# COMP222 Tutorial 2

Familiarisation with Blender; importing 3D models into jME

In this module, we will use jMonkeyEngine, http://www.jmonkeyengine.org, to develop a simple physics-based 3D game. While it is possible to model the game entities using the built-in primitive shapes, mature games use 3D models imported from a 3D editor. You are encouraged (but not compelled) to use Blender, http://www.blender.org. We have Blender version 2.77a installed in the labs.

A gentle introduction on Blender can be found at http://blender.freemovies.co.uk. Start with beginners' tutorials available under *Courses→Getting Started.* Follow all three videos, "3D Views, Adding an Object, Moving, Scaling and Rotating" (duration 5:42), "Making a Monkey Robot" (duration 6:42) and "Making a Simple Car Entering Values in the Properties Window" (duration 5:34). This should be sufficient to start modelling with Blender. If you want to further your Blender skills, you may find useful the modelling tutorials (*Courses→Modelling*) from the same website.

## Tutorial 2 tasks:

1. Do the above-mentioned video tutorials found at freemovies.co.uk

2. Create a Blender model of your liking. This could be the default cube or something more interesting.

3. Load the Blender model into jME. To do so

   a. Create a new jME3 project (*File→New Project → JME3 → Basic Game*)

   b. Save the Blender model into the *Models* folder (located in *assets*). To find the location of the folder, right-click on your project in the project view and select *Properties.* The project folder will be displayed on the top.

   c. Right-click on the `.blend` file and select *Convert to j3o Binary*.

   d. Add the following code to the `simpleInitApp()` method:

```java
// replace monkeyTut14.j3o with of your model file
// name
Node myModel = (Node)
    assetManager.loadModel("Models/monkeyTut14.j3o");
rootNode.attachChild(myModel);
DirectionalLight sun = new DirectionalLight();
sun.setDirection(new Vector3f(1, 1, -1));
rootNode.addLight(sun);
```
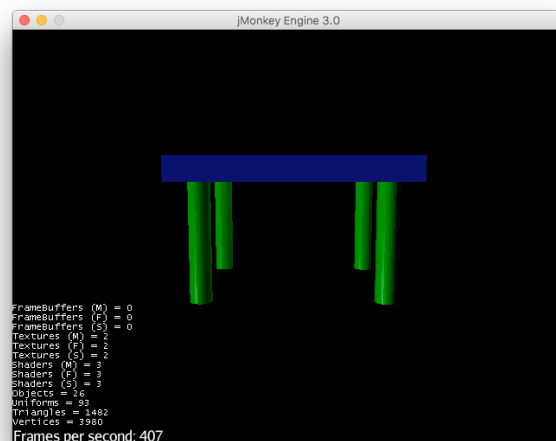
If you use the monkeyTut14 model available from
http://blender.freemovies.co.uk/getting-started/ you should see



**e.** Now, model a table using a box and 4 cylinders. In Blender, your model should look as follows
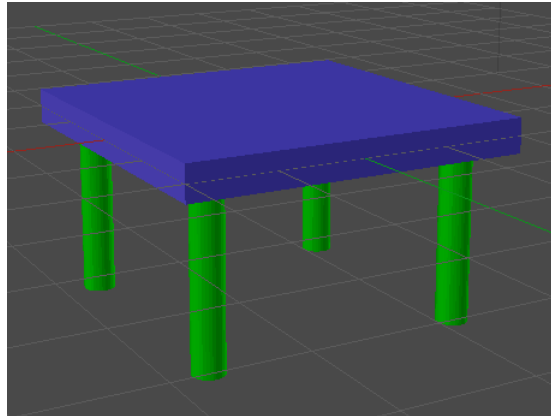


**f.** Load the table model into jME3. You should see the following

## Troubleshooting

Importing models into a game engine can be fiddly. Here's a (non-exhaustive) list of problems that I am aware of:

- Blender has two rendering engines, *Blender Render* and *Cycles*. *Cycles* is more modern and offers some cool features, but they are not supported in jME. Switch your renderer to *Blender Render* (select from the drop-down list on the top of the Blender window).

- When using solid colours as materials, the colour of the default material may not pass through to jME. (Notice that monkey's body is grey in the screenshot given above). I have found the following recipe working: delete the default material in the materials tab, press '+' to create a new material, change the colour and assign the new material to the geometry whose colour does not show.

- If you use textures always save the jpg or png files into *Textures* subfolder of the *assets* folder within your project. The engine will not be able to find resources outside the project tree.

- If you edit the Blender model contained in the Models folder, jMonkeyPlatform does the best effort to reload it; however, this often fails. To reset the jMonkeyEngine object file, delete the `.j3o` file (please be careful not to delete the original Blender model!) and then re-create the `.j3o` object file again. Simply choosing "*Convert to 3jo Binary*" does not regenerate it if the `.j3o` file already exists!