BUILDING BRUSH "wrap around" solid objects. In this case, it will take the shape of the flat surfaces if the cube walls. Hit INTERSECT now. Notice that our hallway shape is now flat on the front surfaces and much simpler.
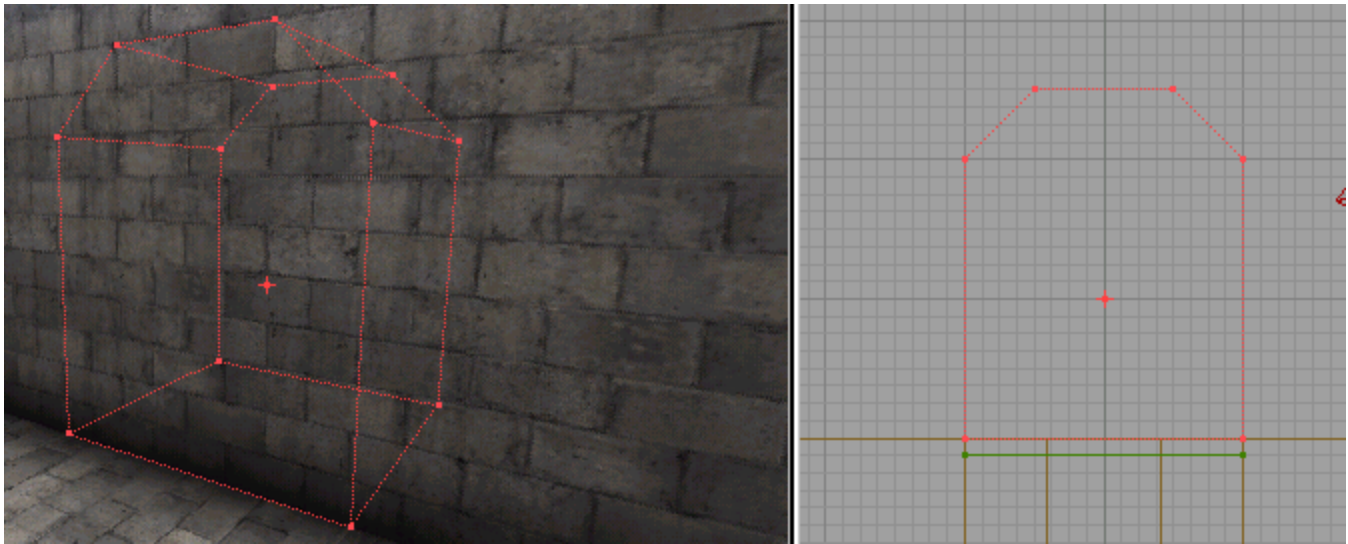
Now SUBTRACT the hallway. You should have a nicely shaped passage between the 2 rooms now. Do a BUILD ALL and your arch should look something like this.
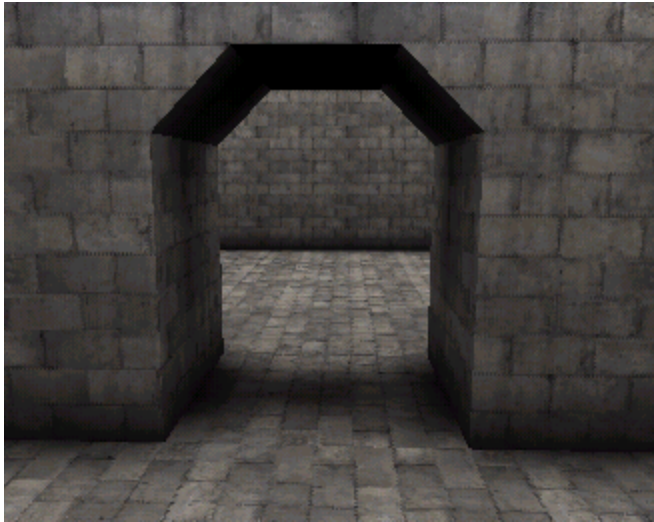
You have learned the basics of the 2D editor. Try making other shapes and using the other 2D EDITOR commands like ROTATE or EXTRUDE TO POINT. You can create some interesting shapes this way. Also try taking a normal 256*256*256 CUBE and INTERSECTING and DEINTERSECTING it with other objects. Use of INTERSECT and DEINTERSECT is important in creating complex brushes.