

Tutorial – Texturing

Introduction:

In this tutorial we will learn how to import models into the 3D modelling program Sculptiris, and paint our model to create a texture map.

We'll then export both the model and texture map from Sculptiris, import the model into our Unity game, and apply our custom texture map.

Installing Sculptiris:

Sculptiris is one of a few open source (free) programs that will allow you to load and paint your models. While there are other (perhaps more professional) programs around, many only have limited free trial periods. This tutorial discusses Sculptiris, both because of it's ease of use and for its generous licencing.

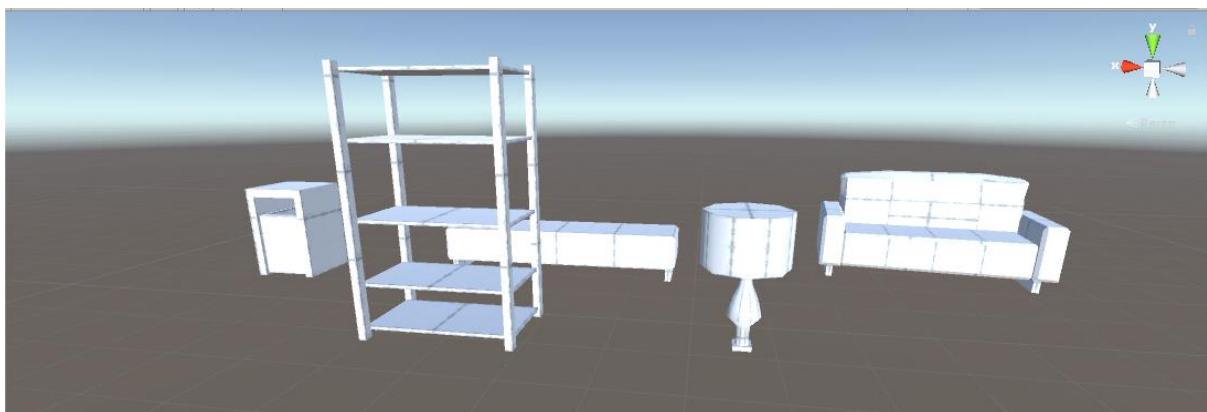
Download a copy of Sculptiris here: <http://pixologic.com/sculptiris/>

Loading a Model:

Download the *Greyboxing Assets* from Canvas.

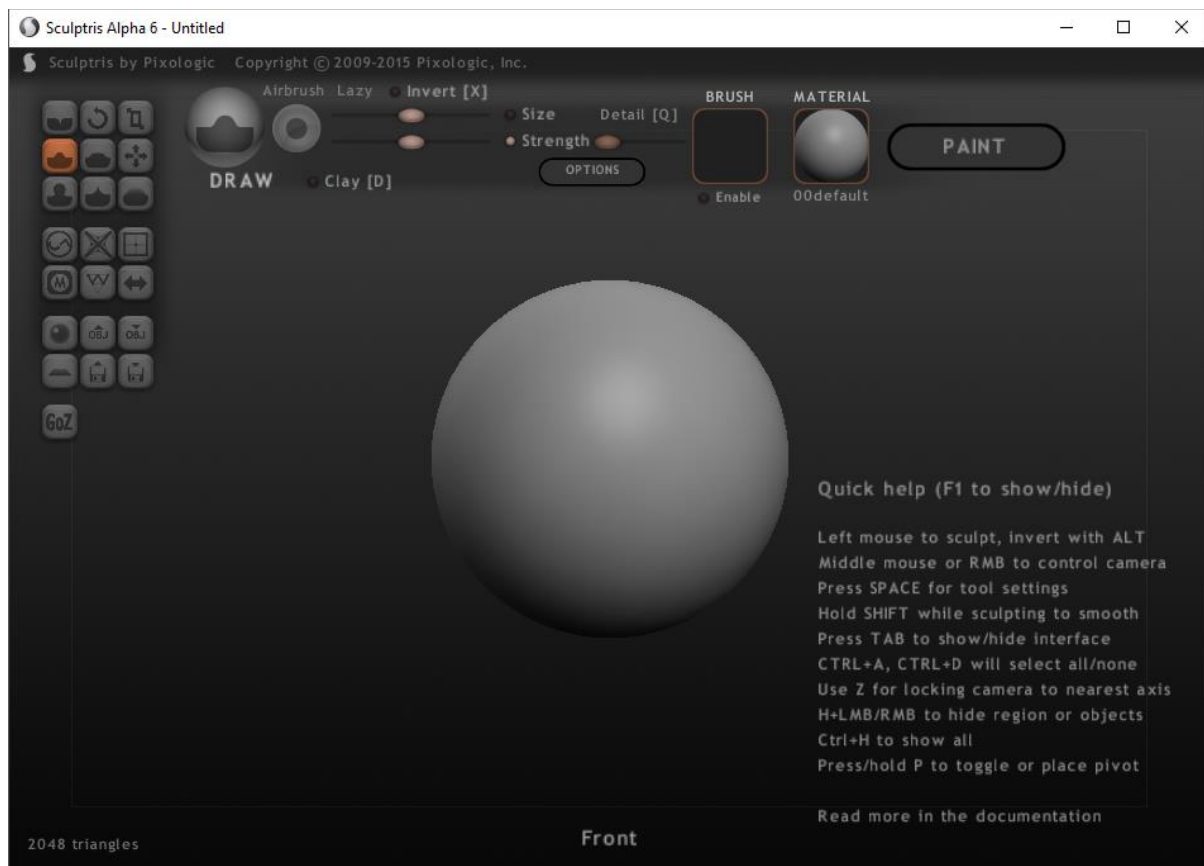
This .zip archive contains a number of 3D models that may be useful to you when making the levels in your game.

Extract the .zip file on your computer using a program like 7zip (<https://www.7-zip.org/>)




All of these models can be imported directly into your Unity games, however they have no texturing applied to them.

Once you have installed Sculptris, open the program. You should see a screen similar to the following:



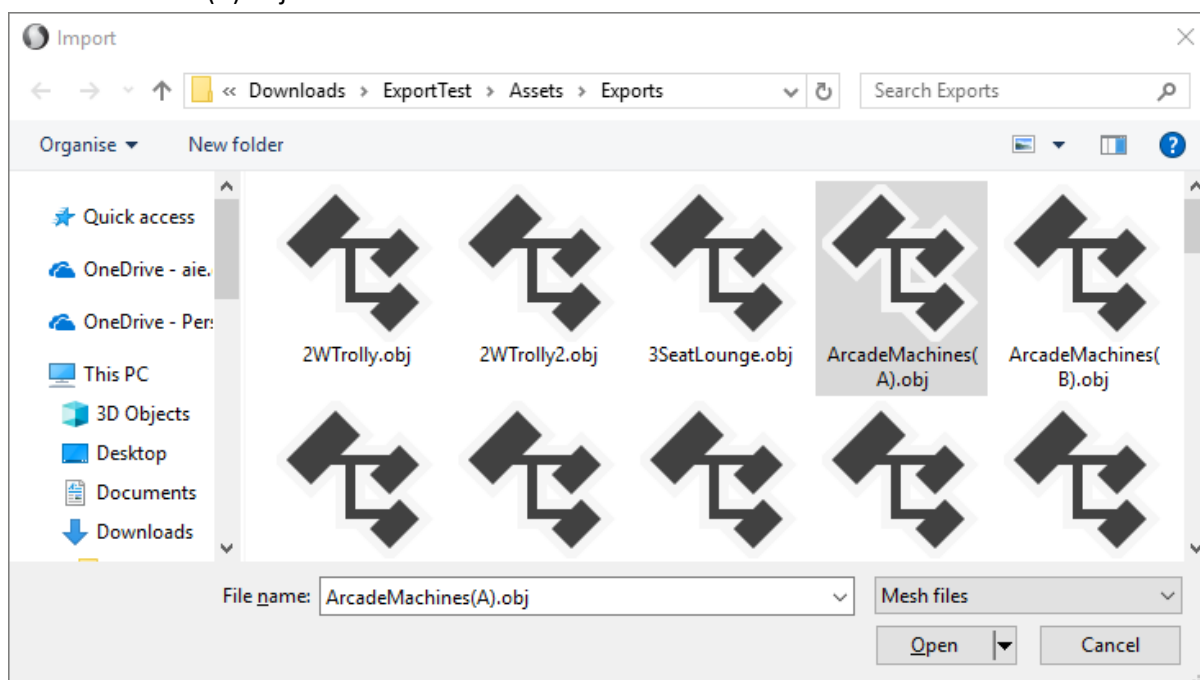
By default, Sculptris will start off with a blank sphere for us to sculpt. We won't be sculpting our own models, and instead will be loading the .obj files included in the *Greyboxing Assets* pack we downloaded from Canvas.

To import one of the .obj models, click the *Import* button  from the button menu on the top-left of the screen:



There is a specific order in which we must import the model to prepare it for painting. Ensure you follow the steps below when importing your model:

1. Select one of your models to import. In this example we've selected the ArcadeMachines(A).obj model.

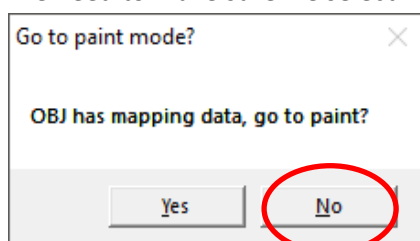


2. Select 'New Scene'



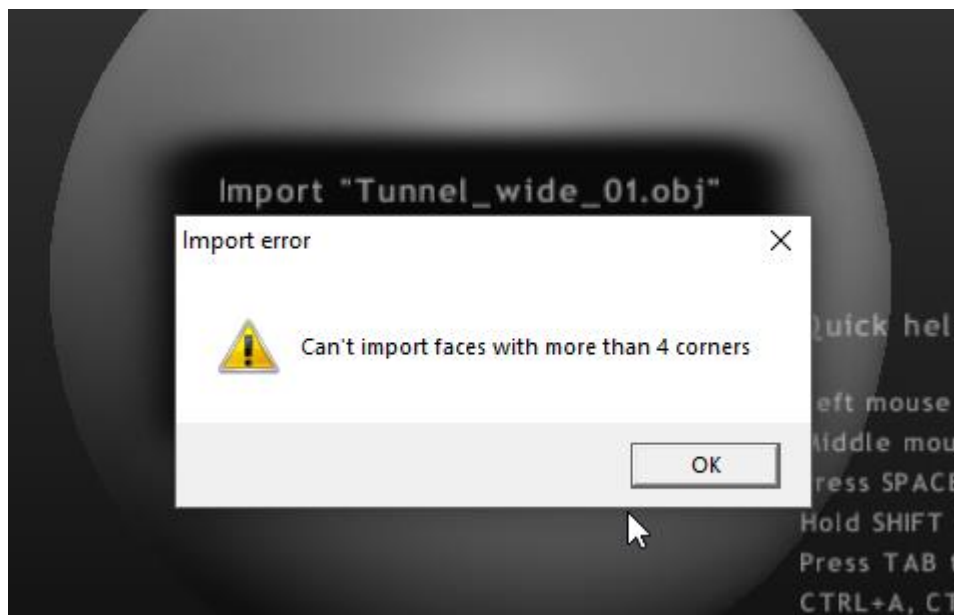
3. A dialog box will open informing you that the 'OBJ has mapping data'
- In theory we could skip straight to painting our model, but if we do this the model won't be setup correctly and painting won't quite work.

We need to make sure we select 'No' here to ensure we can paint our model correctly.



Note:

Not all models can be imported into Sculptiris. If you get the following error, it means that your model has not been saved in a format that is compatible with Sculptiris:

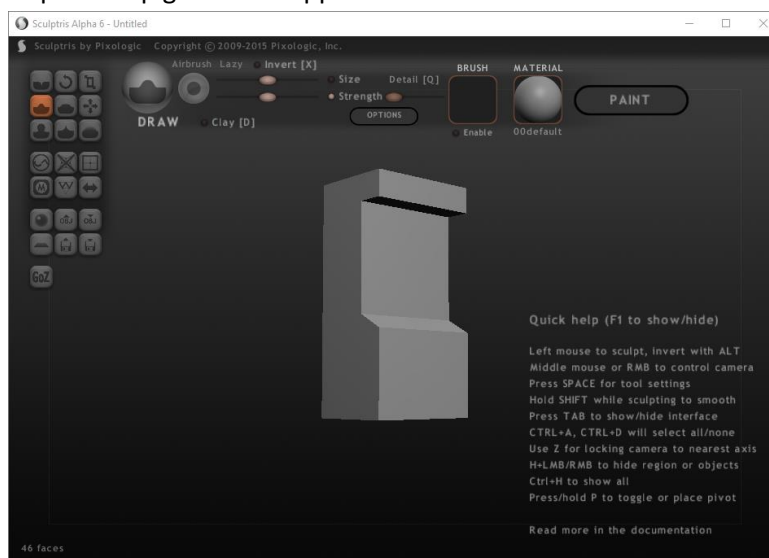


In this case, the model has not been exported as triangles.

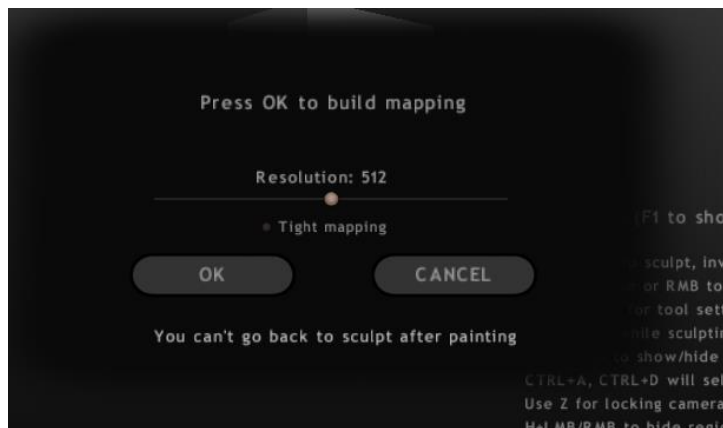
To solve this error, you will need to open the model in a 3D modelling program (*Blender* is a free 3D modelling program) and ensure that the model is set to triangles in the export settings.

The models included in the *Greyboxing Assets* pack have been created in the correct format, but this may not always be the case for models you find on the Unity Asset Store or on the internet.

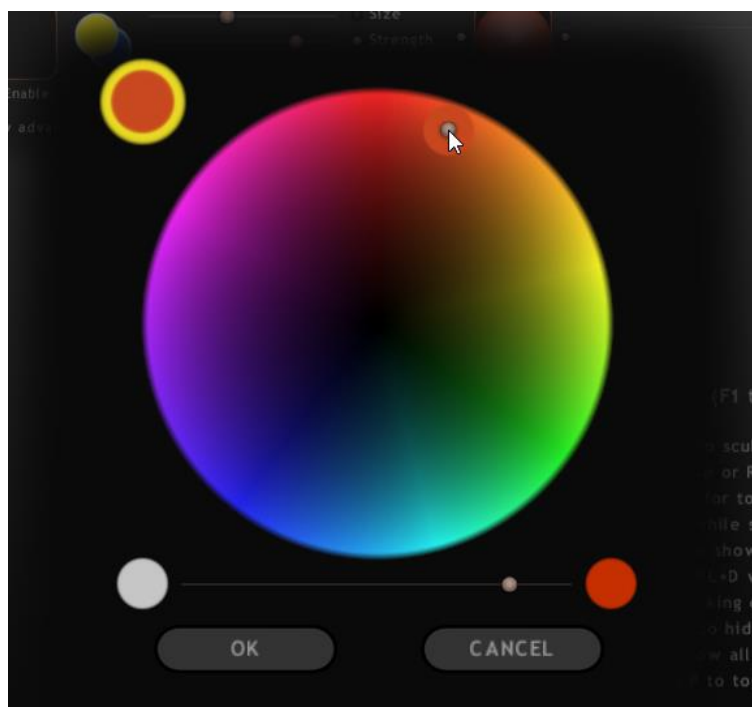
4. Move the mouse while holding the right mouse button down in order to rotate your image. A quick-help guide also appears on the screen.



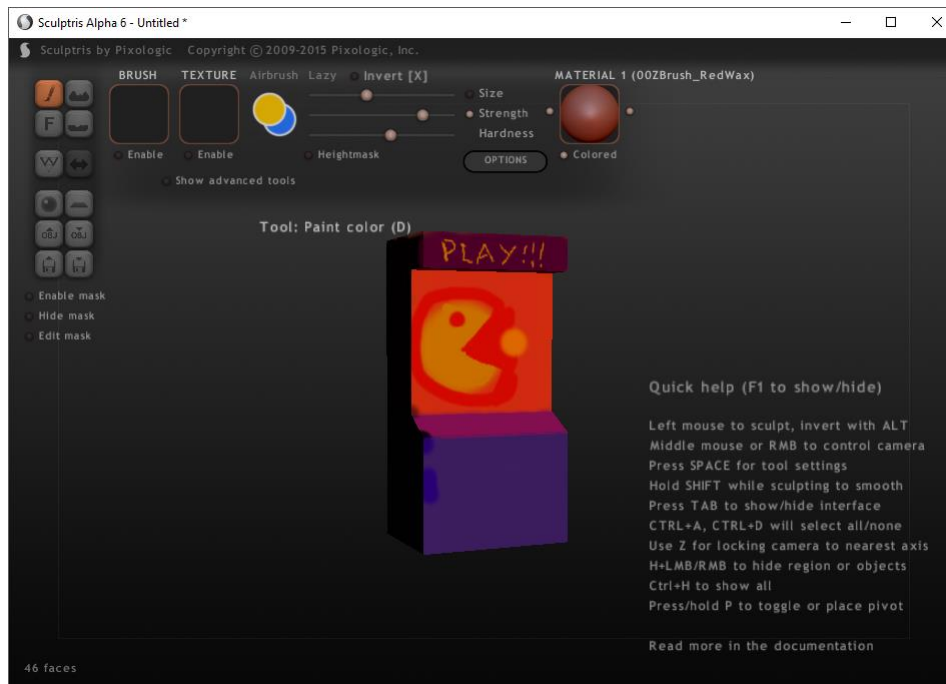
5. Press the *Paint* button to begin painting your model.
6. Press *OK* to select the default resolution.




7. Use the *Airbrush* tool to select the colour to use when painting your model.



8. Paint your model.



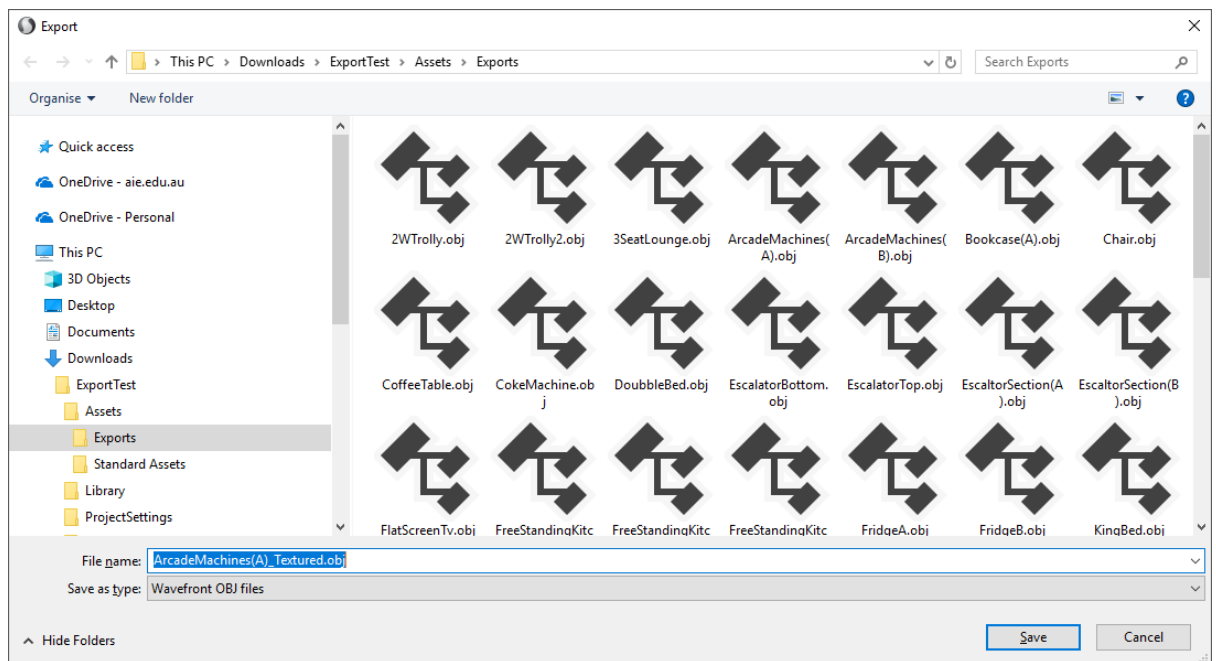
9. We need to save both the new model and export the texture map. To save the model, click

the *Export OBJ* button .



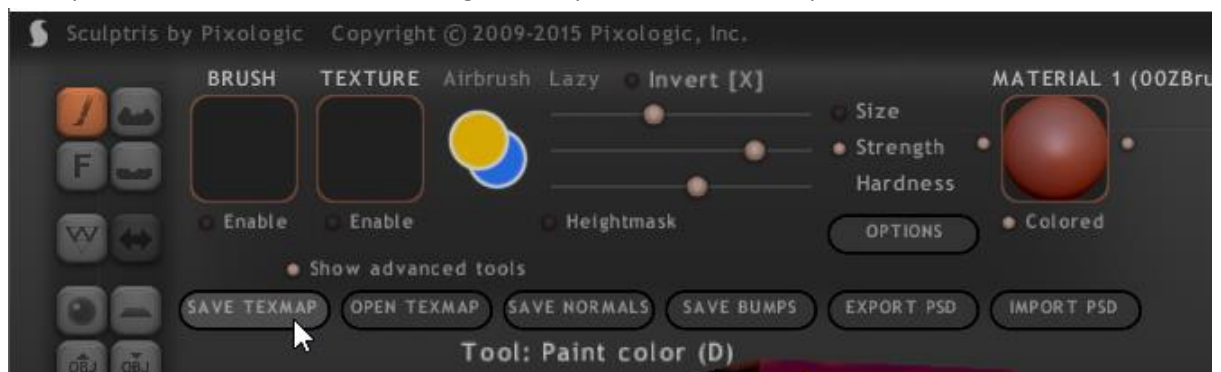
10. Enter a new name for your OBJ file. I recommend not overwriting the original OBJ file, in case you want to re-texture it later.

In this example, I've called my new model ArcadeMachines(A)_Textured.obj



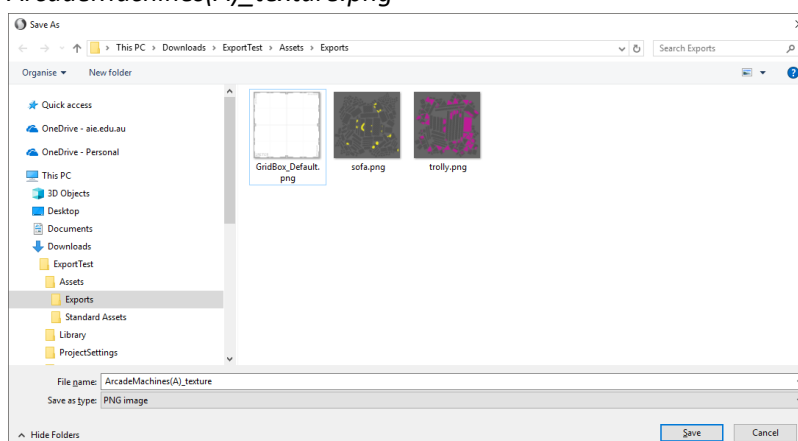
11. We also need to save the texture map to a PNG image.

To do this, click on *Show advanced tools*, which appears just below the *Airbrush* tool. This will open a number of buttons allowing us to export the texture map.



12. Press *Save Texmap*.

13. Give your texture a name. In this example I've called my texture *ArcadeMachines(A)_texture.png*



This completes the steps required to create and save a texture map. Now we can open Unity and import the model into our level.

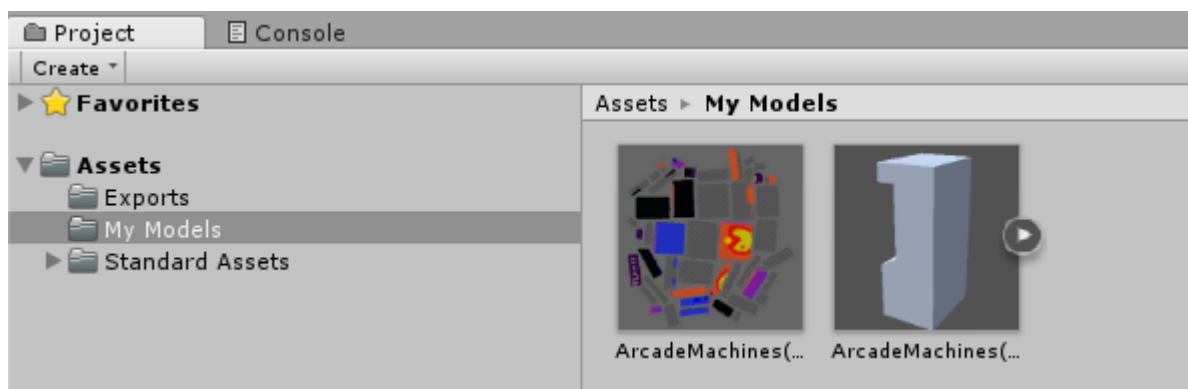
Importing Into Unity:

Open your Unity game.

You might like to create a new folder for your textured models.

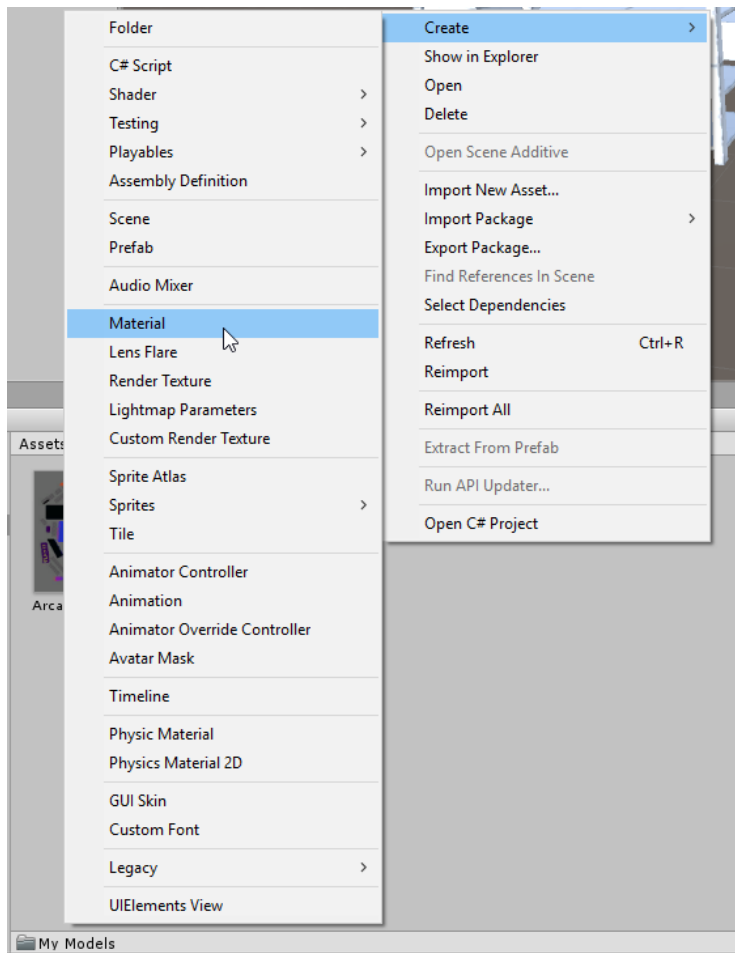
Copy both the PNG texture map and the exported OBJ model into your desired folder in Unity. You could either copy this via Windows Explorer, or drag the files from a Windows Explorer window into the *Project* window in Unity.

You should end up with both the PNG texture and the untextured 3D model appearing in Unity's *Project* window.

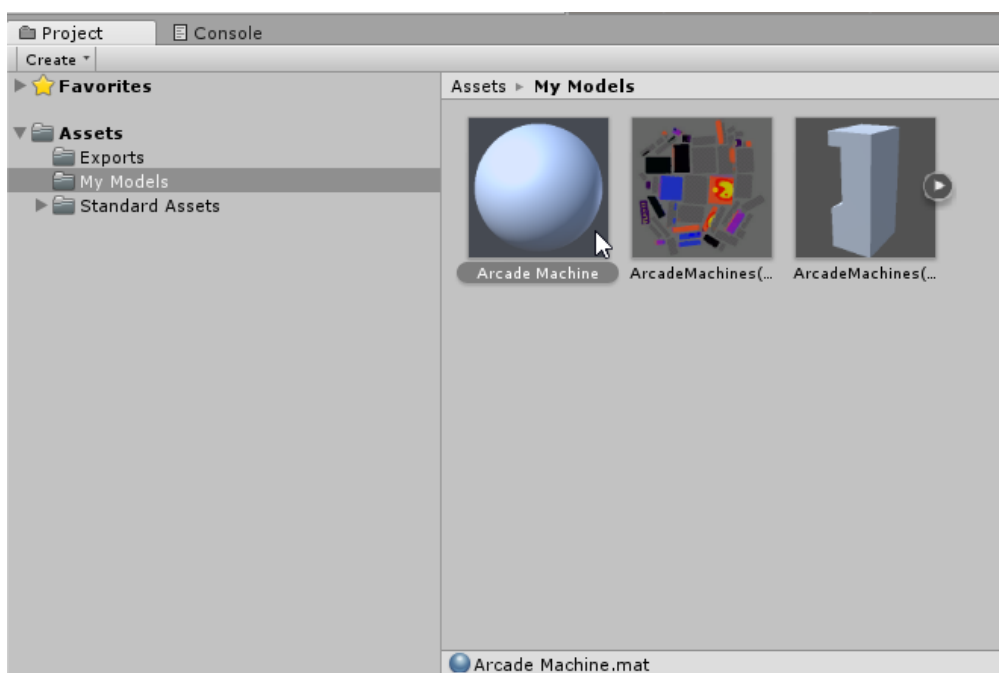


We now need to create a new material so that we can apply the texture to the model.

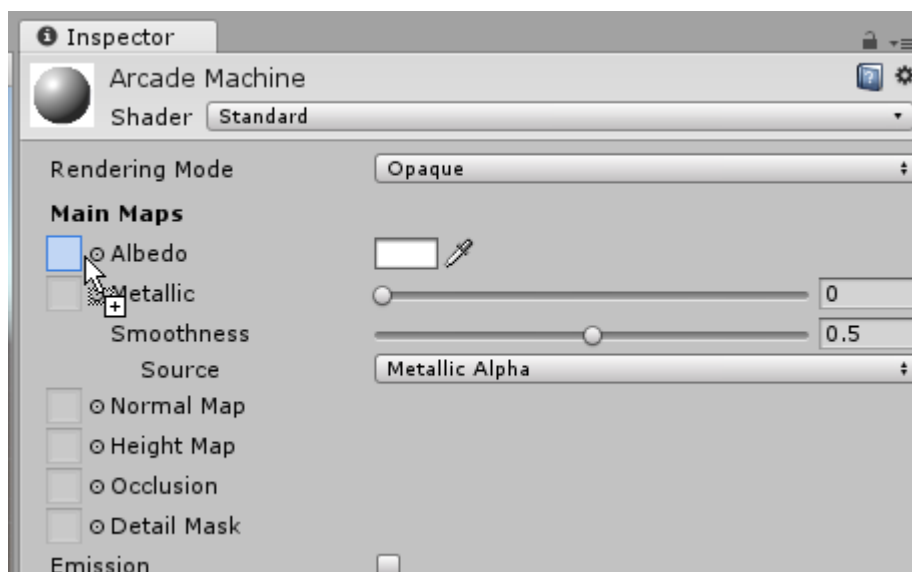
Right-click in the *Project* window, and select *Create -> Material*



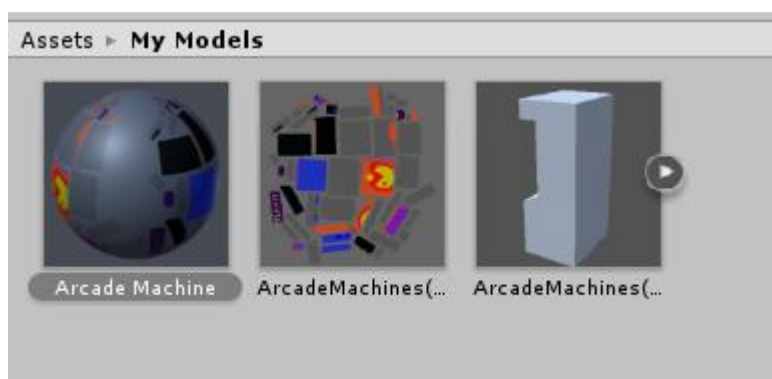
A new material will appear next to your imported PNG and OBJ files. In this example I've renamed my material to 'Arcade Machine'.



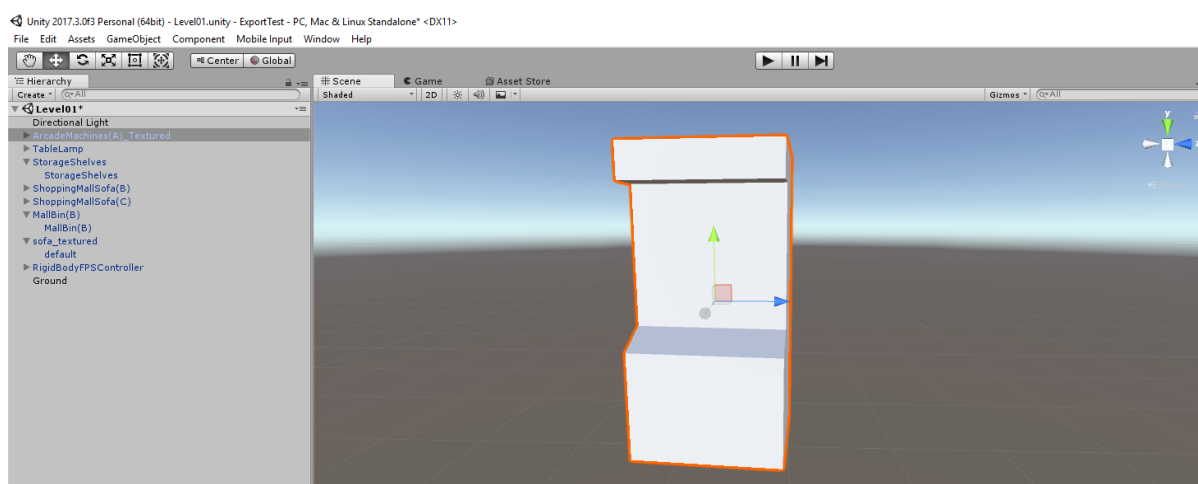
Select the material and, in the *Inspector* Window, set the *Albedo* property to your imported PNG texture map. (An easy way to do this is to can drag the texture from the *Project* window into the *Albedo* property).



The material in the *Project* window should update and display your texture:

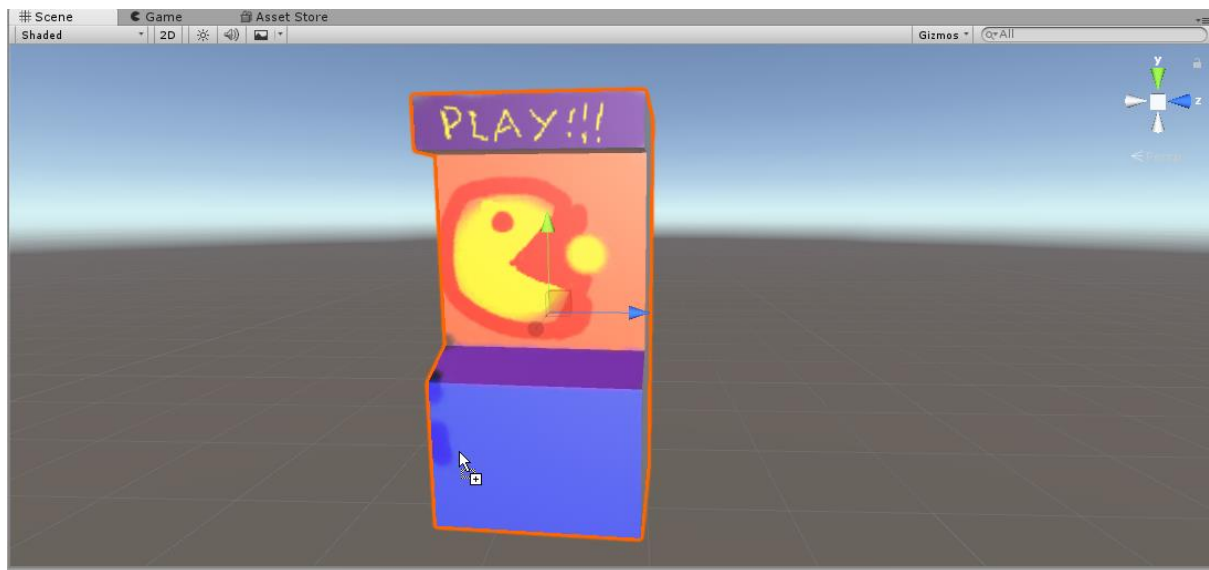


We can now add our model to the scene. Drag your model from the *Project* window into the level.



At first, it will appear untextured. This is expected.

Now, drag the material we just created from the *Project* window onto the model. You should see the texture applied to your model.



You might notice that the texture is a little rough.

You may wish to open your texture in a program like *Photoshop* or *Paint3D* and clean it up a little.

