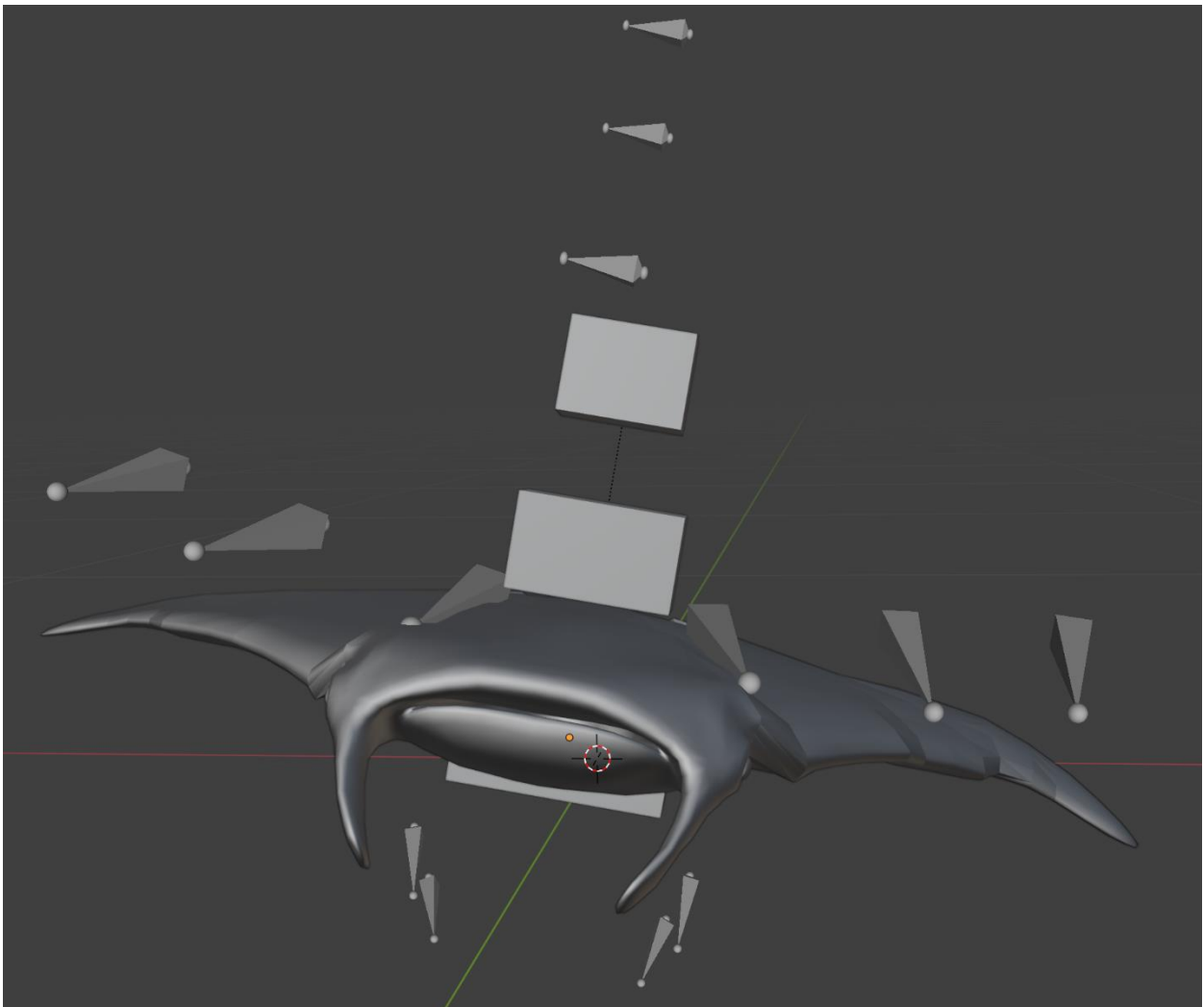


Using Rigged & Posable objects from Blender to Vue: The Manta

I wanted to get a number of Manta Rays into Vue. I found a model on the web for a rigged (Posable) model in FBX format. The downloaded .zip file contained the source .FBX file and five texture files; Base_Color (albedo or Diffuse), Roughness, Metallic, AO (Ambient Occlusion) and Normal. These are typical file types for specifying the texture of an object.

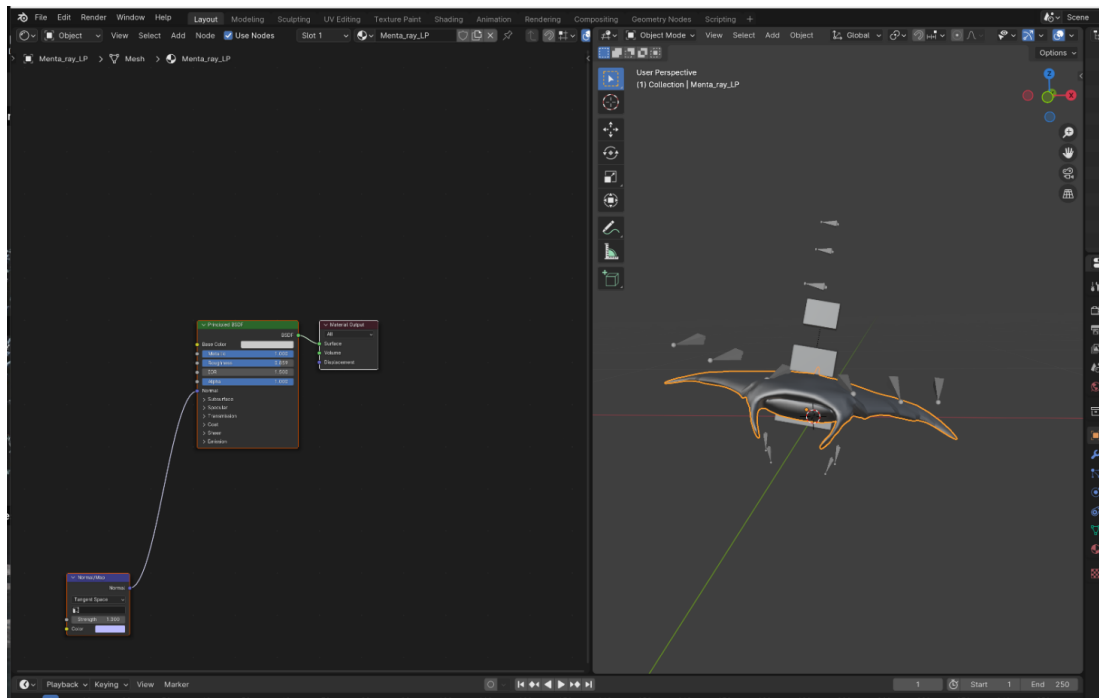
A rigged FBX model can often be assessed in Blender. The “bones” that can manipulate or pose the model often shows up as bones when it is imported into Blender.

The raw FBX file imported into Blender is shown below. It shows the bones but not the texturing of the model.



To apply the texturing, we will have to open a side window and set it to the Shader Editor. When we select the object in the Layout window and any default shading nodes will be shown. Here we will add any texturing that came with the FBX model.

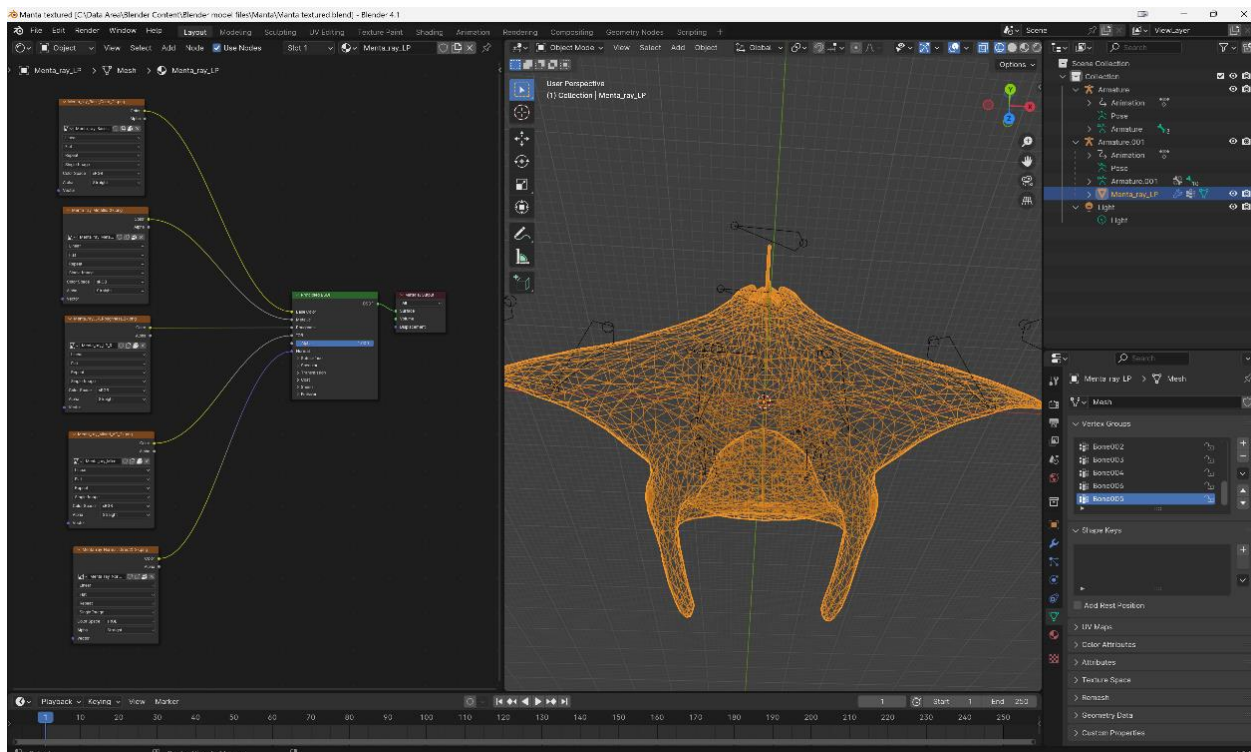
Layout and Shader displays



Shader

Since we have five files in the textures we downloaded, we will add them to the appropriate inputs of the BSDF and remove the default Normal input.

- Select **Add/Texture/Image Texture** and place it near the top of the shader display.
- In the Image Texture node click Open and navigate to the location of the texture files (downloads/manta-ray/textures/) and select the Base_Color_2k.png file.
- Repeat this for each texture file, input to the appropriate input in the BSDF node.



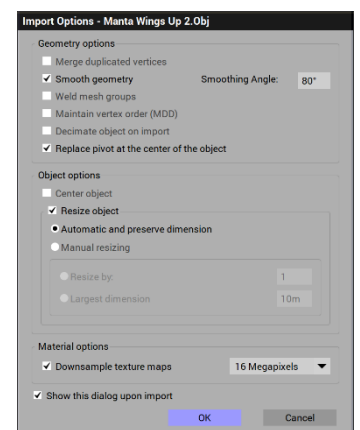
Now slide the layout window to the left to maximise it. We are currently in **Object** mode. To get into **Pose** mode you will need to click on one of the bones of the **armature** group or **armature.001** group of the model to select it, then you can click the down-arrow beside Object Mode to see the list and select **Pose Mode** below it. It is best to place the left-most gizmo to **Rotate** mode.



The six bones above the wings of the manta-ray can be rotated to rise or lower the model, set them to show the wings upward.

- Now select Object Mode again and select the manta model. To save the model in this pose, first select **File/External** data and check the **Automatically Pack Resources** On.
- Now select File/Export and select OBJ from the list. Then search for the best location to place the OBJ version of the Manta with wings up. And click on **Export OBJ**. The model and a material file will be created
- In Vue select File/Import object... and navigate to the appropriate location.
- Select **Manta wings up** file (the Manta wings up material file will also be loaded).

The Import Options window will open. Make sure that **Downsample texture maps** is checked. The object should load with the textures applied into Vue



The side view of the manta shows that the tail seems to be a bit crooked. This can be corrected; In Blender, there are six main **wing** bones (**armature.001**) to manipulate the manta main fins and four smaller cephalic bones (bone 010 to bone13) to manipulate the front lobes or **Cephalic lobes**.



We will have to go back into **Object** mode to select one of the three smaller bones above the manta (**armature**), then go into **Pose** mode again.

Now the side and top views of the manta shows that these three bones can be used to manipulate and straighten the manta's tail.

Often we see the manta's cephalic lobes are straight and at other times they are curved in. To manipulate them use the armature.001 group, bones 010 through 013.

Each time a good image has been posed, keep the bones in their **Pose Position**, switch to **Object** mode select the object and **Export** the object to an **.OBJ** file under a new name.

Manta Bones

The hierarchy listing in Blender, shown to the right shows the armatures and bones that can be manipulated for the Manta Ray. (animation boxes deleted)

There seems to be two different sections:

Armature expands to bones 007,008 and 009. These can manipulate the tail.

Armature.001 expands to bones 001 through 003, then 004 through 006, then finally bones 010 through 013.

Left wings: Bones 004,005 & 006

Right wings: bones 001,002 & 003

Left cephalic: bones 012 & 013

Right cephalic: bones 010 & 011

NOTE:

To select the tail manipulating bones (007,008 & 009), one of the **armature** bones must be selected when in Object mode.

To select the wing or cephalic lobes for manipulation, one of the **armature.001** bones must be selected when in Object mode.

