

Basic level design with UT 2.0

Because the Unreal engine is now widely used and the editor is packaged within Unreal Tournament and now Gear of War I am using Epics UnrealEd editor, the tutorial below was based on UnrealEd 2.0 that was packaged with the original Unreal Tournament.

It is aging but still a cheap and useful tool to practice on if you can get hold of it. It still uses the same principles available on most current editors so if you get to grips with this it will be an asset in the future, as most developers will use similar systems. I am planning to do a few tutorials using the unreal editor as it is relatively easy to get to grips with and is freely available to the public.

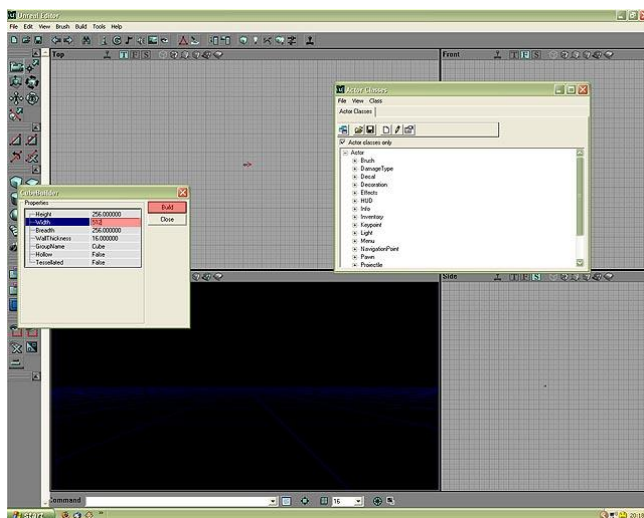
From memory, the original UT editors are not completely stable, it is fine in the main but still temperamental when using certain features, which is good because most new editors are very solid on a release game. However, this is just not true in development, the editors always have a lot of niggles as they are not being released to the public and they are good enough for the purpose.

This is the most basic tutorial you can get, and although there are hundreds of similar tutorials by other people, I thought it was worth including one on the website so you don't have to navigate away to learn how to understand the basics. Think about it as the "Hello World" program but for Games Designers.

First, install Unreal Tournament, and any of the patches that you may need. To start you will need to load up UnrealEd (usually in a system directory within the actual games directory, the game usually installs on the main drive structure not within Program Files.) If you have that far UnrealEd should be loading up, splash screen appearing and into the editor about now.

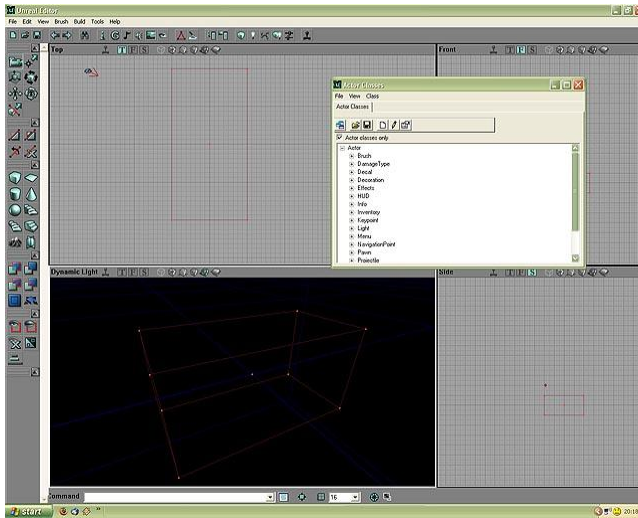
The editor is very similar to any 3D package you may have seen or indeed used, you can configure it how you like through the toolbar options (View>Viewports>Configure...) I have the layout set up similar to 3Ds Max with one preview area and one of three side/top profile views in the other windows. In addition, you will notice another floating window called Actor Classes, minimise it if you have closed it you can open it again which can be slow.

Now down to business, you need to locate the cube icon on the left hand panel. By right clicking you can bring up a dialog window, at this point it is worth mentioning most one story rooms in unreal are usually 256 units high. However, we want this room to be longer so add say another 256 units to the width and now press build.

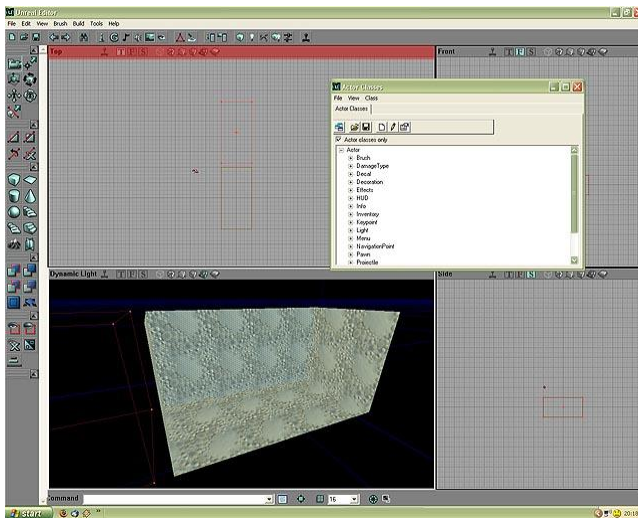


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Now this is a strange concept but the wire frame you see does not exist (or at least if you were to build of the level.) This is a brush; these can be saved and loaded later by using the brush option in the menu. Nevertheless, for the moment we will ignore this, as we want a quick and dirty level.

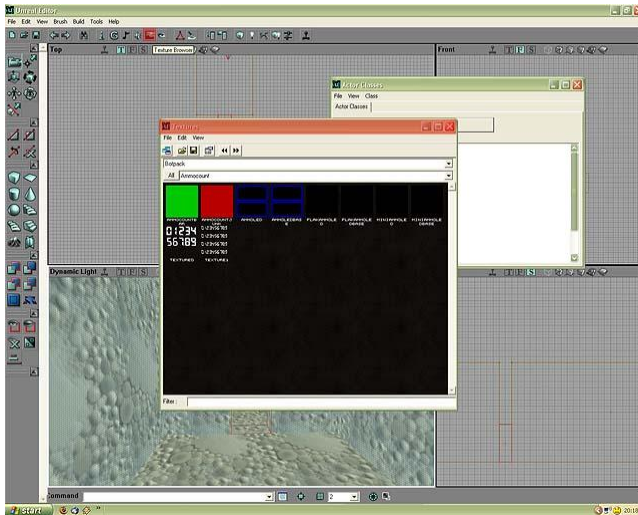


Leave the brush where it is and press subtract on the side panel, now you see a textured box, well done you have built your first room. To move around it use the mouse buttons and move the mouse, different combinations do different axis of movement try using both buttons together, and each button separate.



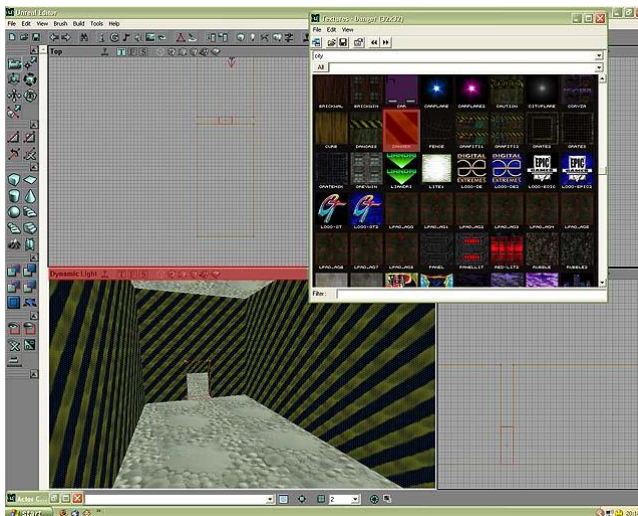
When you are happy with controls, go to the top down window (both buttons) and zoom out so your view is about twice that of the brush/room you can now move the brush as it is still active (brushes only become de-active when a new brush is added to replace them.) Now use the shift key and mouse button one to move the brush so it faces but is above the last room. Now press subtract again, you now have two rooms constructed.

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Go back to the cube icon on the side menu, right click and enter the height as 100, width as 40 and the breadth as say 60, now use the shift key to move the new brush size between your first and second room. You may need the side view to align the bottom of the brush to be flush with the bottom of your two rooms. Now press the Intersect and Subtract. The result should be a hole between the two rooms.

Now to add some new textures, click on one of the walls in your new rooms, the wall should highlight with a blue pattern. To save time I am going to tell you something that is powerful but not without its problems, right click and go to the option Select Surfaces>Adjacent Walls.



Now all your walls should be highlighted. Now click the icon that looks like a hanging picture from the top menu bar. Now within this window select File>Open... From here look in your Unreal Tournament>Textures folder for now let's select City.UTX

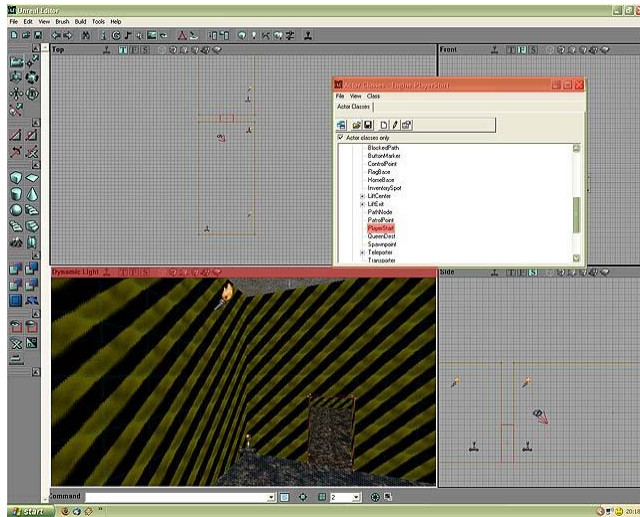
It does not matter if it is not there or if you select another file it is just a texture set, but it should be there.

Now you should have many textures to pick from, select one. Now that you have textured the walls add a texture to the ceilings and floors by clicking and opening the texture selection window and choosing a texture. If the artist has been friendly there may be a clue in the prefix of suffix to if it can be used or Wall or Ceilings etc.

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Now to add some lights, if you build you can choose not to build lighmaps, which is faster, and you do not need to have any lights in the scene. However, for this example as the level is so small we will treat it as a final pass level and about to be lit. To add a light select a good place (High up a wall is usually a good place.) Right click and press the Add light here option. If you mess up the placement, you can always select it and move it around like a brush anyway. Add a few lights in each room.

Now Maximise the Actor Class, or if you have closed it, the icon to open it is the one that looks like a pawn and is usually the fourth icon on the left from the texture selection icon. Once you have t look down the tree structure until you locate the option for NavigationPoint click the + sign and now look down this list for PlayerStart, click it an UnrealScript will appear.



Lose the UnrealScript window, now on the floor of your level right click and you can now select Add PlayerStart here. Once again add about two per room (Usually you will only need 16 per level say, but we have limited space.)

Finally select File>Save As... and give it a name, I think I will call mine something original like "DM-Hello World" Adding the characters DM- before the filename will mean Unreal will see it as a Death match level and you can select it from the game menus without using the editor to launch it from.

Now from the top menu look for the icon on the far right hand side that looks like a joystick, press this will build or compile a level. On a modern machine, this will not take more than a few seconds but back in the day, it took more like 30 seconds. It is worth noting that the group on icons here on the right are for compiling/building your level with different features turn off such a lighting or AI.