Modelling, Texturing, Rigging, Skinning, and Animating with Blender

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Defaults

1. Change the Blender Render dropdown at top to Blender Game.
2. Enlarge the right hand side panel.
3. In the Properties window, change the Shading from Multitexture to Glsl.
4. In the 3D window, change the Viewport shading from Solid to Texture.
5. Enlarge the bottom panel and change the window from Timeline to Logic editor.
6. Under the Game menu, enable Show debug properties.
7. You may now want to save your defaults, with File →User Preferences →Interface →Save User Settings. If you do this, you only have to do the above steps once!

Modelling

1. Delete the cube, then add a new one. (Default cube comes with lots of stuff attached, which won't be there in general.)
2. Name it Ted.
3. Select Ted.
4. Press Numpad-. to center the Ted.
5. Press Numpad-5 to enter orthographic mode.
6. Press Tab to enter edit mode.
7. Press Z to enter wireframe mode, or use the Viewport shading popup.
8. Scale Ted in Y with S, then Y, then mouse drag.
9. Open the tools shelf with T toggle.
10. Subdivide Ted once with the Add →Subdivide button on the tools shelf.
11. Smooth with Deform →Smooth Vertex on the tools shelf.
12. Go to front view with Numpad-1.

13. Border select the top side vertices with B.
14. Extrude them with E.
15. Shape the head with scaling S, rotating R, and translating G (for grab).
16. Extrude and shape a left arm.
17. Add right arm with menu item Mesh →Symmetrize.
18. Extrude and shape a left leg.
19. Add right leg with menu item Mesh →Symmetrize.
20. Leave edit mode with Tab.
21. Smooth the rendering with Shading set to Smooth in the Tools shelf.
22. If you like, add a Subdivision surface modifier in the Modifiers button on the Properties panel.

Texturing

1. Leave edit mode with Tab toggle.
2. Add a material to Ted using the Material button in the Properties panel.
3. Add a texture to Ted using the Texture button in the Properties panel.
4. Make sure the texture is Image or Movie and that the Mapping is UV Coordinates.
5. Create a new texture with the New button.
6. Name the texture skin.
7. Drag the corner of the 3d view to creat two side-by-side panels.
8. Change the right one to a UV/Image editor.
9. Open the skin image in the image editor.
10. In the 3d view, select Ted, and press Tab to enter edit mode.
11. Press Z to enter wireframe mode, or use the Viewport shading popup.
12. Go into side view with Numpad-3.
13. Select the line down the middle with B, border select.
14. Mark seam with Mesh →Edges →Mark seam.
15. Select all with A.
16. Unwrap with Mesh →UV Unwrap →Unwrap.
17. Back in the UV editor window, change View mode to Paint mode.
18. Open the tools shelf and paint your image.

19. Save the image with Image →Pack as PNG.
20. Also click F next to the image selection popup, to create a false user of the texture.
21. Remove the UV window.

Rigging

1. Press Z to enter wireframe mode, or use the Viewport shading popup.
2. Select Ted.
3. Go to front view with Numpad-1.
4. Center the 3d cursor with Shift-S →Cursor to selected
5. Add a bone with Shift-A →Armature →Single Bone.
6. Go into edit mode with Tab or use the mode popup.
7. Move the bone down in Z until its root is at hip level.
8. Select the distal end of the bone and extrude a new bone with E.
9. Position end of new bone at the neck.
10. Extrude a head bone from this new bone, position end at top of head.
11. In the Tools shelf, under Options tab, check X-Axis Mirror.
12. Select the top of the neck bone, and double-extrude with Shift-E.
13. Position the distal end of one of the arm bones at the shoulder joint, and let the other one match it at the other shoulder.
14. Extrude this bone again (should extrude a matching bone in the other arm), and move its distal end to the end of the arm.
15. Double-extrude from the base of the hips with Shift-E.
16. Position the distal ends of these bones at the top of the leg.
17. Extrude bones from these to the bottom of the leg.
18. Go back to Texture in the viewport rendering popup.
19. In the Data button of the armature select X-Ray under the Display panel.

Skinning

1. Go back to Object Mode
2. Select Ted's mesh.
3. Shift-select the armature.
4. Parent with Control-P, and Set Parent to →Armature deform →With Automatic Weights
5. Select the armature.
6. Enter pose mode.
7. Pose Ted by rotating bones to see if it worked.

Animating

1. Open a Timeline and a Dope sheet at the bottom.
2. Press the little red Record button in the timesheet.
3. Enter pose mode.
4. Select all the bones and make a pose.
5. Scrub the dope sheet forward, make another pose (use Pose →Paste X-flipped when you need it).
6. Scrube forward again, make another pose.
7. When done making poses, unclick record button.
8. Set Start and End frames in timeline.
9. Press Play in timeline and watch your animation.
10. Name your animation.
11. In the game logic, set Actuator to Play or Loop your animation.
12. *Don't forget to set start and end frames!*