

COMP222 Tutorial 1

Familiarisation with jMonkeyEngine

In this module, we will use jMonkeyEngine, <http://www.jmonkeyengine.org>, to develop a simple physics-based 3D game. Your first task is to familiarise with the engine.

We have the engine readily set up in the labs. If you want to use it on your own laptop or home computer, install the latest stable (3.2.0) version of the SDK and the development environment for your platform from <https://github.com/jMonkeyEngine/sdk/releases>. Remember, jMonkeyEngine is a 3D engine and it requires and OpenGL enabled graphics card. You might need to update your graphics card driver to the latest version available from the card vendor for the engine to work.

1. Your first task is to set up the jME3Tests project, which contains lots of code examples and game assets. To do so
 - a. Install and open the jMonkeyEngine platform
 - b. Go to File → New project
 - c. In the New Project Wizard select the JME3 category in the central panel and then the 'JME Tests' project. Click Next
 - d. Specify a location (select your networked drive). Click Finish.
 - e. To run the tests and demos, right-click in the jMeTests project in the project explorer (by default, the panel in the top-left corner) and select 'Run'. When the Java application starts, select your test.

See https://jmonkeyengine.github.io/wiki/sdk/sample_code.html for more information on the jME3Tests project. If you want to use assets that come with the engine in your own project, follow the instructions on the bottom of the web page.

2. Create your first jMonkeyEngine project following instructions from https://jmonkeyengine.github.io/wiki/sdk/project_creation.html. Explore the directory structure and build the default project.
3. Follow the beginners' tutorials available at <https://jmonkeyengine.github.io/wiki/jme3.html#tutorials-for-beginners>. I expect everybody to follow at least Tutorials 1-4 (you are, of course, welcome to try others).

Note: You may bump into the error such as "com.jme3.asset.AssetNotFoundException: Models/Teapot/Teapot.obj." To use the example assets in a new jMonkeyEngine SDK project, right-click your project, select "Properties", go to "Libraries", press "Add Library" and add the "jme3-test-data" library.

4. Start modifying the project
 - a. Change the colour of your shape to Red
 - b. Use a different shape instead of Box. Try different 3D shapes referenced from <https://jmonkeyengine.github.io/wiki/jme3/advanced/shape.html>
 - c. Try adding a 2D shape to your scene. As an example, to add a Quad (a 2D square) do the following

```
Quad quad = new Quad(2,3);
```

```
Geometry geom = new Geometry("Quad", quad);
Material mat = new Material(assetManager,
    "Common/MatDefs/Misc/Unshaded.j3md");
mat.setColor("Color", ColorRGBA.Red);
geom.setMaterial(mat);
geom.setLocalTranslation(0, 0, 0);
rootNode.attachChild(geom);
```

If you have any questions, ask the lab demonstrators.