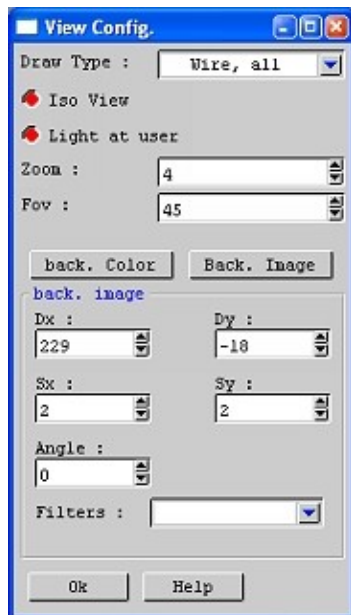
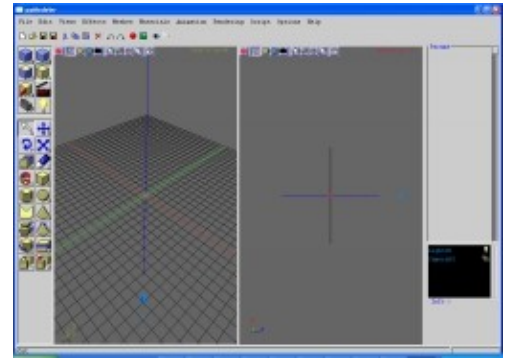



ppModeler – Real Time Character Modelling Tutorial

This tutorial is based on the "Real Time Character Modelling Tutorial" by Antony Ward that can be found at : <http://www.ant-online.co.uk/downloads/ModTutorial.htm>. Please, read it before this one.

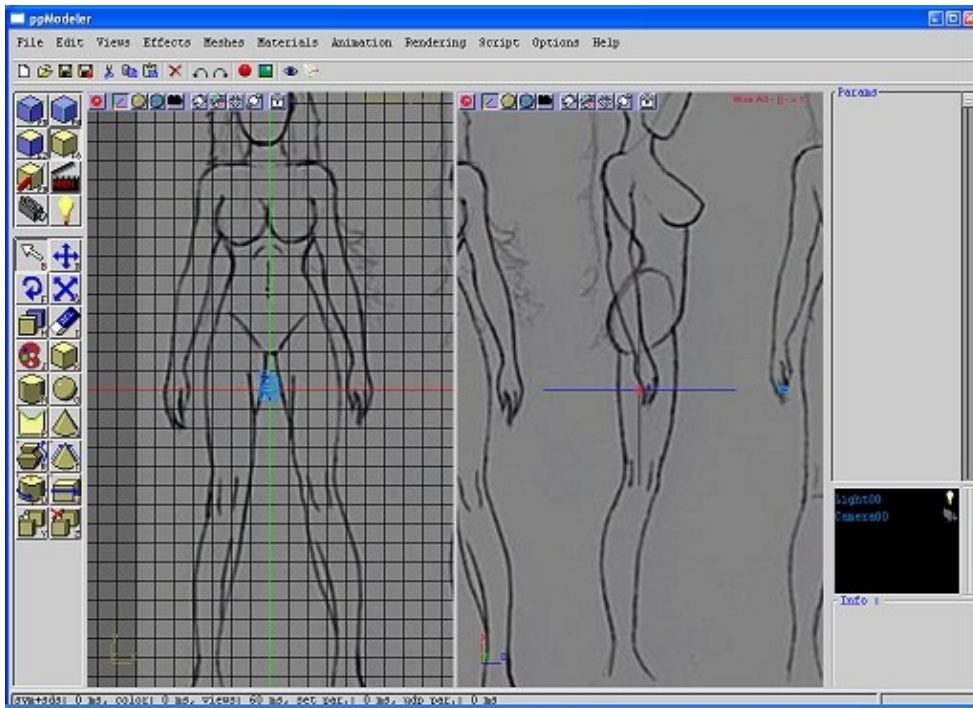
We will use 2 vertical views, so that we will be able to see the model from front and side at the same time. So, use the menu 'views->2 vertical views'.



Now, we will set the model sheet as a background: Open the view Configuration window, with the 'O' key or the  button.

Press the "Back. image" button, and select the model sheet. Then, scale and position you image so that the front view is centered. It is also possible the darken the image a little bit, so that it will be easier to work. Use the Filters combo-box, and select 'Darker' filter as many time as needed. It is also possible to use the 'Medium Sharpen' Filter to enhance the strokes. Proceed in the same way for the seconf view, but center the side view.

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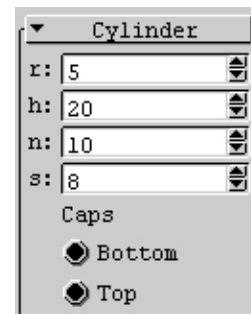


Use the 'Z' key in the first view, and the 'y' in the second view, so that your view points in the corresponding axes.



Use the '=' key to set an isometric projection ('||' is noted in the top left of the view for isometric projection, and '^' is used for perspective projection).

You can set the zoom factor to something like 10, with the '+' and '-' keys.


Now, add Cylinder (with the menu 'Meshes->Base Meshes->Cylinder' or with the Cylinder tool ).



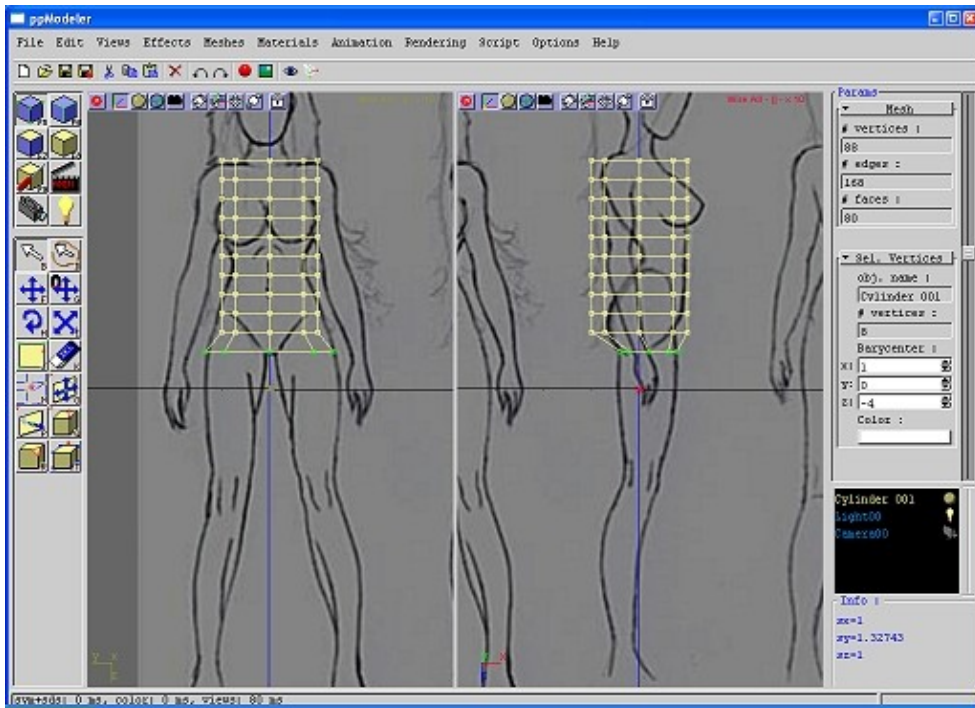
In the parameters, Cylinder Box, change the settings of the cylinder to:

Move the cylinder in place, with the 3D manipulator (Blue arrows). Opens the Vertex toolbox (). With the lasso tool () select the bottom row of vertices. When the drawing mode is 'Wire All', all the vertices

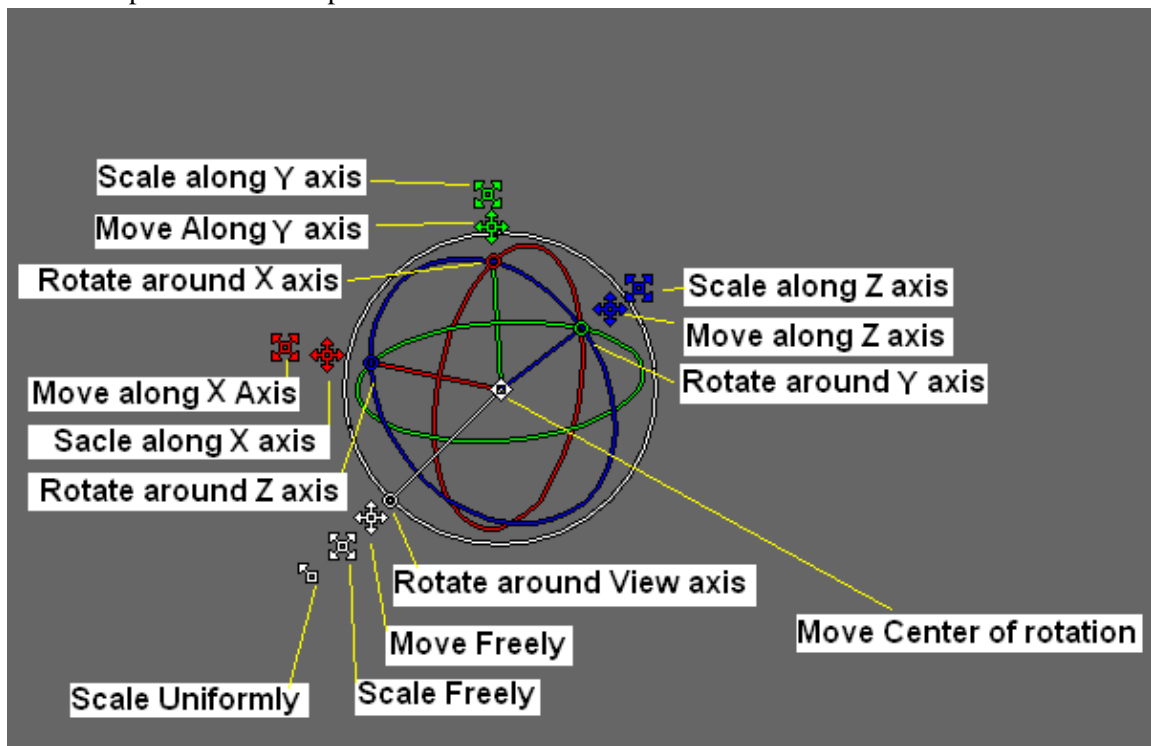
can be selected, even the not visible. With all other drawing mode, only the visible vertices can be selected. So, be sure to switch to 'Wire All' drawing mode to select the row of vertices (in the configuration window of the view, or with the 'd'/D' key).

Then, activate the select tool (), and with the 3D manipulator, scale and move the vertices to match the model sheet:

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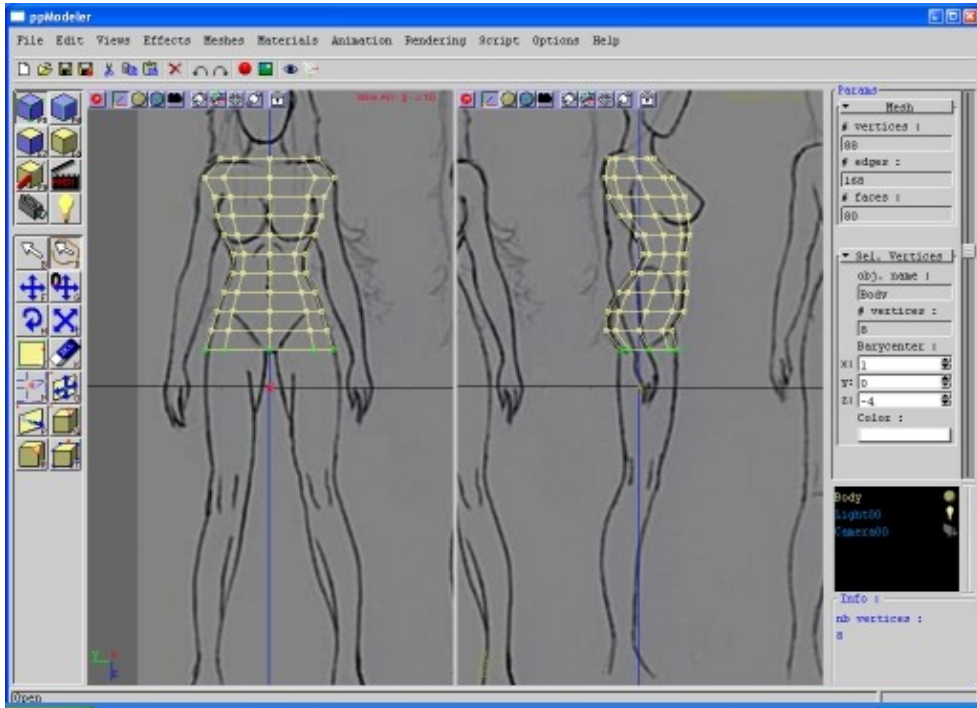


The 'space bar' hide/show the 3D manipulator of the active view.
Here is the sumup of the 3D manipulator functions:

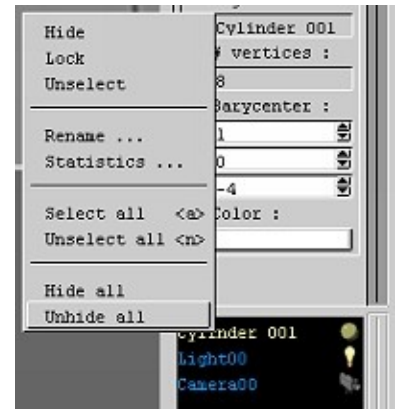


Proceed in the same way for all rows of the cylinder:


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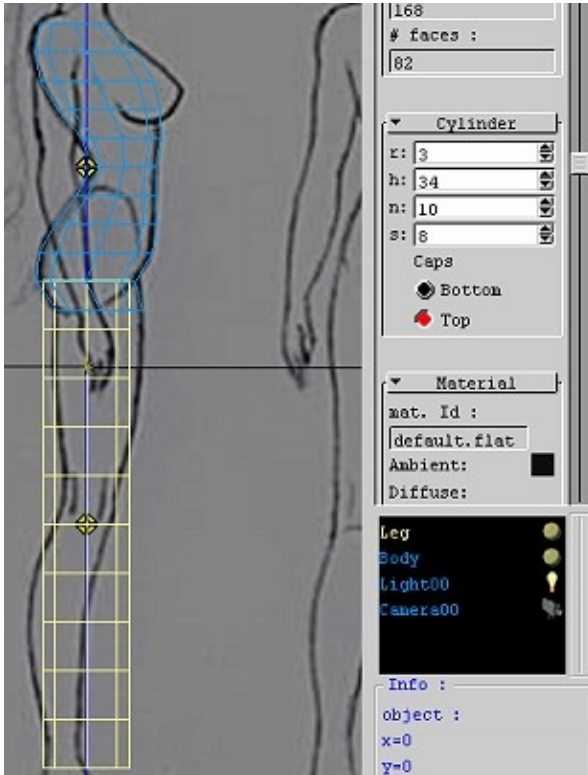
Then, rename it. In the List (bottom right), right click on the Cylinder name. Select the 'Rename' command in the popup menu, and enter 'Body' as a new name.



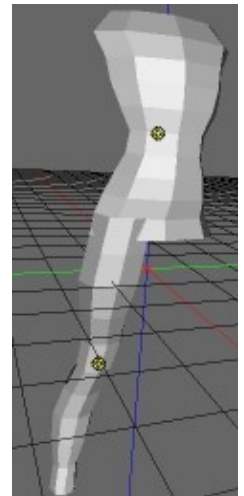
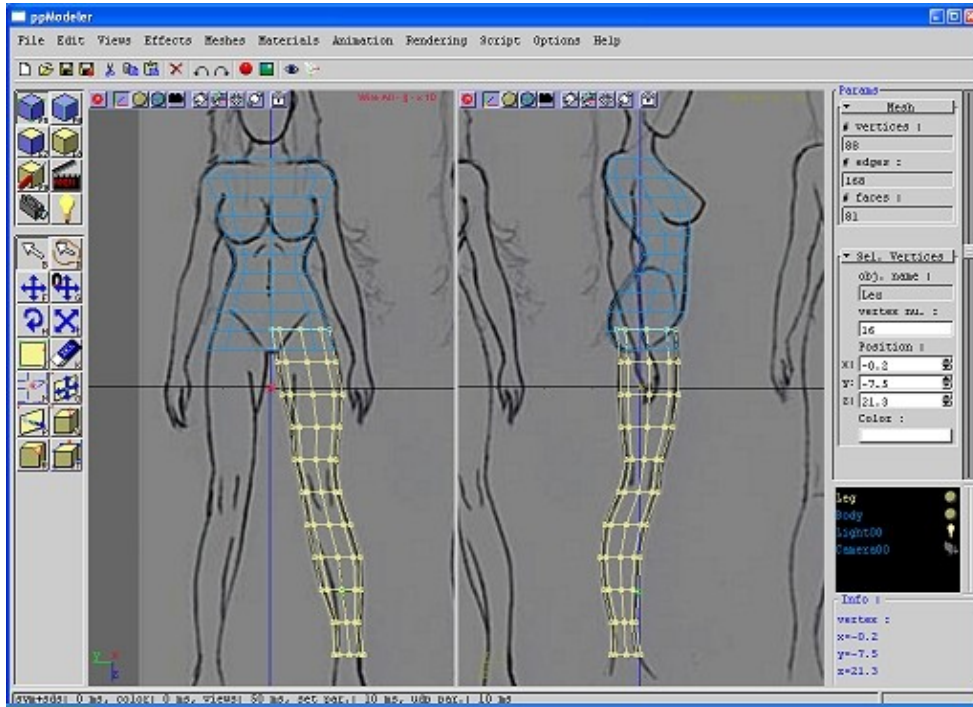
Save your work with a name like 'body01.3de'. The 01 is important, because ppModeler allows to save with new name incrementally.


In the mesh toolbox () , create a new cylinder move it, and rename it 'Leg'. The cylinder parameters can be changed, even after it was moved or scaled. But they can not be changed after faces, edges or vertices have been edited.

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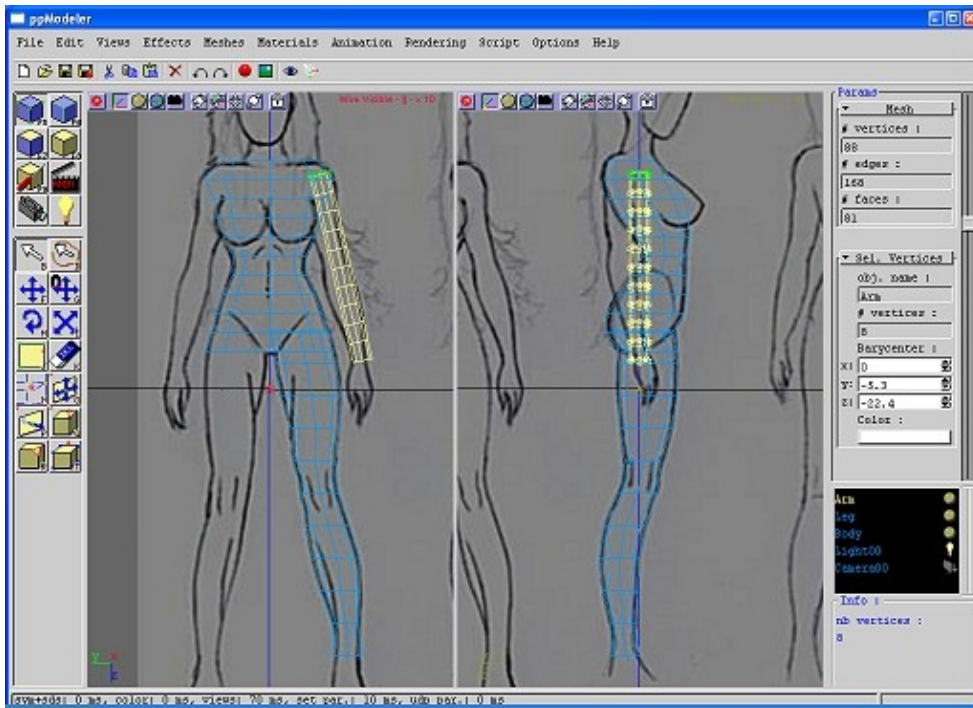


Now, in the as for the body, move and scale the vertices, one row at a time to match the leg in the model sheet.

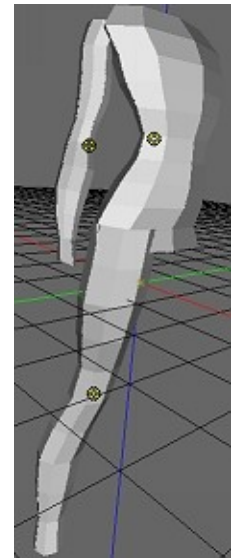
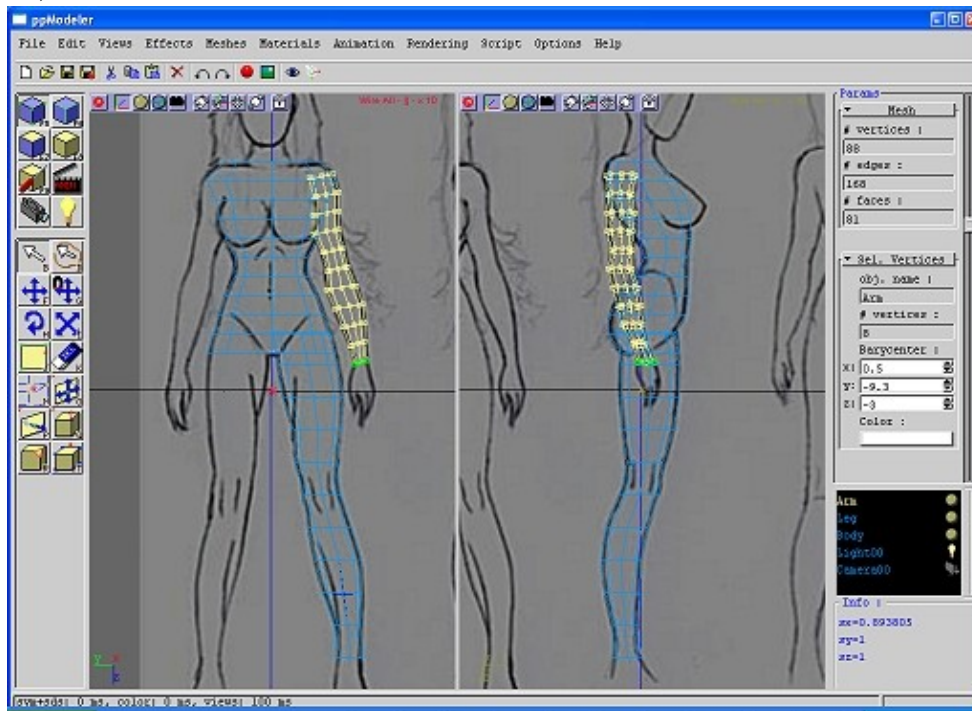


Save you work again, with  in the toolbar. The meshes will be saved in 'body02.3de'.
Now, add The third cylinder for the arm, move and rotate it to fit roughly the model sheet:

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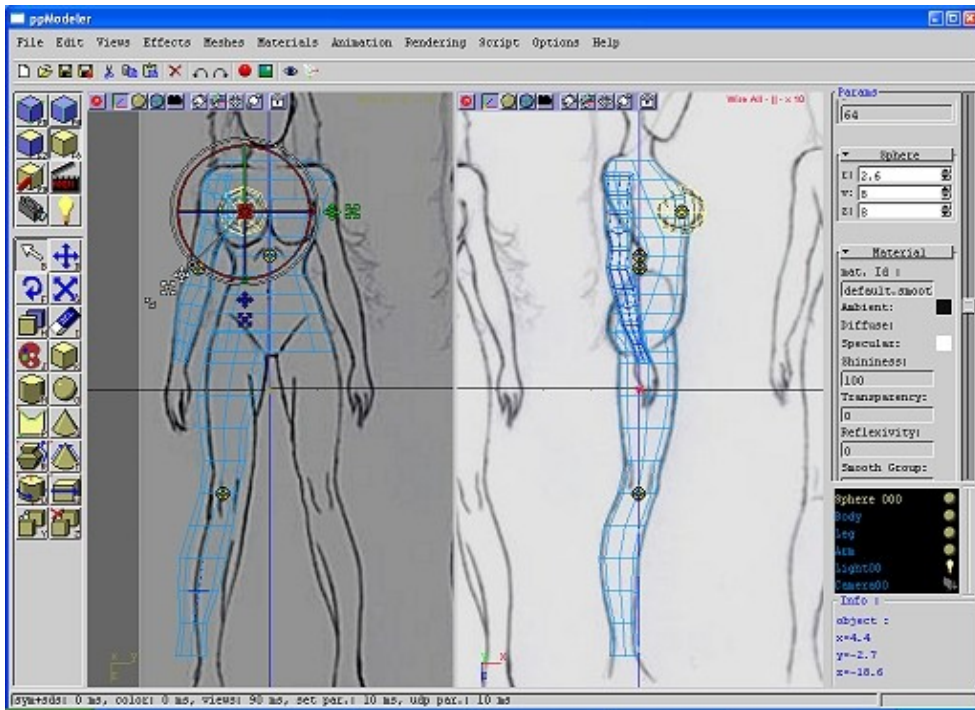


Now, move and scale the rows of vertices of the arm:

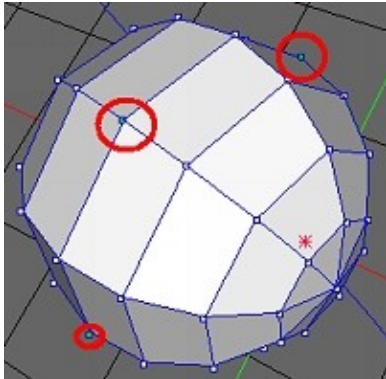



Now, it's time to add the breasts. Add a Sphere, with subdivisions 8 and 8. Size it and move it. The sphere should be rotated so that the pole is in front. Then, rotate the sphere slightly outside:



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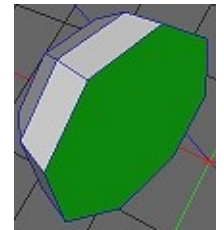



Now, we will remove half of it: in the mesh tools toolbox (), use the cut tool (). In the tool, select the the define plane by vertices tool ().

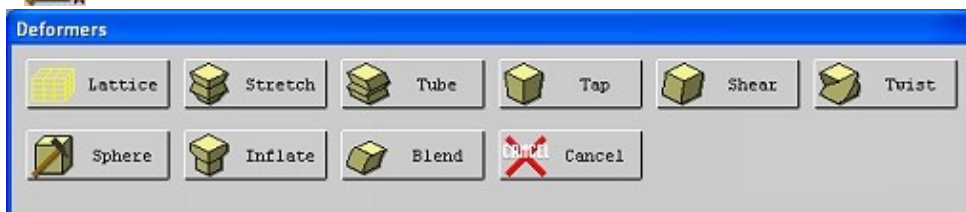


Then, select 3 vertices of the sphere that define the middle, the press 'Ok'. If the removed part is not the right one, use the symmetry tool () in the mesh tools toolbox.

When cutting a mesh, the cut plane is filled by faces. We need to remove them. Open the face toolbox (). Select the face created in the plane, and press 'Del' key, or use the delete tool ().

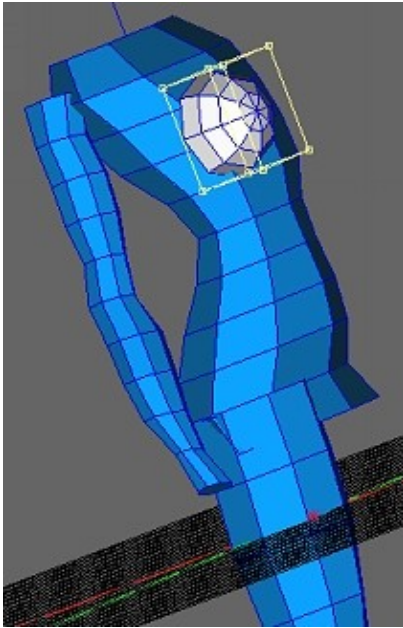


We will now give it its form. For this, we will use the lattice modifier. In the mesh tools toolbox, opens the modifiers tool (). These opens the modifier selection window:

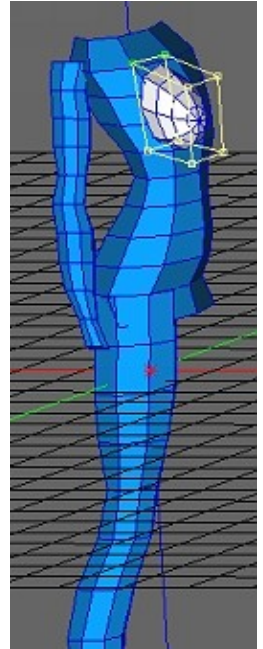





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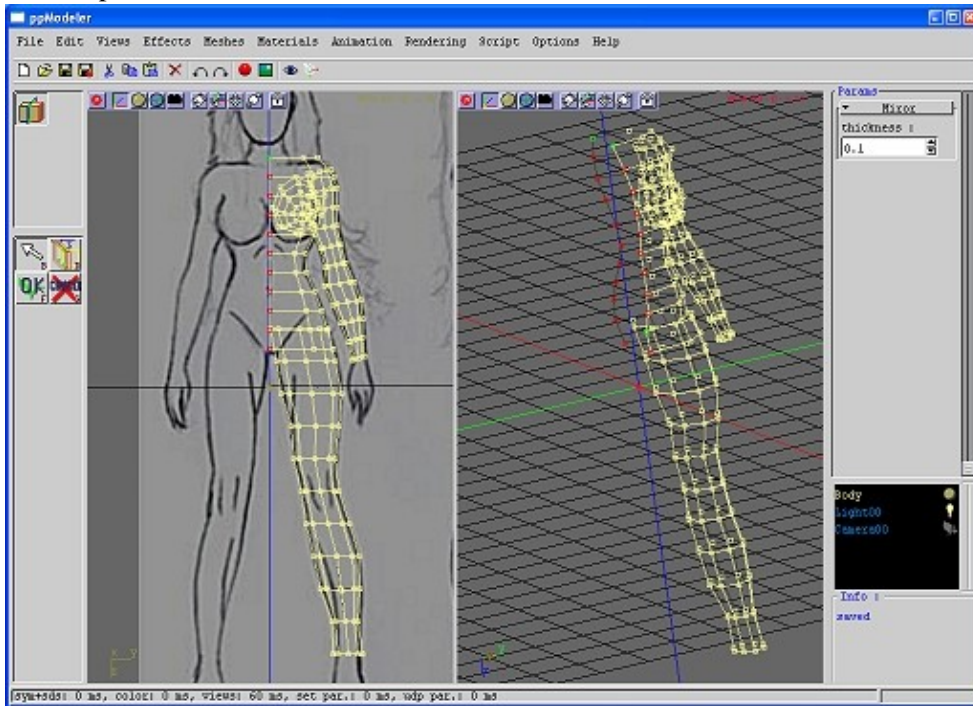
Then, select the first one: the lattice modifier. Another way to open the lattice modifier is with the 'Effects->modifiers->lattice...' menu. Modifiers can be applied on mesh, faces, edges, or vertices.



Select a 1x1x1 lattice. This create a lattice around the selected mesh. Now, you can move the lattice's points to deform the mesh.

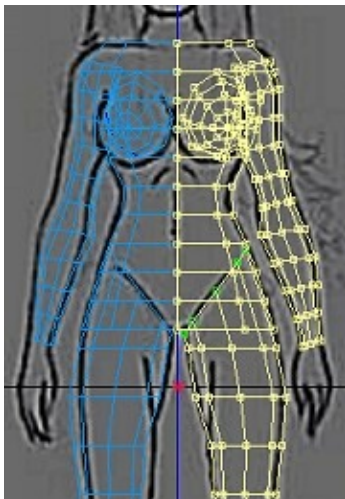
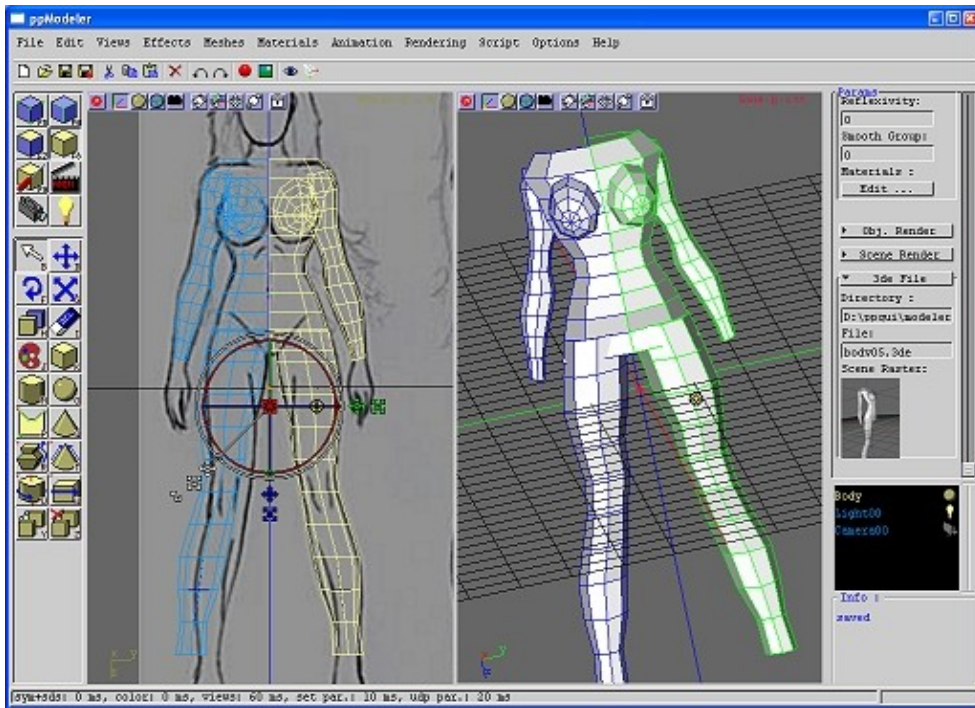



It is now time to join the elements together. So first, select all the pieces, and use the merge tool (). Give a name to the merged mesh. We will make the mesh symmetrical (so that we will work on one half, the other half will follow). First cut the mesh in the middle . If It is not the right part deleted, use undo () in the toolbar, use the symmetry tool, and cut the mesh again. Now, open the mirror tool () in the mesh tools toolbox. This tools define a mirror plane with 3 vertices of the mesh. Select 3 vertices (in green) and the vertices in the mirror plane will be drawn in red:

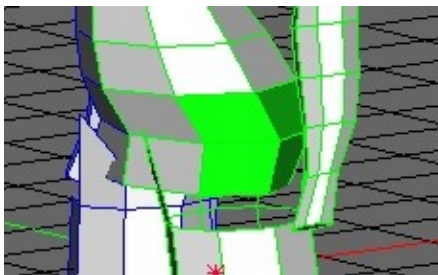
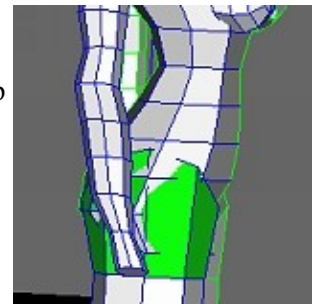



Then, press Ok, and answer Yes to create a symmetrical mesh. On a symmetrical mesh, the user can work on the green half, the blue will follow.

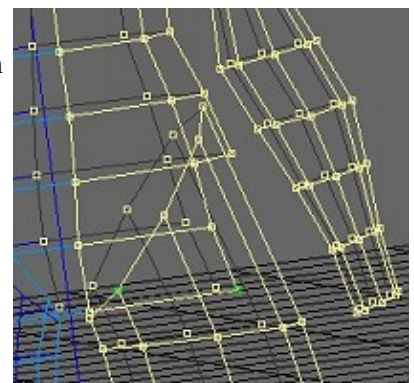
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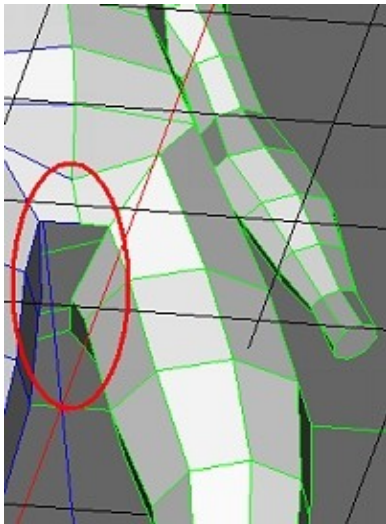
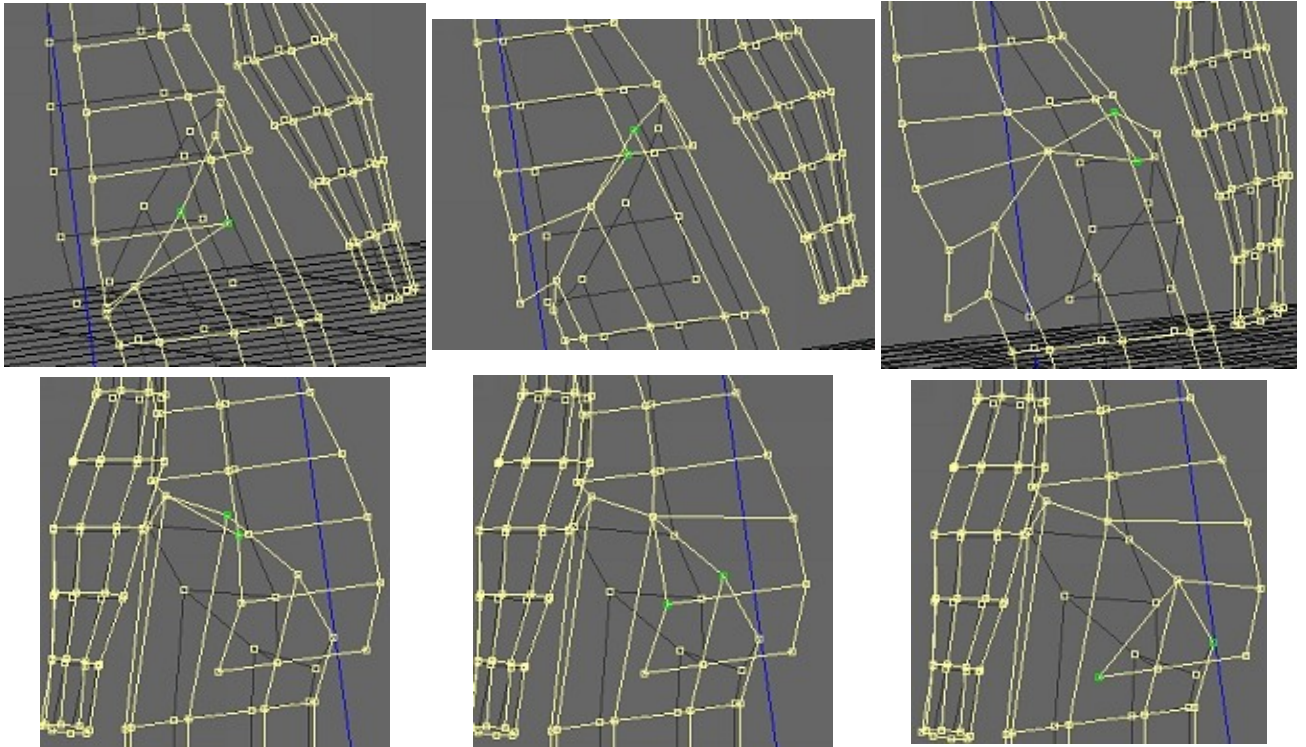
We will join the leg and the body. First, select the top row of vertices of the leg, and place it so that it follow the model sheet. Select the outside faces of the leg, and use the hide tool ().





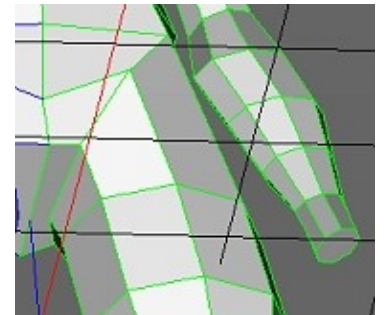
Now, Select the 4 faces at the bottom of the body, and delete them. When 2 vertices are merged (welded), the first selected is moved to the second selected. So, as the vertices of the leg are in place, select the vertices of the body first. Then, use the weld vertices tool ().




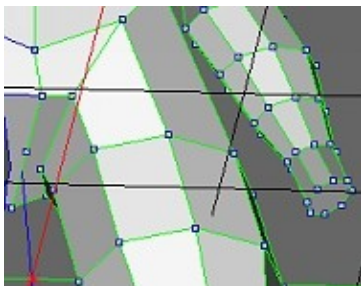
Continue around the left/body:





We will add a face to finish to link the leg and the body. Open the add face tool in the face toolbox (). Select the point of the face in clockwise order. Then press Ok. If the face is not visible, you need to flip it with .

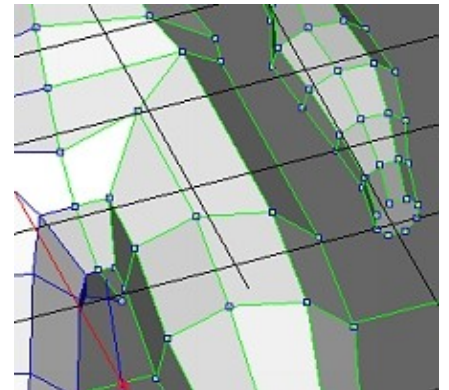


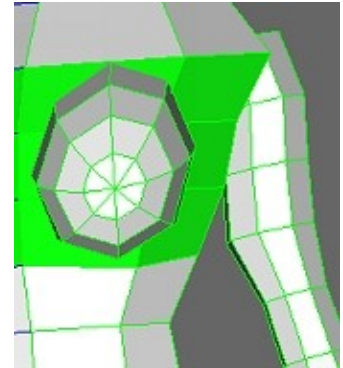
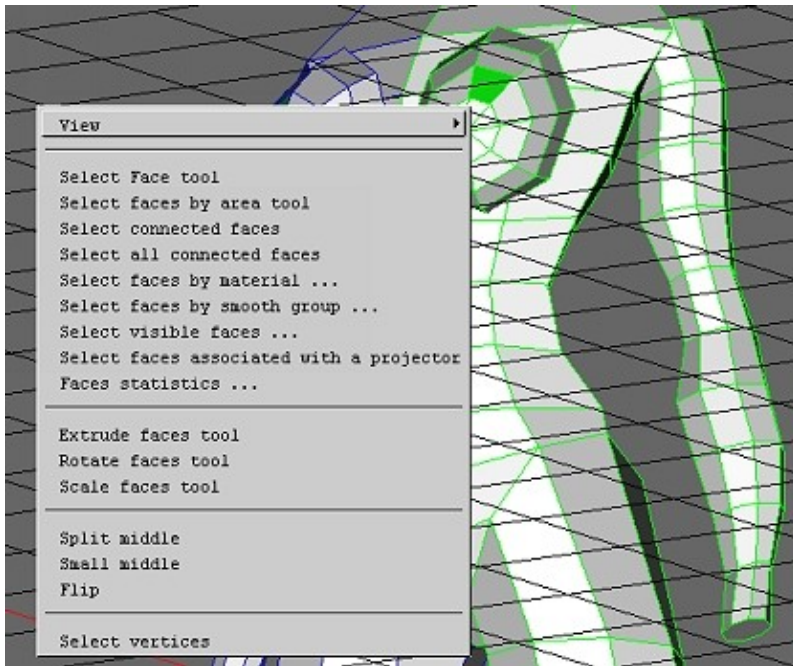
Now, open the edge toolbox ().



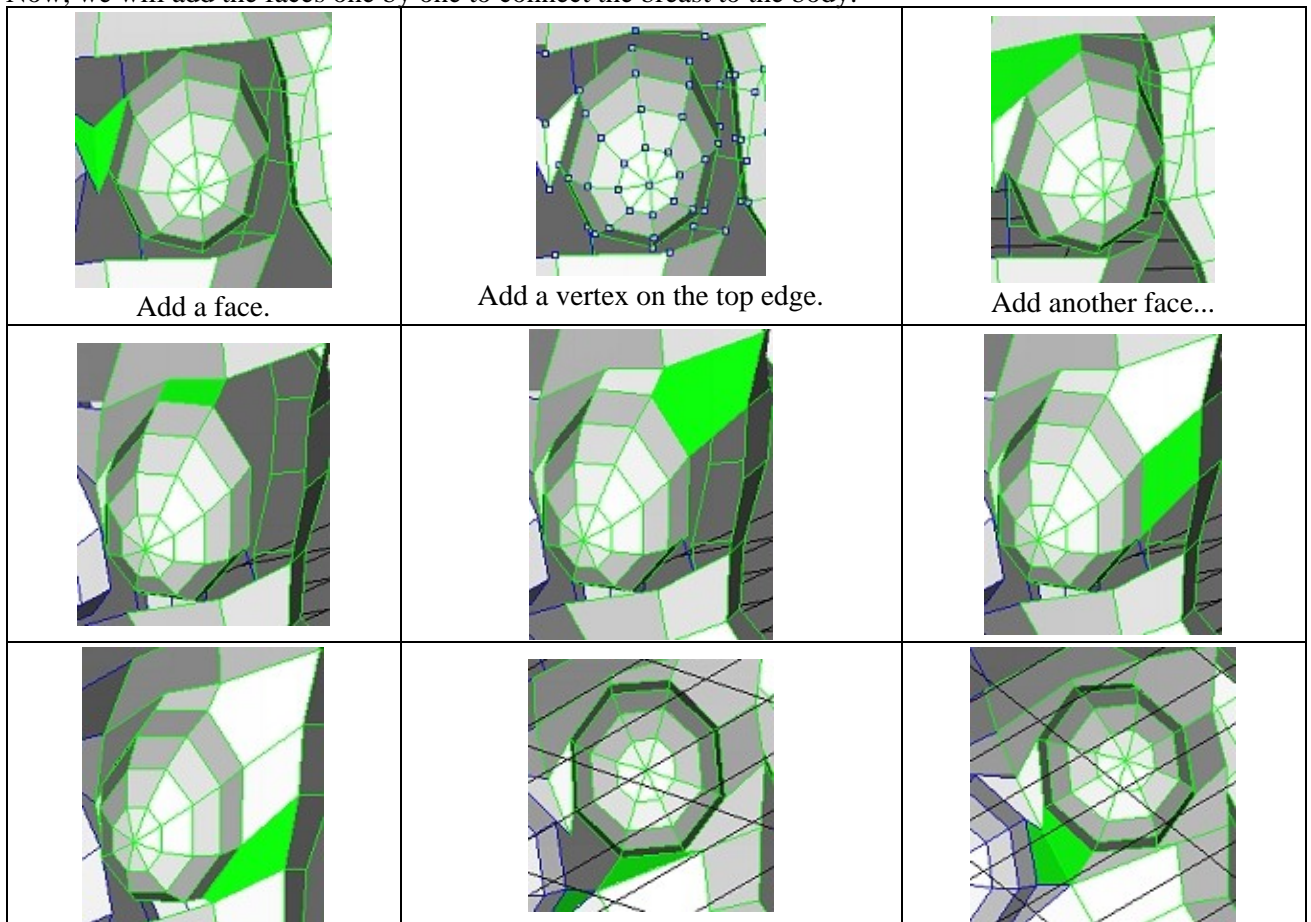
Select the bottom edge of the body, and split it in two with the split edge tool (). Finally, add an edge between the newly created vertex and the top of the leg with the add edge tool (.

When this tool is activated, the user can draw edge between vertices of the same face. When the first vertex is selected, the possible targets are drawn in green. A bit of tweaking of the vertices, and it's done.

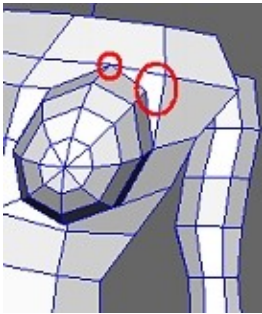




Now, we will add the faces one by one to connect the breast to the body.



Now, tweek a little the vertices, and weld the top ones and add an edge:



Now, we will join the arm to the body.

A 3D view of a character's arm highlighted in green. A selection box is visible around the arm, indicating it has been selected for editing. The character's body is visible in the background.

Select the faces of the arm.

A 3D view of the character's arm, now rotated to a different angle. The arm is still highlighted in green, and the selection box is still present.

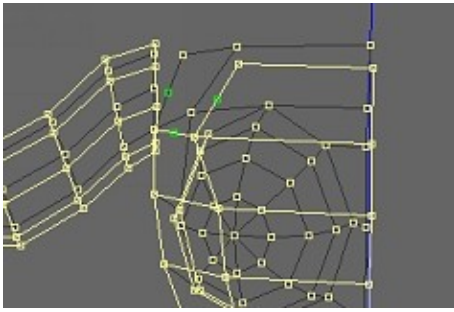
Rotate the arm.

A close-up view of the character's arm, showing a specific face highlighted in green. This face is the one that will be deleted.

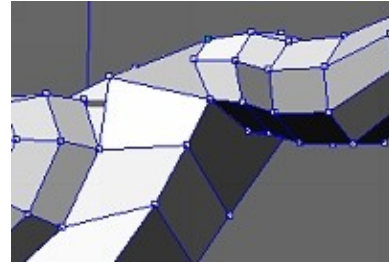
Delete the body face.

A wireframe view of the character's arm, showing the underlying mesh structure. The vertices and edges are visible, and the arm is highlighted in green.

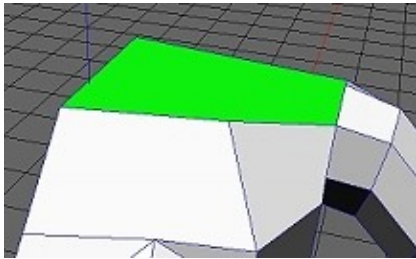
Move, rotate and scale the two last row of vertices of the arm.



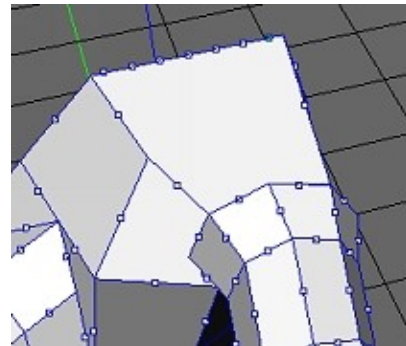
Split the edges of the body in 2.



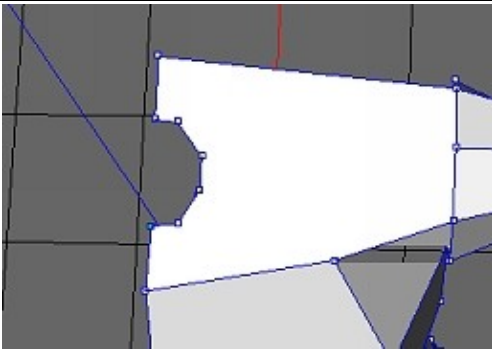
Weld the vertices of the body and the arm.



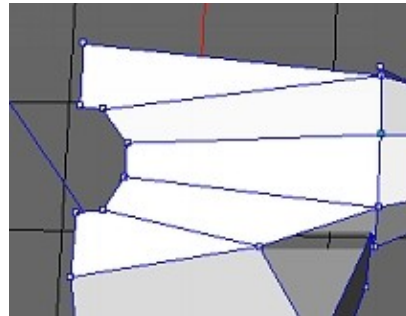
Add a face at the top of the body.



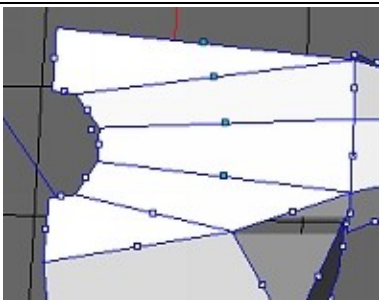
Split the edge in 7 parts to prepare the neck.




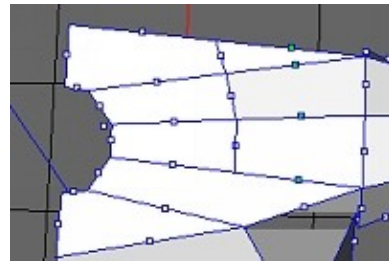
Move the newly created vertices to form the base of the neck.



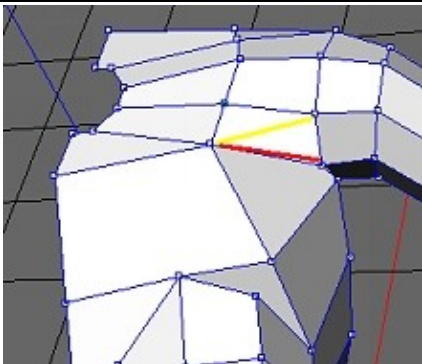
Add Edges bewteen the nech and the shoulder.



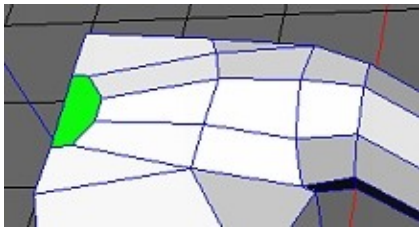
Select the edges, and use the split and connect tool ().



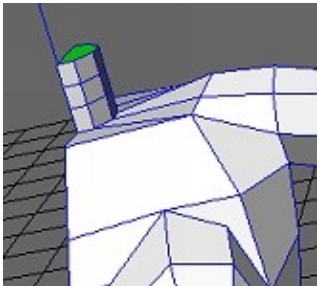
Here the result.




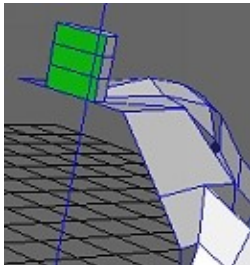
Remove an edge (yellow) and add one (red).



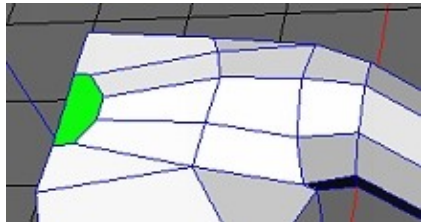
Add a face for the neck.



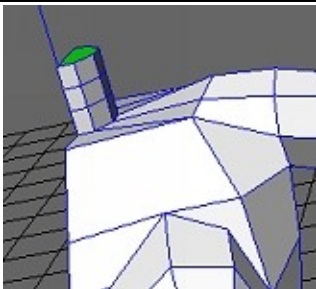
And extrude it 3 times ( in the face toolbox).



The extrusions have created faces inside the neck. Select them and remove.



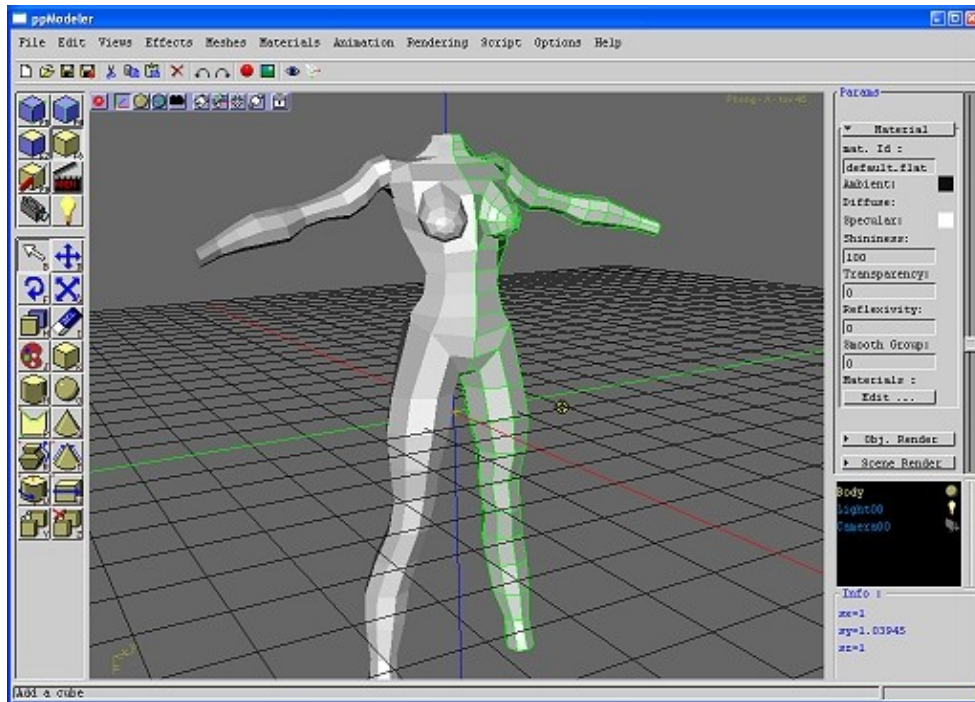
Add a face for the neck.



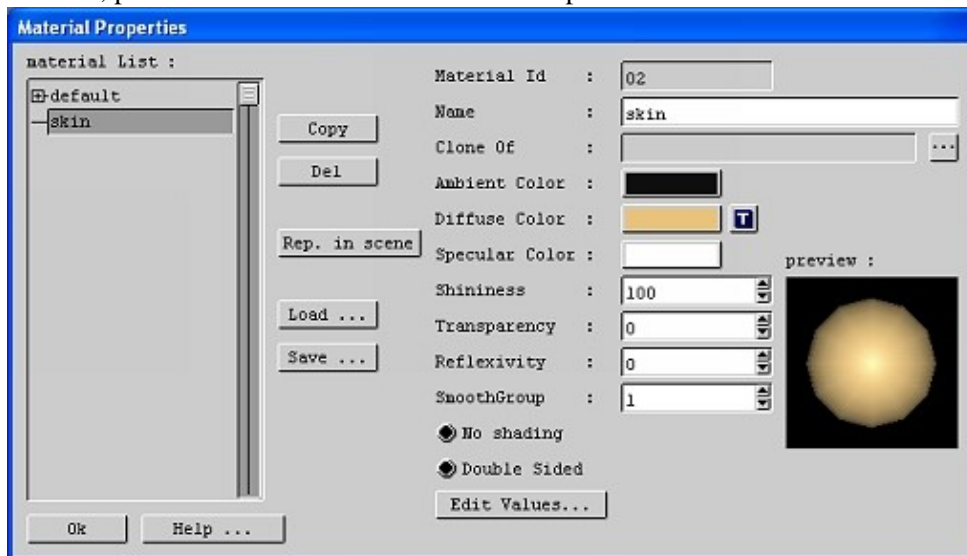
And extrude it 3 times ( in the face toolbox).

Now, edit the vertices of the neck:

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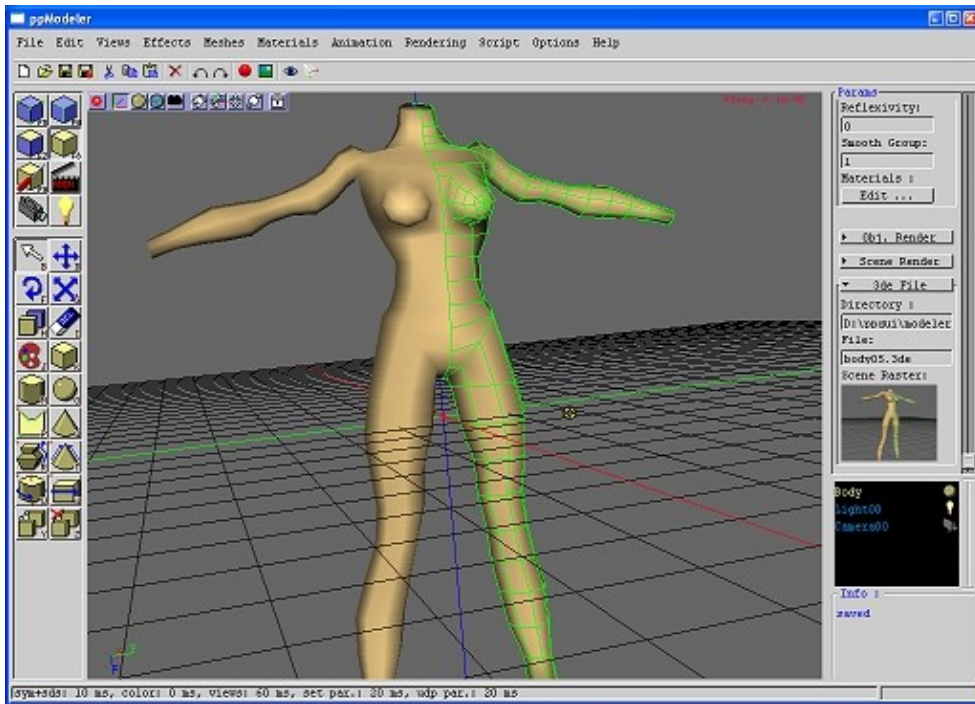


Back in mesh toolbox, press the 'Edit..' button in the material parameter.

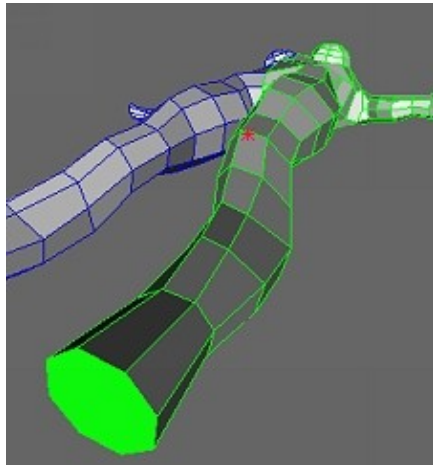


Create a new material, copy the default smooth one. Give it a name, like 'skin'. Then, select a new diffuse color, and press Ok.

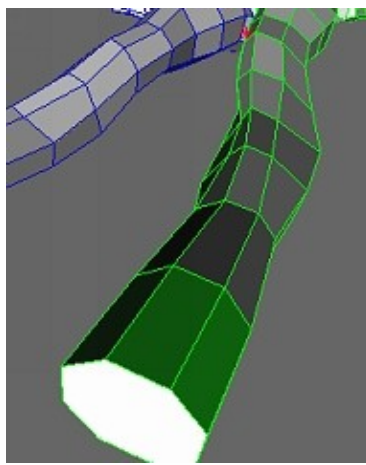
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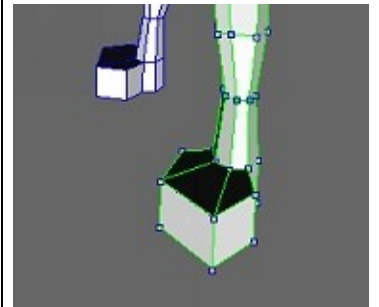
Now, we will add the feet:



Select the bottom face of the leg and extrude it.



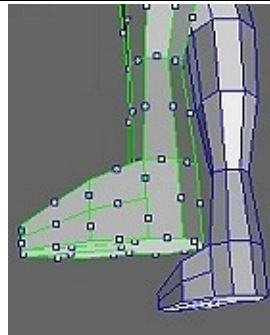
Select the 3 front faces of the leg and extrude them..



Now, select the vertices of the foot, and move them.



Select the vertical edges of the foot, and cut and connect them.

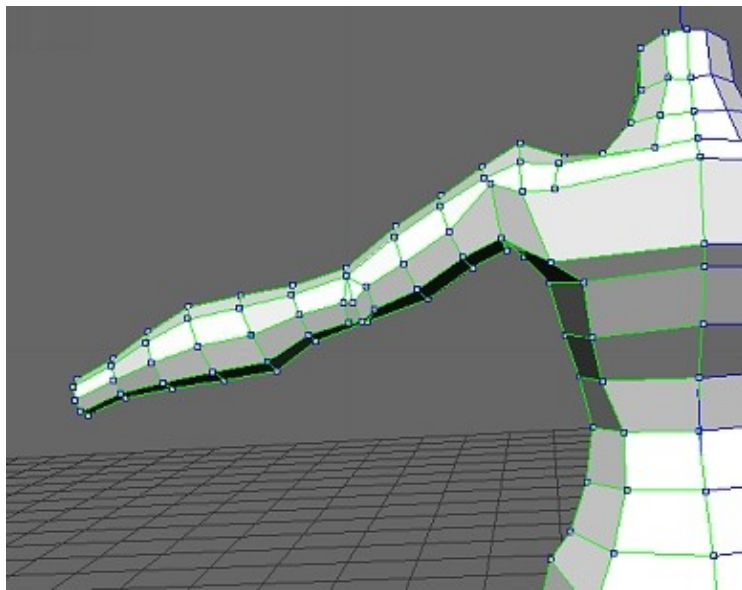
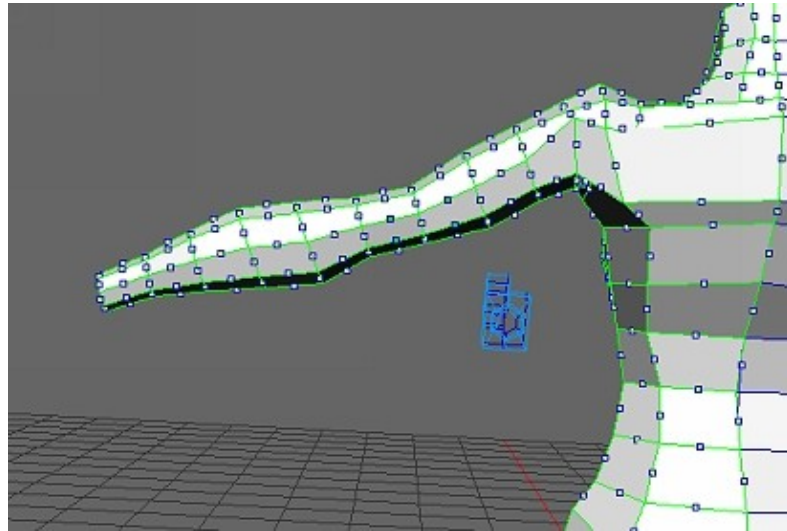


Move the created vertices, use the numerical values to make everything flat. Split the two edges at the top of the foot, connect them and the border.



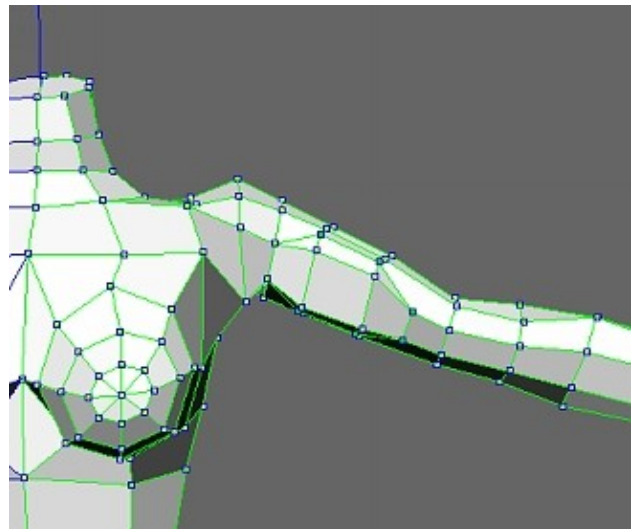
Tweak the vertices position.

Now, we will details... Let's start with the arm.

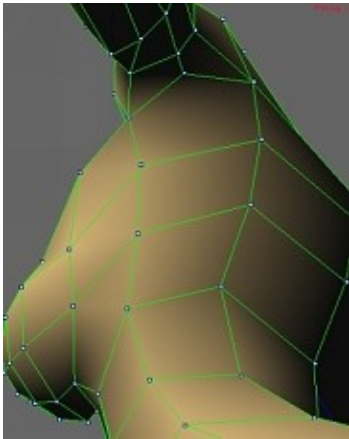


Select the edges of the elbow and cut and connect them. Then, add the joining edges, and tweak the vertices positions.

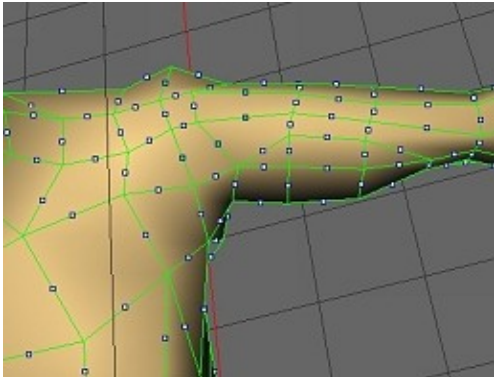
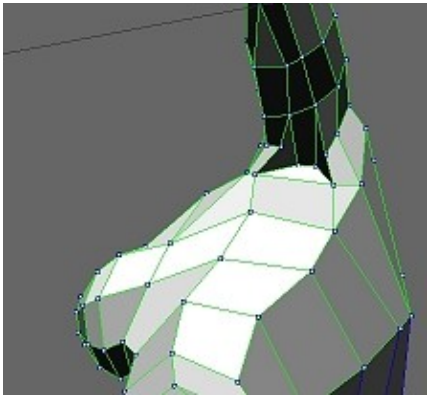
Do the same for the biceps: select the edges, cut and connect, add the 2 back edges and tweak the vertices positions.



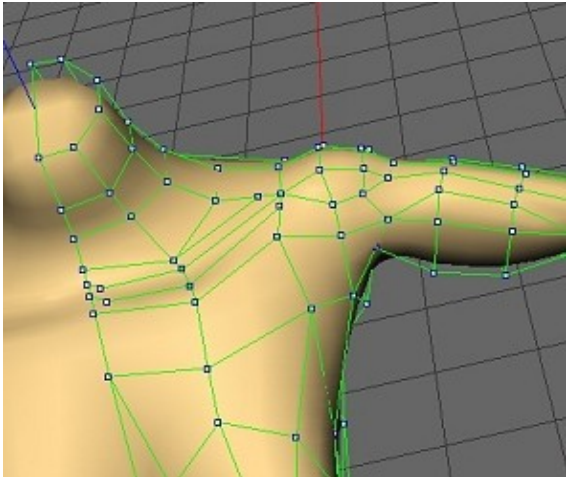
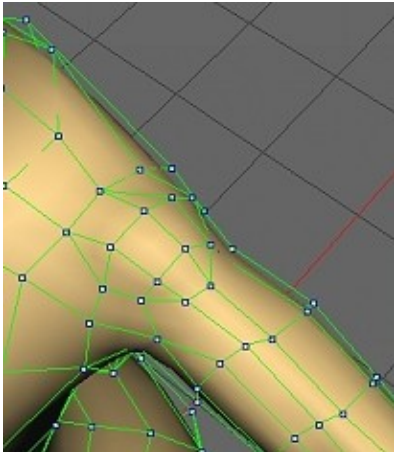
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Before going to the shoulder, we will make the armpit recess.

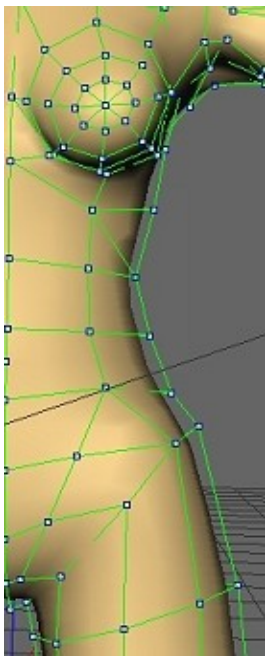
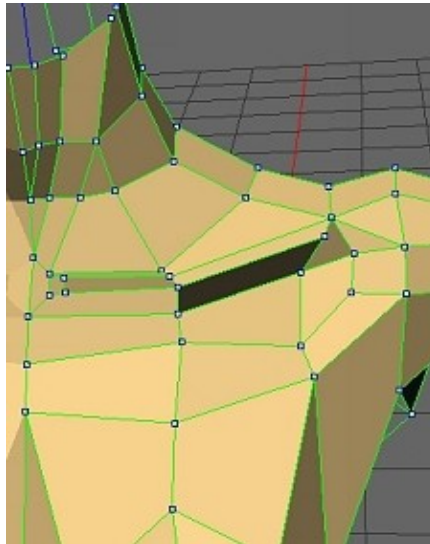


Now, the shoulder.



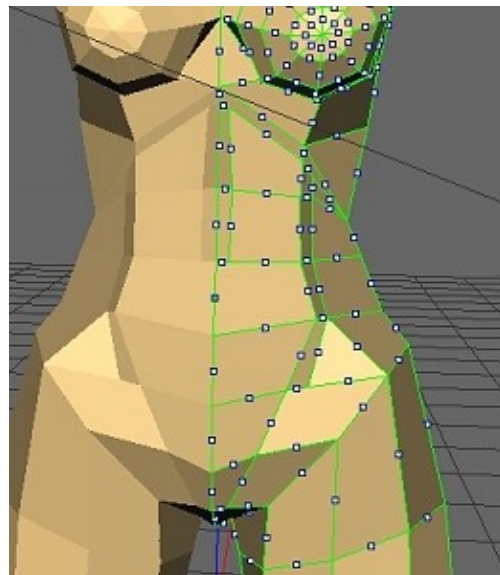
The clavicle

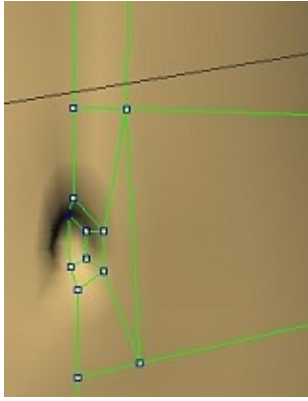
The throat



The breast and the stomach. The vertices are move to mark the end of the torax. A line of edges is added sculpt the hip.

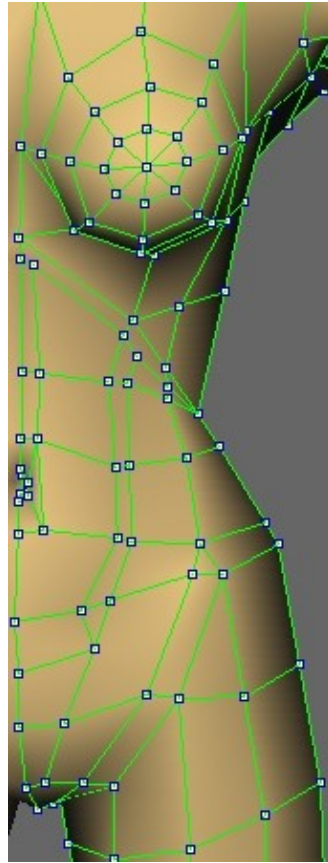
The stomach is detailed, the hip too.





The nostril.

more details.



The nostril.

