

## RAGE Hierarchical Objects

### without separate "group" nodes:

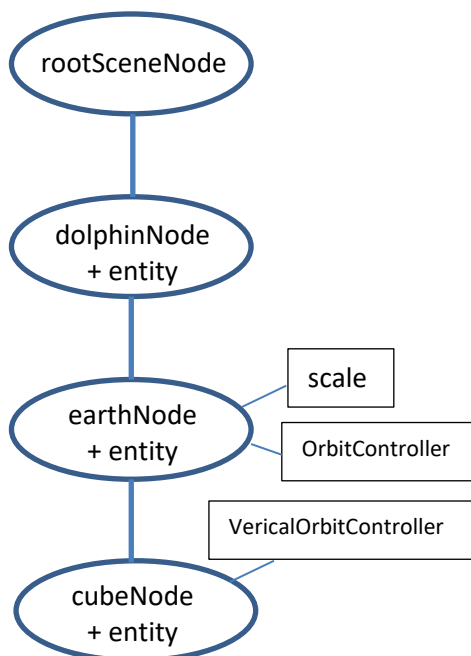
```
protected void setupScene(Engine eng, SceneManager sm)
    throws IOException
{
    Entity dolphinE = sm.createEntity("myDolphin", "dolphinHighPoly.obj");
    dolphinE.setPrimitive(Primitive.TRIANGLES);
    SceneNode dolphinN =
        sm.getRootSceneNode().createChildSceneNode("myDolphinNode");
    dolphinN.attachObject(dolphinE);

    Entity earthE = sm.createEntity("myEarth", "earth.obj");
    earthE.setPrimitive(Primitive.TRIANGLES);
    SceneNode earthN =
        dolphinN.createChildSceneNode("myEarthNode");
    earthN.attachObject(earthE);
    earthN.scale(Vector3f.createFrom(0.2f, 0.2f, 0.2f));

    Entity cubeE = sm.createEntity("myCube", "cube.obj");
    cubeE.setPrimitive(Primitive.TRIANGLES);
    SceneNode cubeN = earthN.createChildSceneNode("myCubeNode");
    cubeN.attachObject(cubeE);

    OrbitController ocE = new OrbitController(dolphinN, 1.0f, 1.2f);
    ocE.addNode(earthN);
    sm.addController(ocE);

    // earth scale affects distances, so child distance is 4 instead of 1.
    VerticalOrbitController ocC =
        new VerticalOrbitController(earthN, 1.0f, 4.0f);
    ocC.addNode(cubeN);
    sm.addController(ocC);
    ...
}
```



### with separate "group" nodes:

```
protected void setupScene(Engine eng, SceneManager sm)
    throws IOException
{
    SceneNode dolphinNG =
        sm.getRootSceneNode().createChildSceneNode("myDolphinNodeG");

    Entity dolphinE = sm.createEntity("myDolphin", "dolphinHighPoly.obj");
    dolphinE.setPrimitive(Primitive.TRIANGLES);
    SceneNode dolphinN =
        dolphinNG.createChildSceneNode("myDolphinNode");
    dolphinN.attachObject(dolphinE);

    SceneNode earthNG =
        dolphinNG.createChildSceneNode("myEarthNodeG");

    Entity earthE = sm.createEntity("myEarth", "earth.obj");
    earthE.setPrimitive(Primitive.TRIANGLES);
    SceneNode earthN =
        earthNG.createChildSceneNode("myEarthNode");
    earthN.attachObject(earthE);
    earthNG.scale(Vector3f.createFrom(0.2f, 0.2f, 0.2f));

    Entity cubeE = sm.createEntity("myCube", "cube.obj");
    cubeE.setPrimitive(Primitive.TRIANGLES);
    SceneNode cubeN = earthNG.createChildSceneNode("myCubeNode");
    cubeN.attachObject(cubeE);

    OrbitController ocE = new OrbitController(dolphinNG, 1.0f, 1.2f);
    ocE.addNode(earthNG);
    sm.addController(ocE);

    VertOrbitController ocC = new VertOrbitController(earthNG, 1.0f, 4.0f);
    ocC.addNode(cubeN);
    sm.addController(ocC);

    StretchController sc = new StretchController();
    sc.addNode(dolphinN);
    sm.addController(sc);
}
```

(controllers can now be added that affect or don't affect child nodes)

