

## 3DS RAGDOLL Effect

The Rag Doll constraint defines all the joint limits common in a human figure. It can be used to animate a lifeless body colliding with various rigid body objects. Using the Rag Doll constraint, you can manually define how the body joints can twist, rotate, and move.

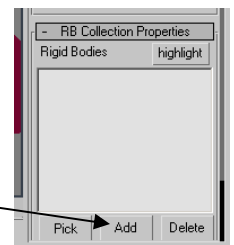
These joints are fairly common for human bodies. Autodesk has created a script to create a human body proxy that creates a rag doll with the correct constraints already defined. The script is named rctRagdollScript.ms. It can be found in the scripts directory where 3ds Max is installed.

### Steps:

You may wish to open the “reactor” tool bar by right clicking on the top toolbar and choosing “reactor”. Dock it over to the left side.

1. Time to make a scene. First draw a plane and place a staircase on it. The staircases can be found under the create menu > AEC objects > \_\_\_ stair.
2. Once your scene is set up, select the plane and choose reactor > open property editor. Two things must be changed here. Place a check mark beside “unyielding” and change the simulation Geography to “concave mesh”. Now make these changes to the staircase.
3. With nothing selected choose the “rigid body collection” button from the reactor toolbar. Click on your front viewport (a rigid body gizmo should appear).

4. Choose “add” from the rigid body collection menu on the right side of your screen and choose the plane and staircase.
5. Create a “Biped”. (Create > Systems > Biped). Carefully place him in position at the top of your stairs. (if you happen to lose his selection click h and choose bip01)



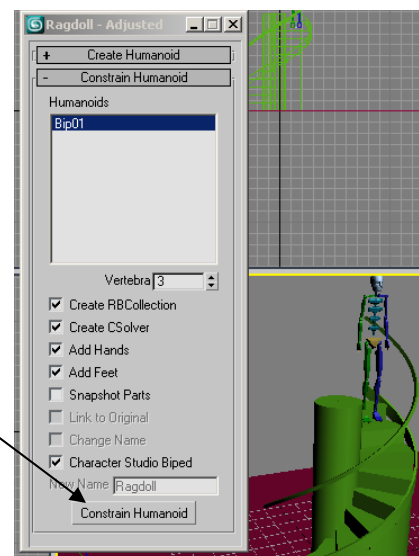
6. With the scene entirely setup choose the “MAXScript” menu button from the top right of you screen. Select run and browse for the rctRagdollScript\_Xpanded.ms file in the handout.

7. After you choose the script this window should appear. Click on “Constrain Humanoid”. This will cause your biped to be covered in Gizmos.....don't worry, all is good!

8. The script has now added weight to the body parts to make it act like a real humans. Now text your by choosing Reactor > Utilities > Analyze World. A box should appear indicating any errors. Close if there are none.

9. To see your animation choose Reactor > Preview Animation.

10. If you are happy with what you see choose Reactor > Create Animation. This makes everything permanently take effect. You can no longer undo.



11. Render as an Avi and place in your handin