

# Modelling a Custom Placeable for KotOR and TSL

By Marius Fett

Well hello there, dear people! It's been a while since i've written one of these tutorials, so I thought i'd better get my backside in gear and write up a little guide on how to create your own custom placeable from scratch, which is still a surprisingly rare thing in KotOR Modding.

In this tutorial, I won't cover actually modelling your placeable, as i'm assuming you have at least some experience of 3D modelling in 3DS Max or GMax. If not, there are plenty of tutorials online to help you get started.

What I will cover is how to export your model out of your 3D Modelling program, how to create the Walkmesh for it and how to set it up for use in KotOR or TSL, whichever game you prefer.

I'll personally be creating one for TSL in this tutorial, but the process is pretty much the same for KotOR.

The tutorial will be split into five main sections as follows:

**Part One: Creating Our Placeable in 3DS Max**

**Part Two: Creating the Walkmesh**

**Part Three: Exporting the Model**

**Part Four: Compiling the Model and the Walkmesh**

**Part Five: Getting Our Placeable into KotOR or TSL**

Right, let's get on with it, shall we?

## Part One: Creating Our Placeable in 3DS Max

Ok, to begin with, we need to make sure that the measurement units which Max is using are the correct ones for use in the game. So before we do anything else, we hit 'Set Environ' which is under 'General Utils' in the NWMMax window:



Once that's done, we can then make a Box in the Perspective Viewport with the following dimensions:

Length: 40cm.

Width: 80cm.

Height: 180cm.

This Box is roughly the size of a human male character and is there purely to give you a sense of scale as you're creating your model. These 'Man Boxes' are also used in area modelling, but I usually use them when creating placeables as well.

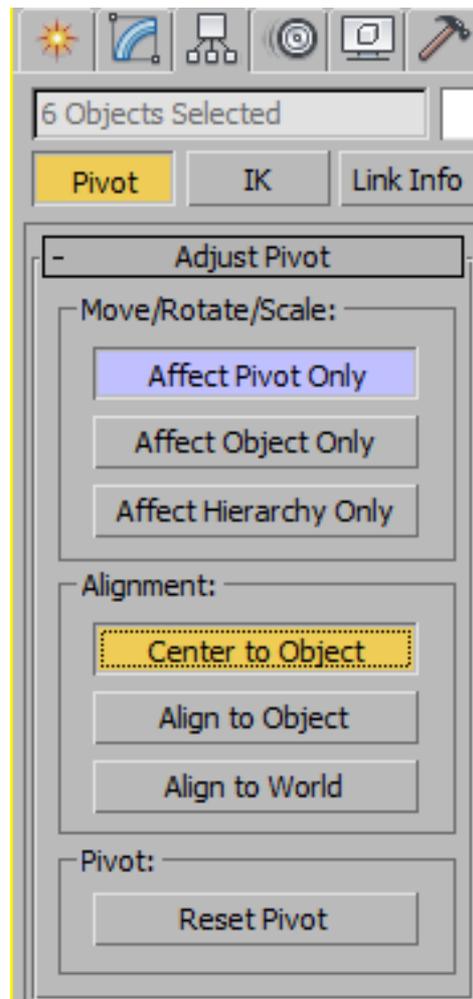
Right, this is the part where you go off on your own and create yourself a nice model for your placeable to use. I decided to be lazy and just grab a random object from one of the Nar Shaddaa Docks room models:



As you can probably tell, this model is made up of several different objects, each with a different texture applied. This is completely fine! So long as you don't go overboard, it doesn't really matter how many objects make up your placeable.

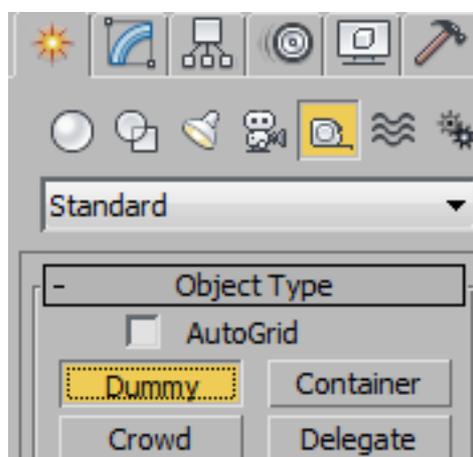
Bare in mind that things we use in Area Modeling such as adding an 'AuroraTrimesh' modifier and setting the Self Illum Colour to white to create 'fake lights' work on placeables too!

Now, what you need to do is hit CTRL+A to grab all the parts of your model and then go to the Hierarchy Tab, hit 'Affect Pivot Only' then click 'Center to Object':

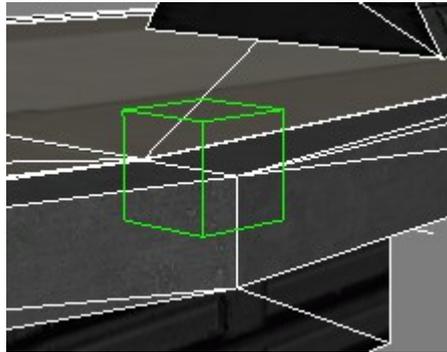


You should then see the pivot points on each of the objects in your scene move to the dead center of their respective objects. Now hit 'Affect Pivot Only' again to deactivate it.

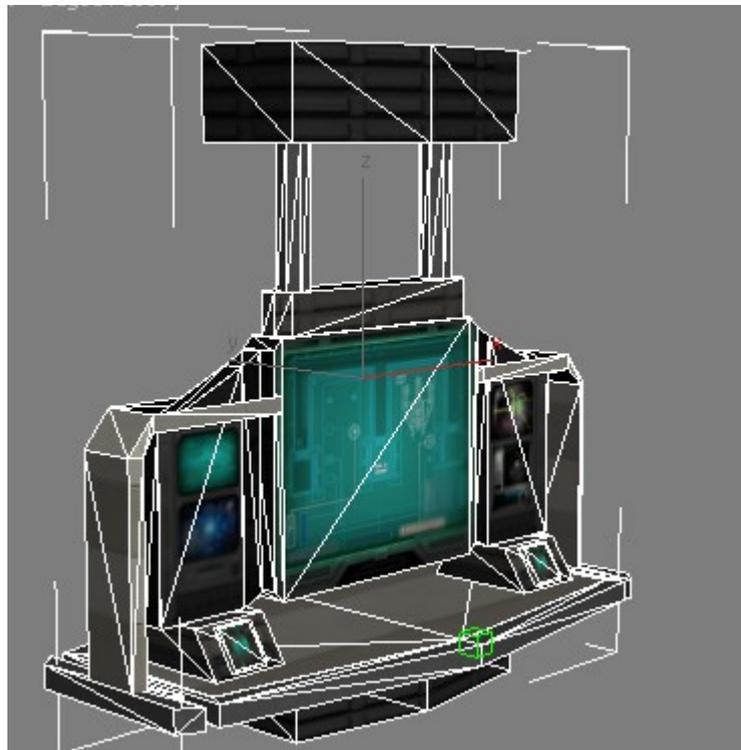
Now we're going to need to add something called a 'Dummy'. Basically the Dummy will represent the point on the placeable that the player focuses on in the game. Basically, the place where the little targeting reticule appears. So, we go to the Create Tab, then hit Helpers and select 'Dummy' like so:



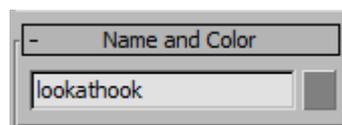
Then, put the dummy into your scene, wherever you think it needs to be. The size doesn't particularly matter, as the dead center of the dummy is the point where the targeting reticule will appear in the game, I tend to make mine quite small:



As you can probably tell, i've positioned mine on the edge of the 'desk':



Now that it's positioned, we need to change it's name to 'lookathook':



That's the model done! Now it's time for the Walkmesh!

## Part Two: Creating the Walkmesh

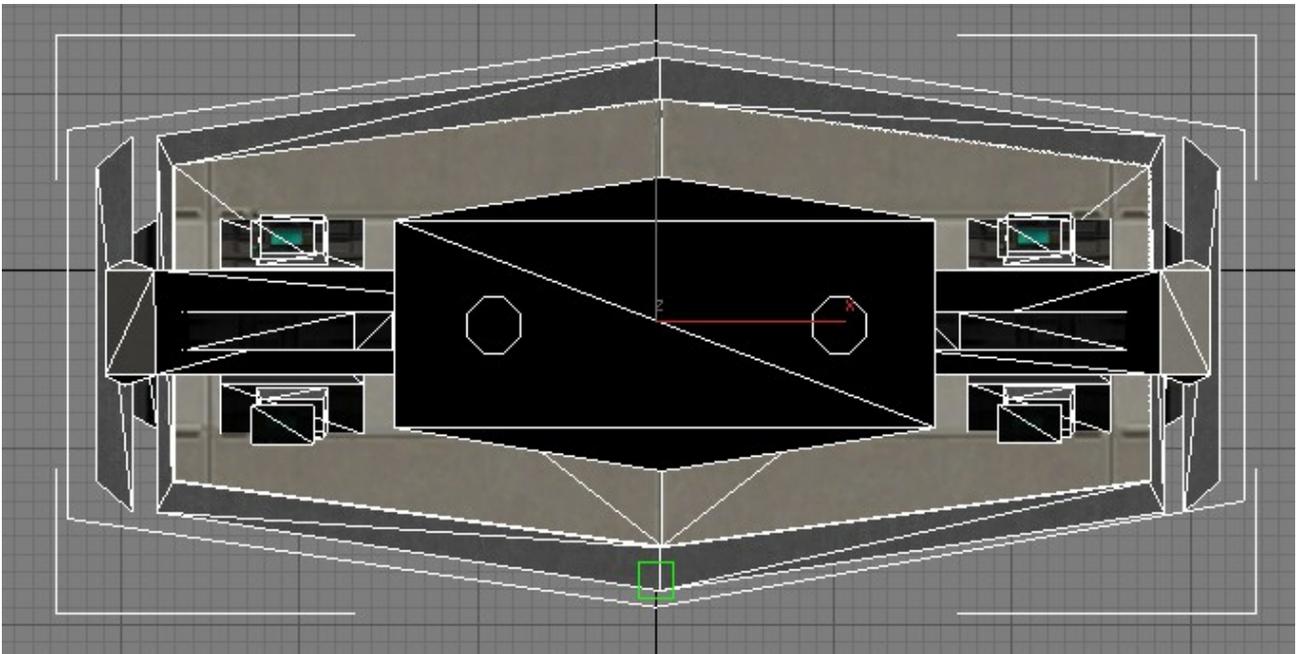
Right, now that we've got our nice new placeable model, we need a Walkmesh to go along with it, right?

Personally, I like to start this step by making the Walkmesh geometry, so that's what we'll do first!

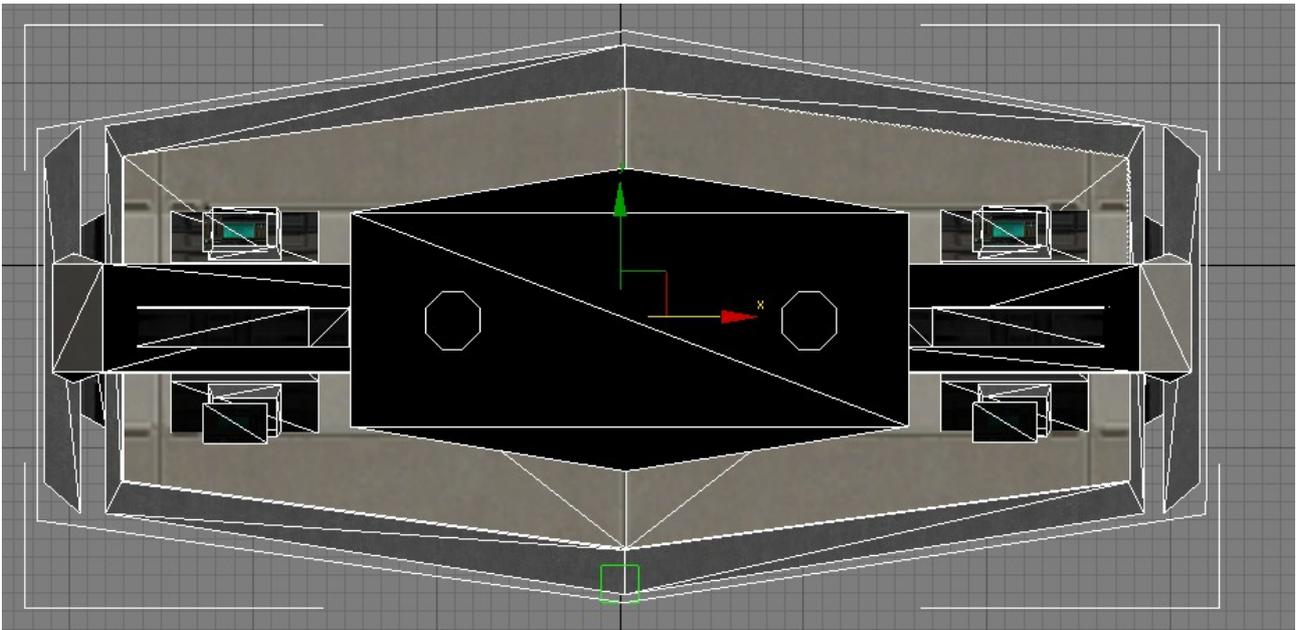
You can use any of the 'Shapes' Splines to do this, but the ones I use most often are 'Line', 'Rectangle' and 'Circle'.

We *could* get away with using a Rectangle for this, but I think i'd rather make a bit more of an effort and use a Line instead, so as to get more precision.

So, in the Top Viewport, draw around your Placeable, making the Walkmesh the shape you need it to be:

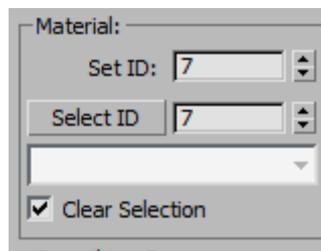


There. That's not a bad start, but I think it could be a little neater, so i'll start moving the Verts around until I get the shape I need:

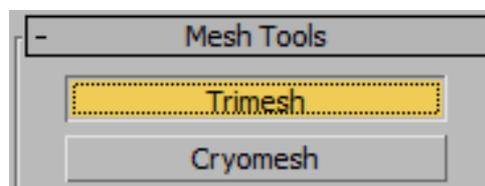


There. Much better, eh? Now, to make life a little easier for myself, i'll hide every object in my scene except for my Walkmesh. Then, i'll convert it to an Editable Mesh. The name of the Walkmesh object isn't really important, but I like to call it 'Walkmesh' just for convenience.

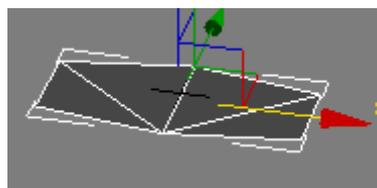
Now, we need to select all of the faces of our Walkmesh and set their Material ID to 7, which basically means they cannot be walked upon:



Now, exit the faces sub-object mode and with the Walkmesh still selected, hit 'Trimesh', which is located on the NWMMax windows, under 'Mesh Tools':



This will break up your Walkmesh into Triangular faces. This one has come out quite cleanly:

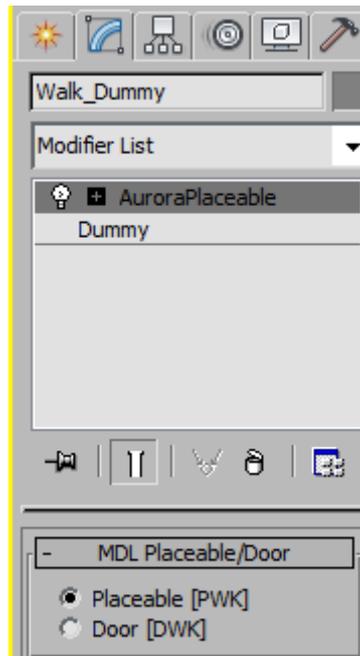


But if you end up with lots of long and pointy triangles, you need to Undo and break up your

Walkmesh into as many 'rectangular' four sided shapes as you can, then retry the Trimesh. Rinse and repeat as necessary.

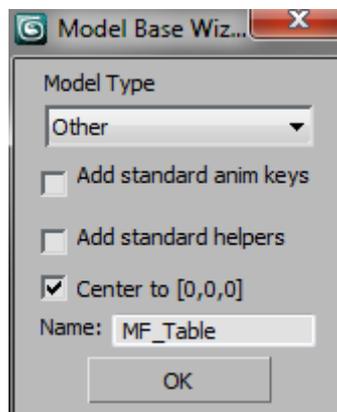
Now, set the Pivot point of the Walkmesh at 0.0, 0.0, 0.0. This is mostly out of habit from area modeling, but I find it also helps prevent the Walkmesh and the Placeable from being displaced sometimes.

Once that's done, you need to create a Dummy at 0.0, 0.0, 0.0 and call it 'Walk\_Dummy'. Then apply an 'AuroraPlaceable' modifier to it. This is what you should end up with:



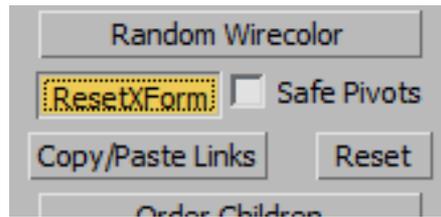
### Step Three: Exporting the Model

Almost done! Now you need to create an AuroraBase. You can find this option in the same place as the option to make a Dummy. Create an AuroraBase with these settings:



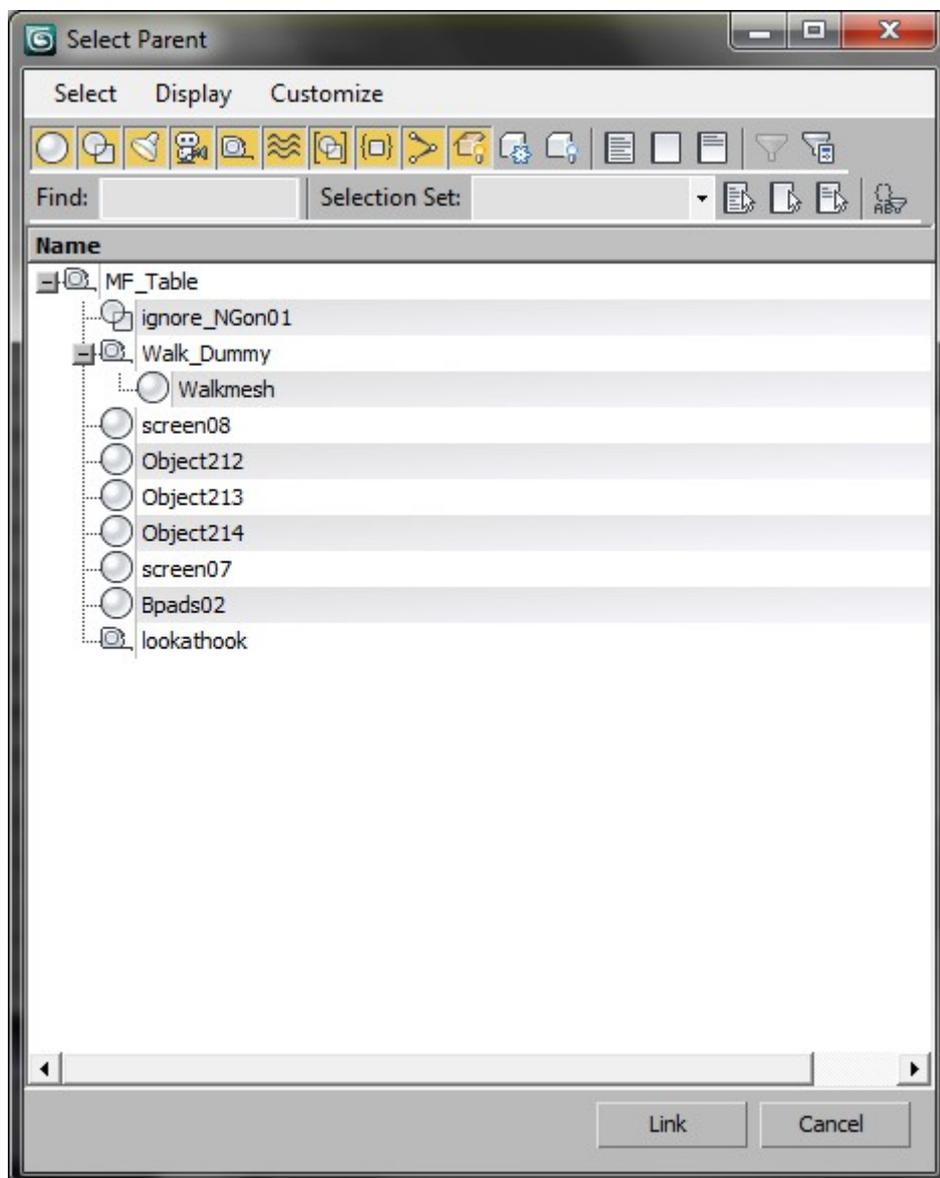
Though the name can be whatever you like. Now, Unhide all of the objects in your scene. Select all of the Geometry in our model and make sure they are all Editable Meshes. Then, make sure you did all necessary work on the pivot points.

Once you're certain you've done everything i've said, hit ResetXForms, which is under Mesh Tools in NWMMax. Make sure that 'Safe Pivots' is off!



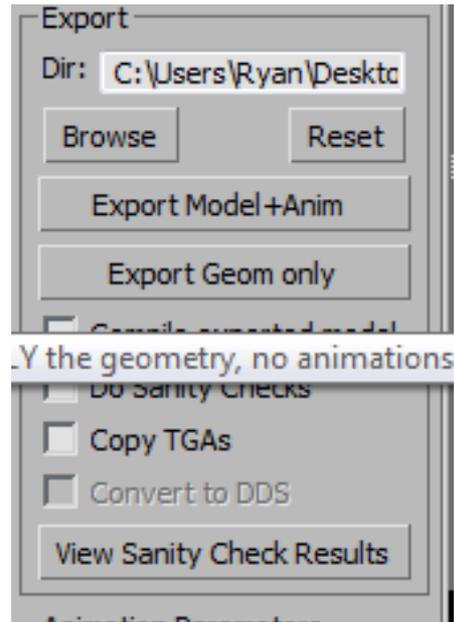
Now we need to set up the Parent/Child relationships for our model. Basically, you need to link the Walkmesh to the Walk\_Dummy. Then link the Walk\_Dummy to the AuroraBase. Then you link all other Geometry and the lookathook to the AuroraBase too.

In the end, this is what your Hierarchy should be like:



Now we just need to select our AuroraBase once more and set the Export Path. I'm going to have mine set as a folder called 'Export' on my Desktop.

Then, we turn Sanity Checks off and hit Export Geom only!



Now we can close down Max. Don't forget to save first, though!

#### **Part Four: Compiling the Model and Walkmesh**

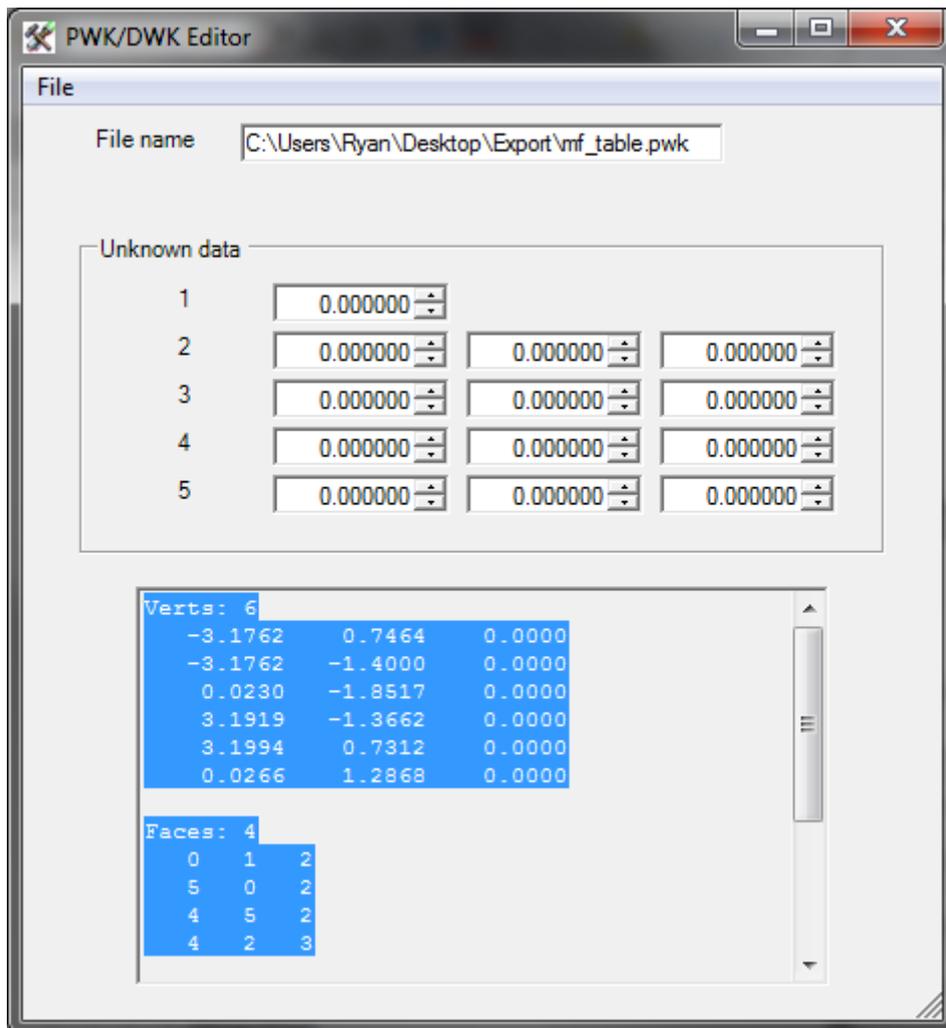
This part is very simple. Basically, in your export folder, you should find a .mld file and a .pwk file. All you need to do is open the .pwk with Notepad and paste the following DIRECTLY underneath the wirecolor line:

```
multimaterial 20
Dirt
Obscuring
Grass
Stone
Wood
Water
Nonwalk
Transparent
Carpet
Metal
Puddles
Swamp
Mud
Leaves
Lava
BottomlessPit
DeepWater
Door
Snow
Sand
```

Like this, basically:

```
wirecolor 0.337255 0.337255 0.337255
multimaterial 20
  Dirt
  Obscuring
  Grass
  Stone
  Wood
  Water
  Nonwalk
  Transparent
  Carpet
  Metal
  Puddles
  Swamp
  Mud
  Leaves
  Lava
  BottomlessPit
  DeepWater
  Door
  Snow
  Sand
```

Now, save your file. Then, open KotOR Tool and open the PWK/DWK Editor. Go to File>Open ASCII PWK and open the pwk file you just edited:



Then go to File>Save as Binary. Right, that's the walkmesh done!

Now you just need to compile the model using either MDLOps or KAurora and you're ready to get your placeable into the game!

### Step Five: Getting Our Placeable into KotOR or TSL

Using KotOR Tool, open the placeables.2da file for whichever game you're using. Then fill in a new row for your placeable. Copy a row from another placeable and make the following changes to the first 4 columns:

|     |          |    |          |
|-----|----------|----|----------|
| 351 | MF_Table | -1 | MF_Table |
|-----|----------|----|----------|

Obviously, MF\_Table will be replaced with whatever you're using. The labels of the columns will tell you what they are.

Oh, and you may not end up with row 351 either, it depends on whether you've got an edited placeables.2da file or not.

Now, make a note of the row number and save your file somewhere. Then, grab a .utp file from KotOR Tool and edit it to your liking. Once you've done that, you'll need to either put your

modified 2da file into your Override folder, then set KotOR Tool to read 2da files from there and set the placeables appearance that way, or you can change the appearance with K-GFF. That's what I did. Just set the 2da row number you remembered earlier as the appearance value et voila!

Done!

Save your UTP file and that's it!

All you need to do now is copy your model, walkmesh, texture, shader info, utp and 2da file into your Override folder and you're done!

All that's left to do now is spawn the placeable in game:



Success!

I decided to be lazy and just replace a computer panel for the demonstration, but as you can see, both the Placeable and the Walkmesh work perfectly!

Granted, I could have picked a better place to make the screenshot, as the model kinda clips through the ceiling here, but... :P

Anyway, have fun with your new placeables!