

DESMA 157B: Gaming 2

Game Development Workshop

Winter 2010, UCLA Design Media Arts

Collider Creation for 2D NumbSkull game demo

1. Creating the landscape Colliders (with Meshes Created in Maya):

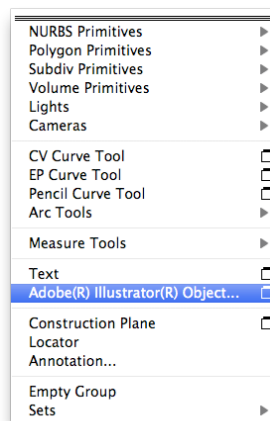
This was done using Illustrator CS3 and Maya 8. Some of the menus may differ for your version of the software, but the general principle remains the same.

Start by drawing some graphics in Illustrator.

Make shapes however you like, but stick to closed shapes/curves.

Save them as Illustrator 10 uncompressed. If the format is incorrect, Maya won't be able to read the files properly.

Bring the graphics into Maya

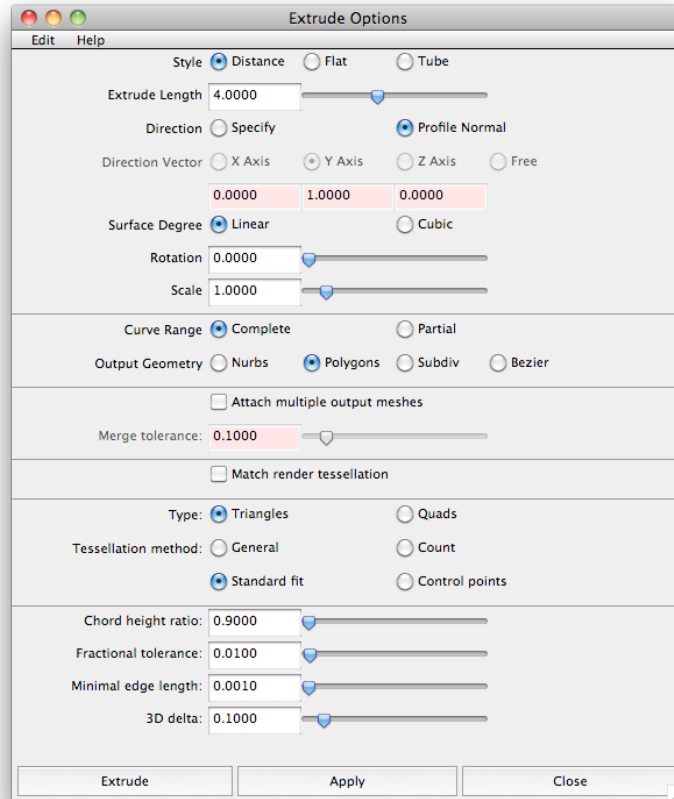


Create a new Adobe Illustrator Object

Select the Illustrator 10 file that you saved out earlier to import.

Select some of your geometry.

In the Surfaces menu set, select Surfaces -> Extrude



To cap the ends of the object, select Mesh -> Fill Hole from the Polygons menu set **Import the Geometry into Unity**

This part is quite easy. Save your Maya file as .mb or .ma.

In Unity, go to Assets -> Import New Asset

Select the file and import it.

Make sure the geometry is used for physics

Once you have imported the file, select it and look in the Inspector

Check the box for "Generate Colliders" in the FBXImporter script

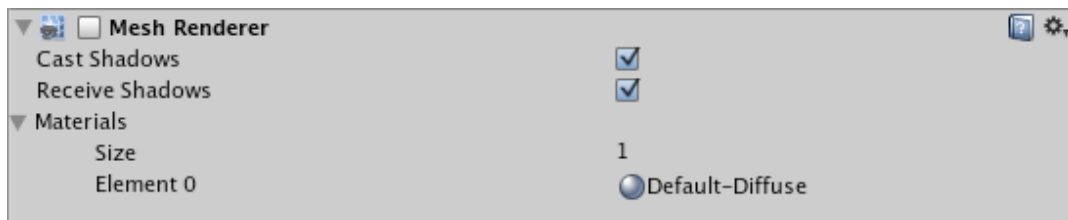
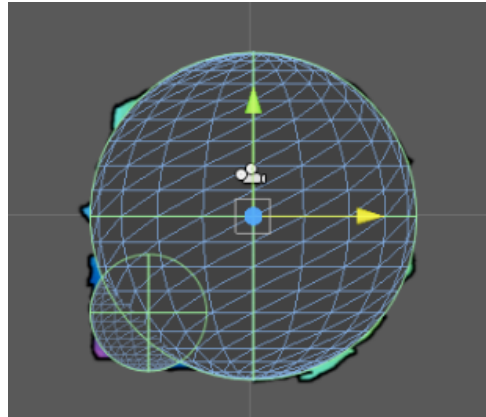
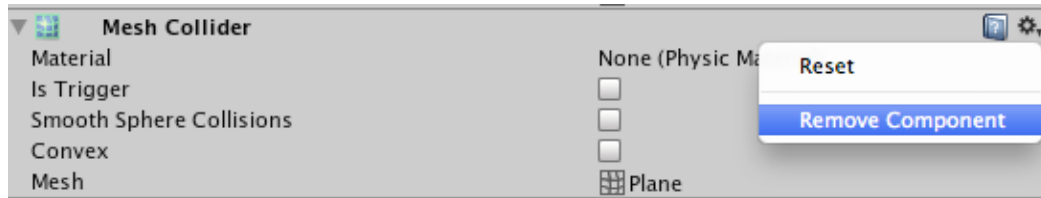
Click Apply and you should be finished

2. Creating the Skull Prefab with Compound Colliders :

Create a plane to display the skull graphic

Drag the skull graphic onto the plane.

Remove the Mesh Collider from the plane in the Inspector. This makes sure that collisions won't happen on the edges of the plane.



Create some spheres and position them over the skull graphic.

Turn off the mesh renderer for the spheres so they don't display in the game.

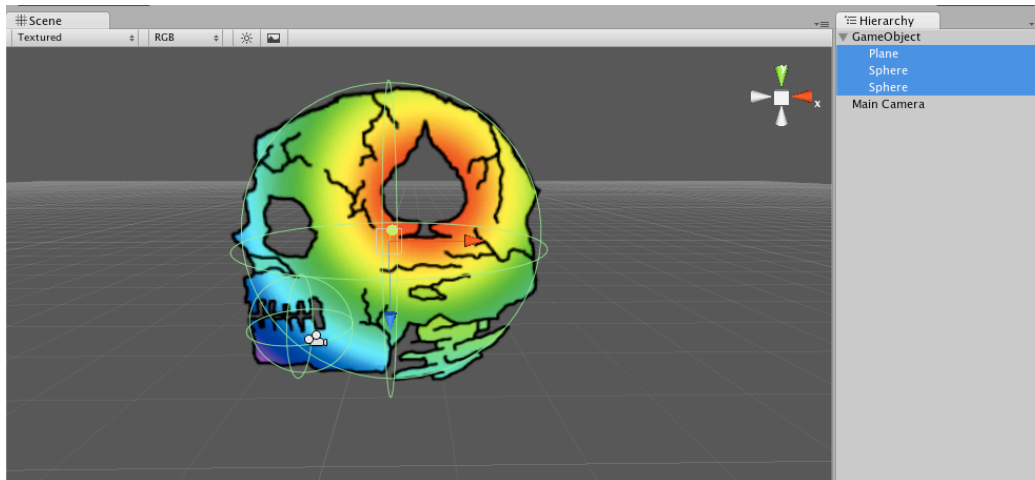
Create a container for the skull components

Create an empty GameObject (name it)

Make sure the object is at 0,0,0

Parent the plane and spheres to the object

Drag them onto the gameObject in the scene hierarchy

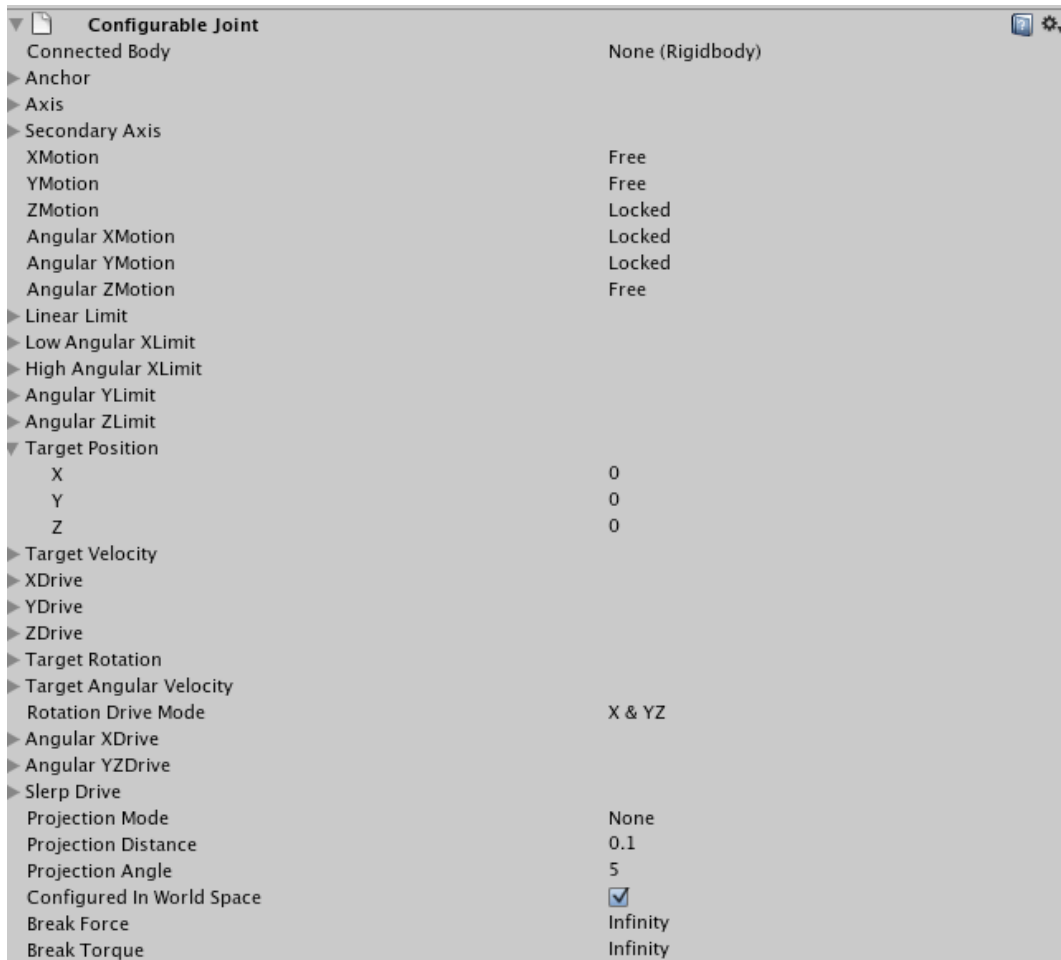


Add a rigidbody and configurable joint to the GameObject.

The rigidbody lets Unity know to use the object dynamically in the physics engine. Unity only allows an object to have one collider attached to it. To get around this, we won't put a collider on the GameObject. Instead, we'll position a number of objects with colliders as children of the GameObject. This allows us to create irregular shapes for collisions and better match the graphics.

The configurable joint lets us restrict the motion of the object. In this case, we are limiting it to motion in 2D. The "Configured in World Space" box is checked to indicate that we want to restrict motion of the object on the world x/y/z axes. Otherwise, the object's motion would be restricted along its local axes, which will not coincide with the world axes once the object rotates.

For the 2D game, it's configured as below:



Add the skull script to the game object

Drag the script onto the game object.

To add the pieces for the explosion, create them as you did the skull. Increase the number of "Explosion Objects" in the Skull script, and drag the objects you want to spawn when the skull explodes into the slots that become available.

Turn the object into a prefab

Create a new prefab in the project panel

Name it something like DemoSkull

Drag the object from the hierarchy onto the DemoSkull prefab in the project panel.