

3d Studio Max to D-Flow Export Guide

V2, September, 2013.

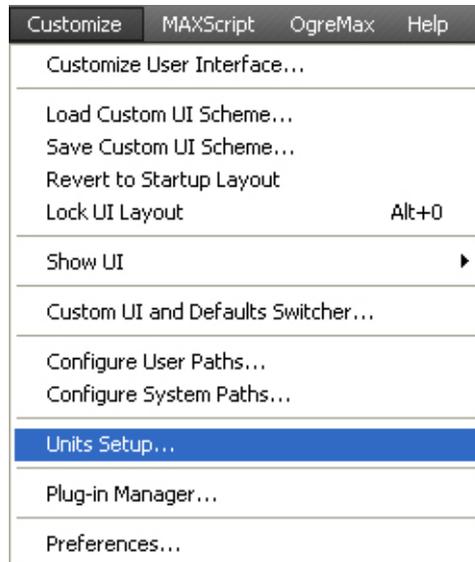
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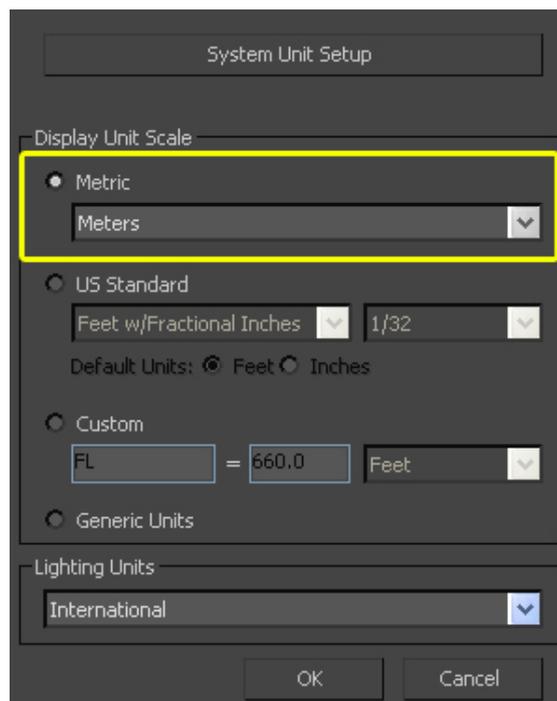
Setting up the Unit Scale:

OGRE requires real world units. For example, if a chair is 1 metre from the ground in the real world, then the chair will be 1 metre from the ground in 3d space.

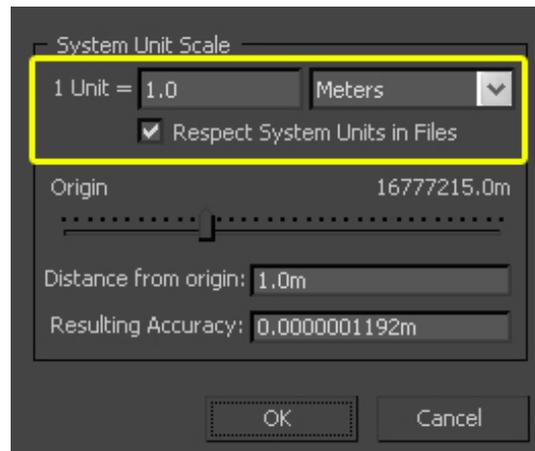
To setup the unit scale first select **Customise>Units Setup...**



Then set the system unit scale to **Metric** and **Meters**.



Next, click **System Unit Setup**. This will open the System Units window.



Here, change the settings to **1 Unit = 1.0** and **Meters**.

Your unit scale is now set to the values needed for your model to display correctly in D-Flow.

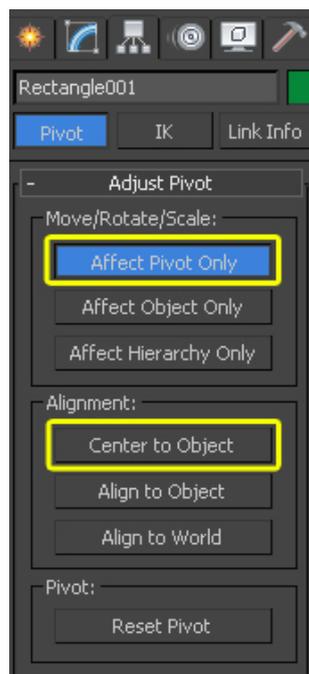
Modelling Considerations

Modelling for D-Flow is similar to modelling for any game engine. Good topology, a sensible polygon/triangle count and one material per mesh are recommended for the best performance.



In this example the topology is simple and only the basic shape is modelled. Extra detail can be added with materials. Excessively high-poly models will slow down the D-Flow environment.

When the model is complete, you will need to centre the model and its pivot point to the origin point of the 3d scene.



To do this, select the **Hierarchy** tab on the right hand toolbar, then select **Affect Pivot Only**. Next select **Center to Object** and move the pivot point to **0.0** on the **Z axis**.



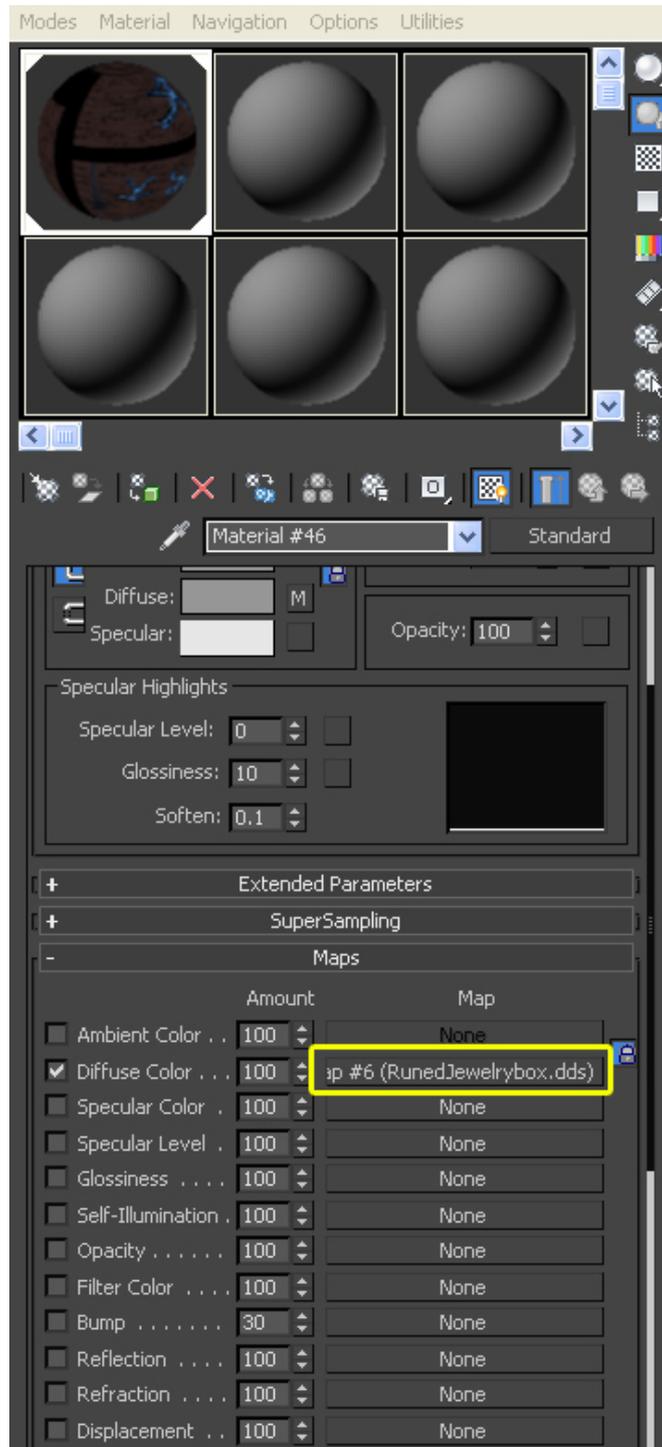
Once the pivot point is at **0.0** on the **Z axis** deselect **Affect Pivot Only** and move the model to **0.0** on the **X, Y and Z axis**'. This will ensure your model is correctly located for export.

The image at the start of this section demonstrates a model correctly located for export.

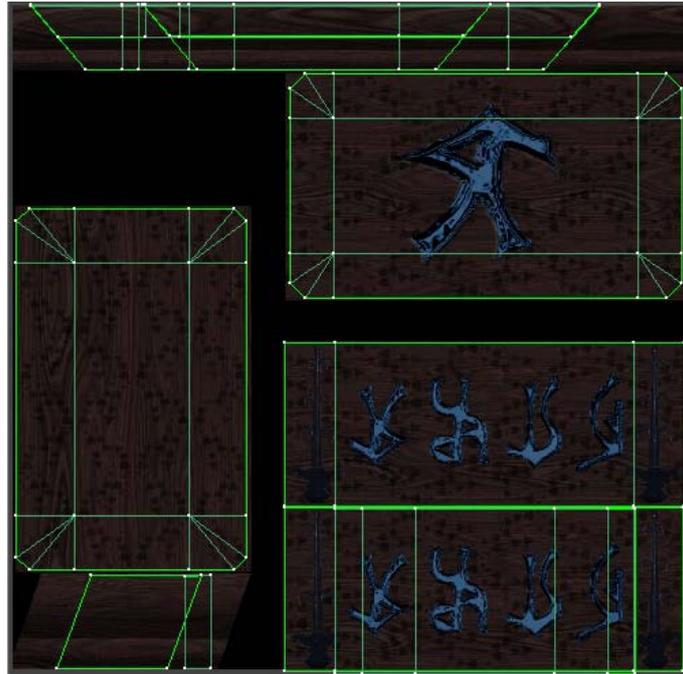
Also, remember to keep to your unit scale. 1 metre in the real world will need to be 1 metre in 3d space.

Setting up your Materials

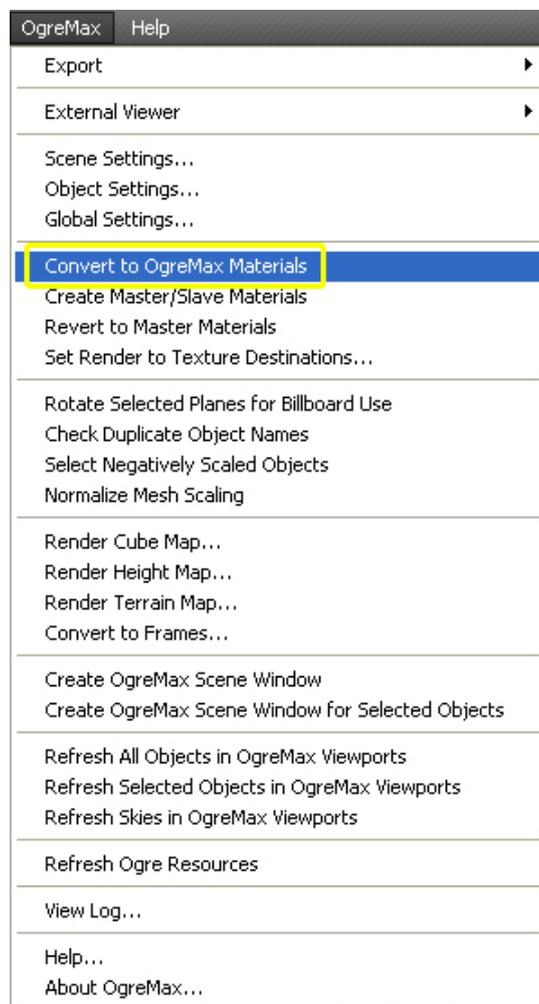
Name your materials (not shown in Image). Leaving the default name, i.e. 'Material #46' as shown below can lead to errors. Always give your material a unique name.



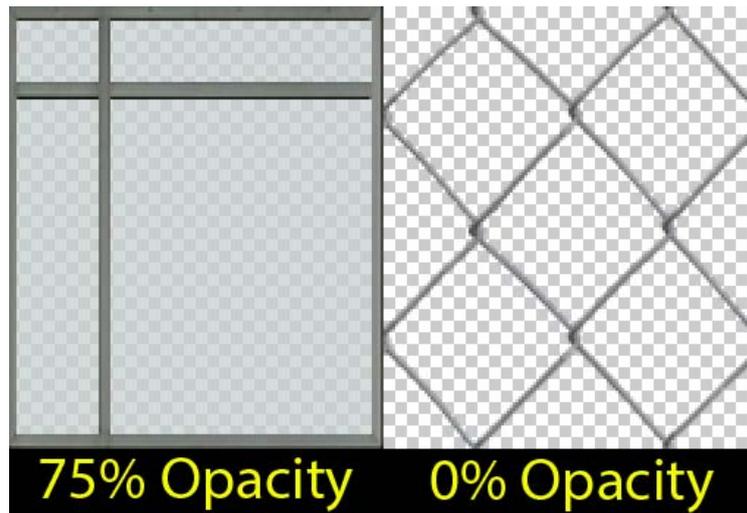
Hit **M** and add a diffuse map as you would for any texture.



This model uses one texture, mapped to the entire model via a **UVW Unwrap**. Keeping each model to one texture keeps the model optimised for D-Flow.



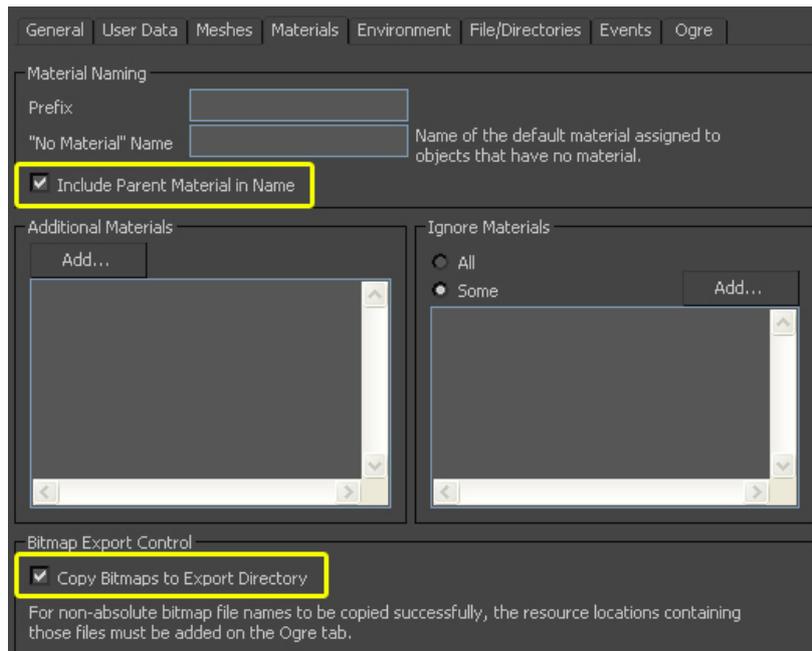
Materials in D-Flow are formed of Diffuse Maps with built in Alpha. To add alpha to your material, it needs to be saved as a .PNG file, and the transparency needs to be visible in photoshop like this:



Note, you can see the Photoshop chequerboard background through the transparent parts of our texture.

To make the material suitable for D-Flow, select **OgreMax > Convert to OgreMax Materials**. This enables the material to be used with D-Flow.

Finally, to enable the material for export, select **OgreMax > Scene Settings...**

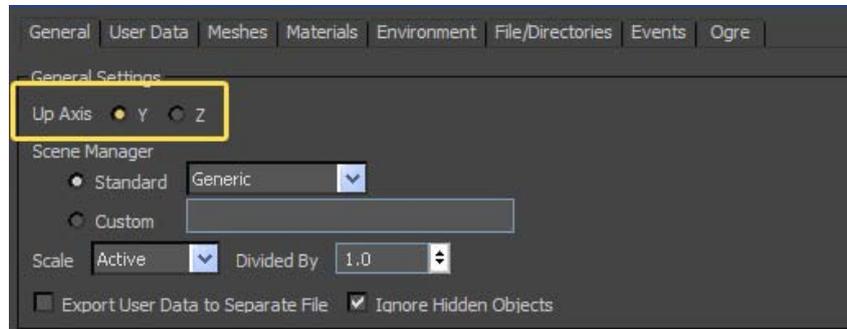


In the **Materials** rollout, ensure both **Include Parent Material in Name** and **Copy Bitmaps to Export Directory** are enabled.

The material is now ready for export.

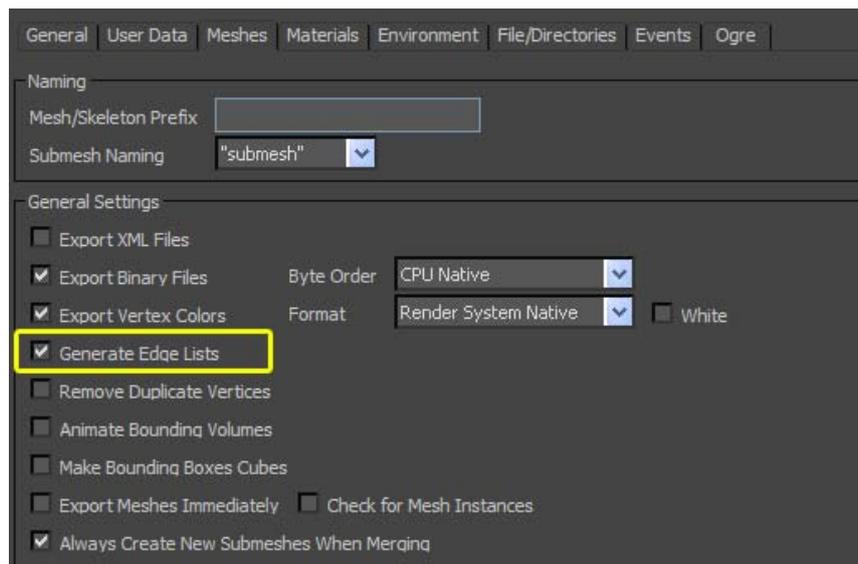
Export Settings

Before export, there are several things you need to check. One of these is the Up Axis. Different game engines – Caren/D-Flow is essentially a game engine – use different axis setups. D-flow treats **Y** as the up axis, so select this accordingly under the **General** rollout.

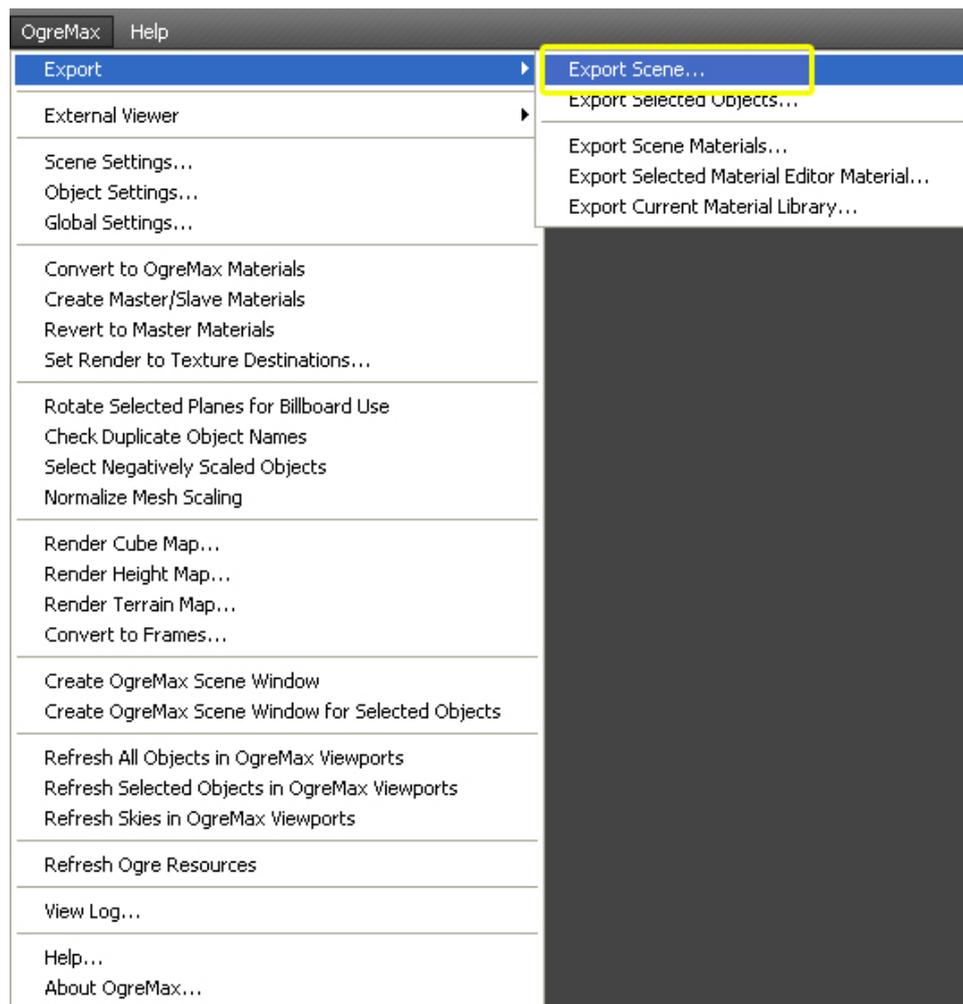


There have been some occurrences of some models treating **Z** as the up axis when imported into D-Flow, even if a model in the same 3ds Max scene was exported correctly. So be aware of this and test each export accordingly.

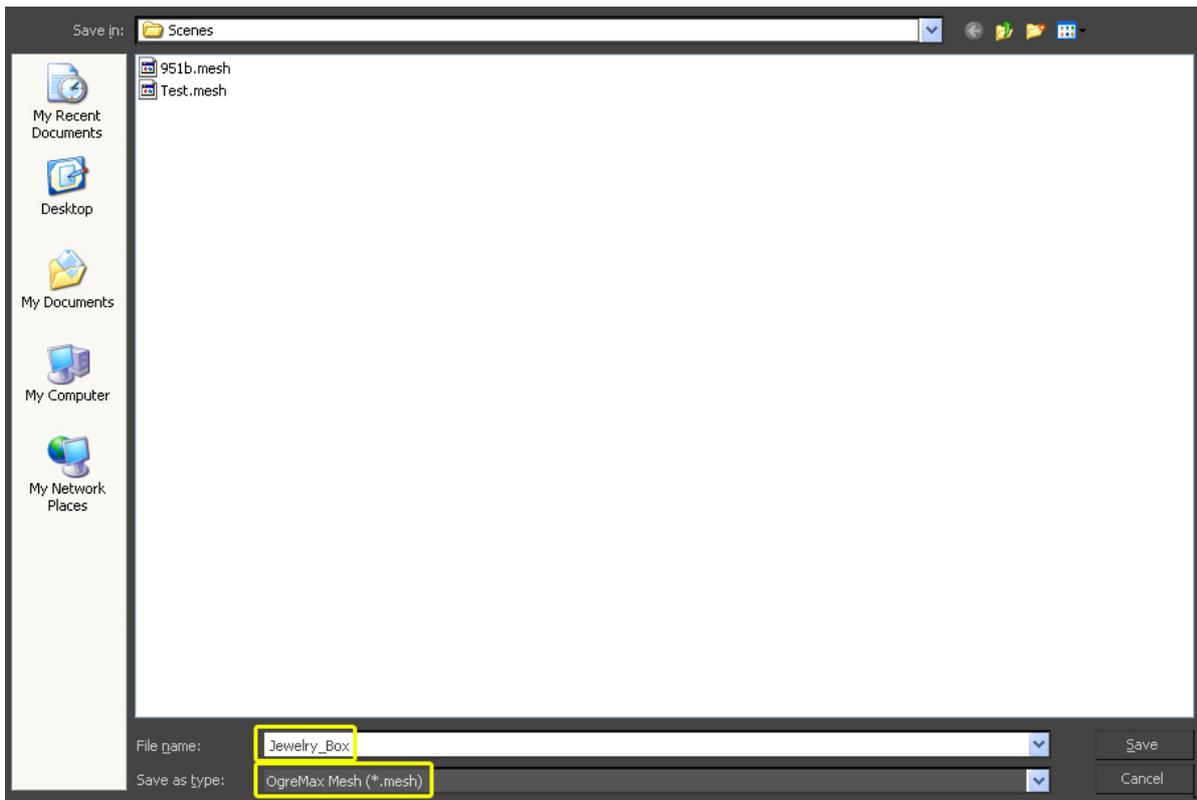
Under the **Meshes** rollout, you may wish to ensure **Generate Edge Lists** is selected, this will allow D-Flow to calculate shadow data. Without it, your mesh will **not cast or receive shadows**.



To export your model to D-Flow, select **OgreMax > Export > Export Scene...**



Don't worry about '**Export Scene Materials...**' at this point; materials are exported with the rest of the scene. However, if you change the materials later and wish to apply them to a previously exported model, you only need to export the Scene Materials.



Under **Save as type**, select **OgreMax Model (*.model)**, not .mesh. If you have a scene with multiple models already placed – such as a room with furniture – you can select **OgreMax Scene (*.scene)**.

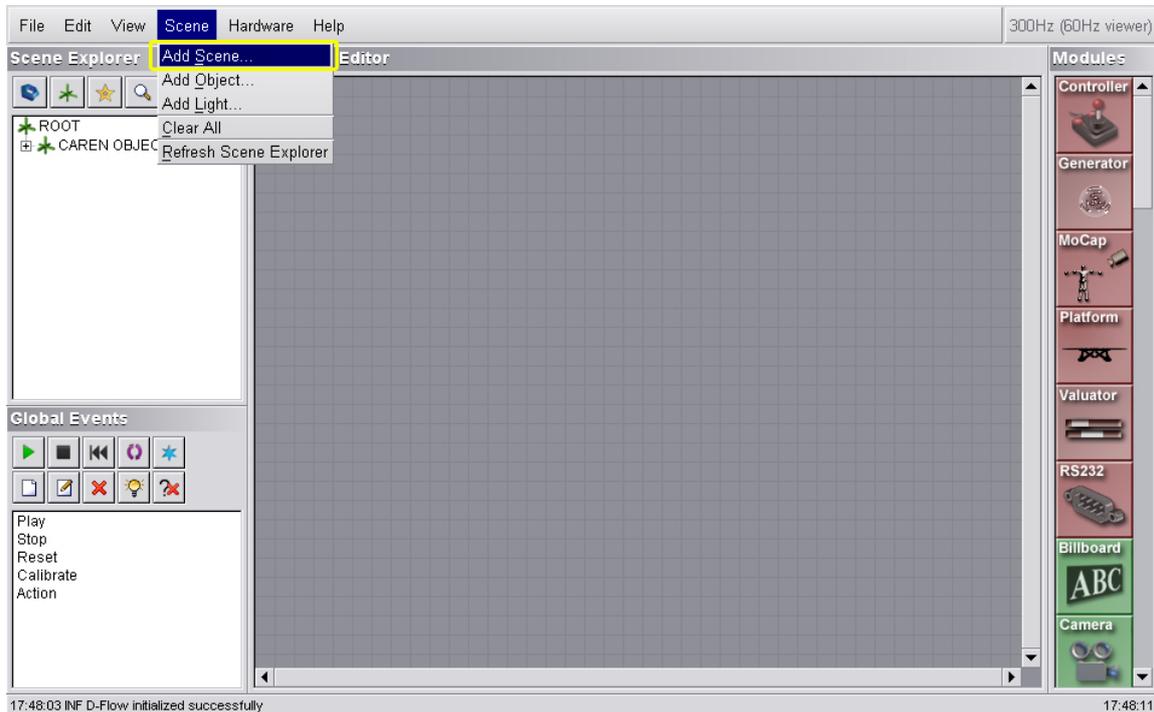
It is also good form to avoid spaces in your filename. If you require a space, use an underscore instead.

For D-Flow to read the files, you will need to export to **CAREN Resources > Scenes**. For example **C:\Caren Resources\Scenes\Jewelry_Box\Jewelry_Box.model**

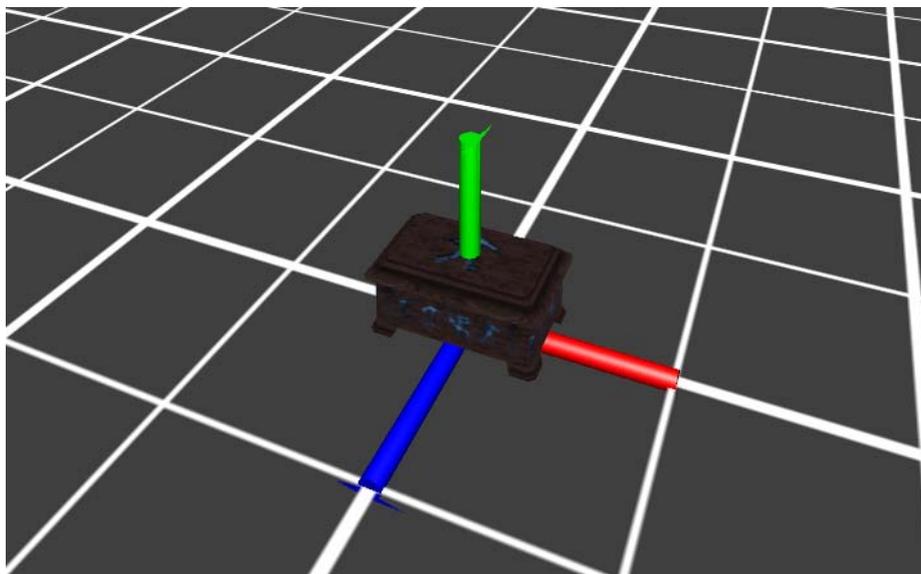
Importing into D-Flow

To import into D-Flow, open **D-Flow**. In D-Flow select **Scene > Add Scene...**

In the **Add Scene** window, select **Files of Type Model** or **Scene** dependent on what you are importing.



Your model will now appear in the **DRS Window**.



If the model is to the correct scale and materials display correctly, your model is ready to save and use in D-Flow.