Assignment 3: Modeling and Rigging

Detailed Requirements

Basic Description:

Create a simple character consisting of a block body with legs and feet. Use polygonal modeling and extrusion to build the basic shape, and then subdivision to smooth the model. Create a skeleton for the body and attach the skin to it. Add IK handles for the legs. Create a range of motion test to show off the skinning.

Detailed Requirements:

This is a modeling and rigging assignment. You will first create a simple model, and then put in the controls necessary for animating it.

- The basic form of your model should look like the following. Some variation is acceptable, but consider this to be a minimum standard and maintain the basic form.
- N.B. The figure shows a ball body. You are not required to create a ball body A cube/block will provide an easier workflow, so is recommended, but you can do either. Extruding out from a sphere is challenging. I'd rather you work from a cube and do an excellent job of sculpting the legs.



- As you did in previous assignments, the model must have appropriate materials/colors applied. You may wish to add lights to your scene to create a more attractive final rendering (optional, but encouraged).
- You should use extrusion to create your model and smoothing/subdivision to refine it. The model should be a single shell (i.e. all geometry should be part of a single, continuous mesh). The quality of the sculpting on the mesh will be a significant portion of your final grade. It is suggested that you model one side and then duplicate to create the other side. Be sure to merge the two halves properly to avoid a seam.

- Once you have created your model, add bones and IK handles in order to animate it.
 - There should be bones for each leg (hip, knee and ankle joints)
 - These should be joined to a common pelvis joint
 - Each leg should have a rotation plane IK controller. (Make sure the leg bends the correct way.)
- The bones must be smooth bound to the mesh. This will generate appropriate deformations of the mesh as the bones are moved. The skin weights need to be adjusted to provide good results (i.e. use the paint skin weights tool to clean up the mesh).
- Make a movie of your model being "exercised" by moving its legs about to show how the controls and skinning work (e.g. lift one leg, but it down. Lift the other leg, put it down. Swing a leg back and forth, etc. This can all be quite simple.). This is not an animation assignment. Instead, think of this as short demo to show off how well your model performs.
- Have fun!

Submission Instructions:

The basic submission procedure is the same as for all assignments.

- You will be submitting your entire Maya project folder. All additional files (e.g. the readme.txt and movie file) should be in the root of that folder.
- **N.B.** Name your project folder as "A3YourName", where "YourName" is your first and last name. This is how we will identify your submission.
- Include a brief readme file that identifies how you have met each of the requirements. You can also include any problems you could not resolve or particular features you would like us to notice. The file should be called "readme.txt" and included in the main project directory of your Maya files. Include your full name and student number in this file. This file should be brief (< 1 page).
- Create a **rendered movie** of your brief animation (recommended). Make sure it is saved within the Maya project file. A playblast is acceptable, but will not receive full points.
- Drop your project folder into the submissions folder as per the instructions below.

Submissions Folder:

1. The "classes folder" is located in the lower right when you log into a computer in the lab. Double click on this.

2. Open "Neff CDM 130", then "drop off" and then "A3".

3. Drag and drop your assignment into that folder. Make sure it is named correctly, as described above.