

Going 3D with Blender: Modeling a chest



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About the author:

Katja is the German editor of LinuxFocus. She likes Tux, computer graphics, film & photography, travelling and the sea. Her homepage can be found here.



Abstract:

In this article we model a chest with Blender.

Modeling a chest

Look at the image above and you see the chest we are going to create. For that we open the stage environment that we built in my first article about Blender. If you haven't read the article and built the stage environment yourself you should have a look at [Going 3D with Blender: Very first steps first](#) before you proceed with this article. With this stage environment we have kind of a default setting with lights where we can place the chest in.

By the way the current version of Blender as of this writing is now 2.31a. The interface of Blender has changed a lot but after working with it for a little while you will find that the changes are really for good. Congratulations and thanks to the Blender team for their excellent job! :)

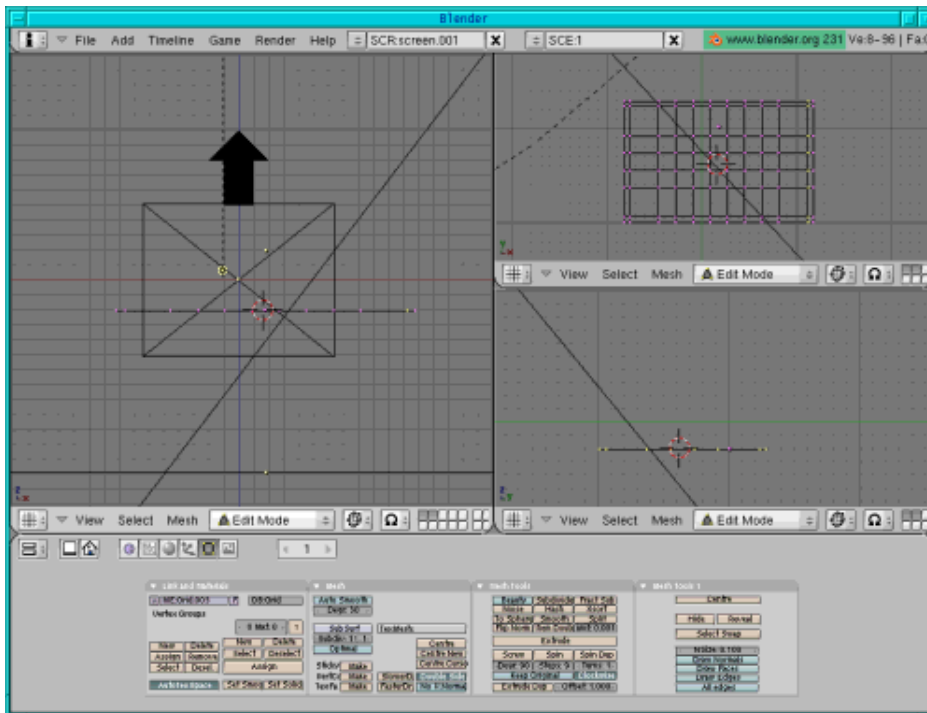
The shapes

If you look at the chest you can easily see that the two main shapes are simply a box and a cylinder that

is cut in half. The difficulty lies in giving it the impression of thickness. The method I will describe heavily uses extrusion. If you have any other suggestions on how to model the chest let me know!

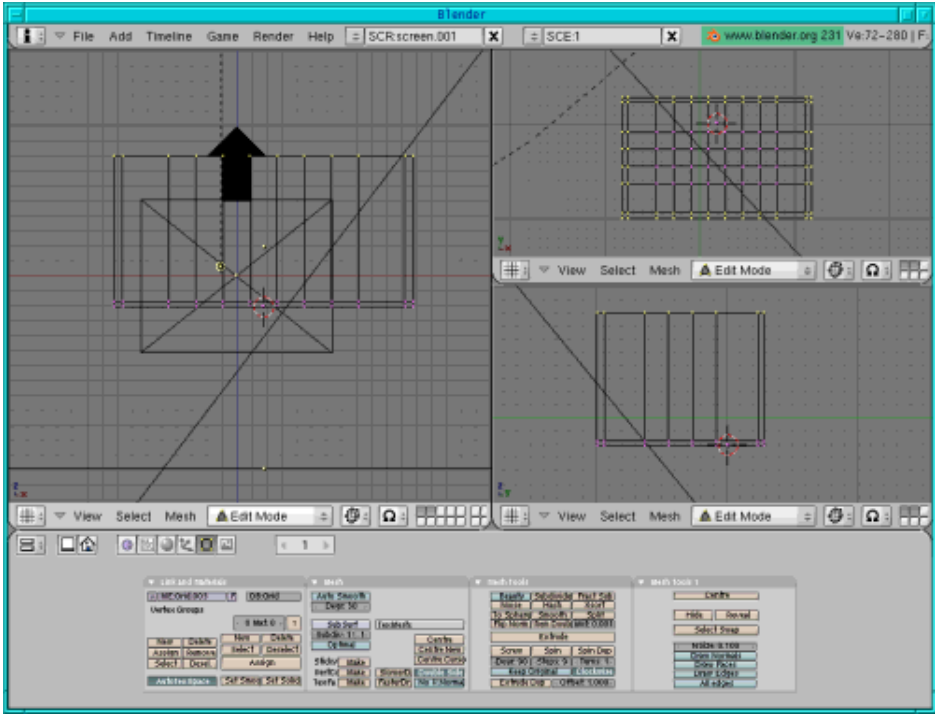
The chest box

For the box add a grid with xres=12 and yres=8 (Space-->Add-->Mesh-->Grid with xres=12 and yres=8) in top view (in layer 2). In the second inside rectangle select the single lines and move them out close to the outer rectangle: Start with the second line from the left and select it. Next press g and then move it with the arrow key to the left. Do the same with the other three second lines of the rectangle.



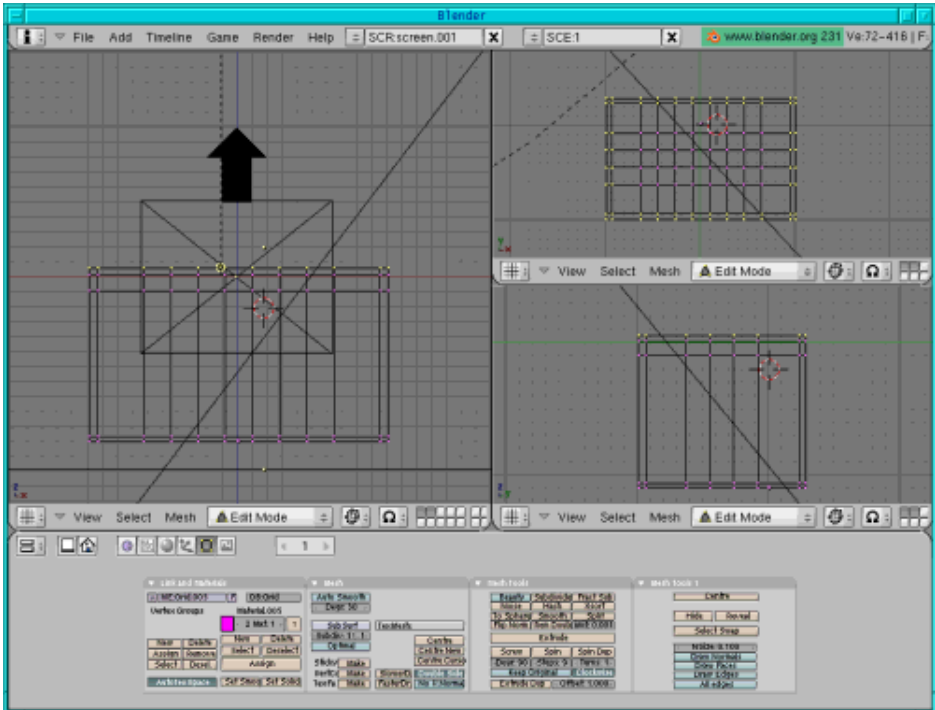
Now select everything (press a twice) and in front view extrude a bit (press e, enter, arrow key, enter) so that you get a board.

In top view select the two outer rectangles (deselect the points inside by pressing b and the right mouse button) and in front view extrude them and move them up (press e, enter, arrow key, enter).



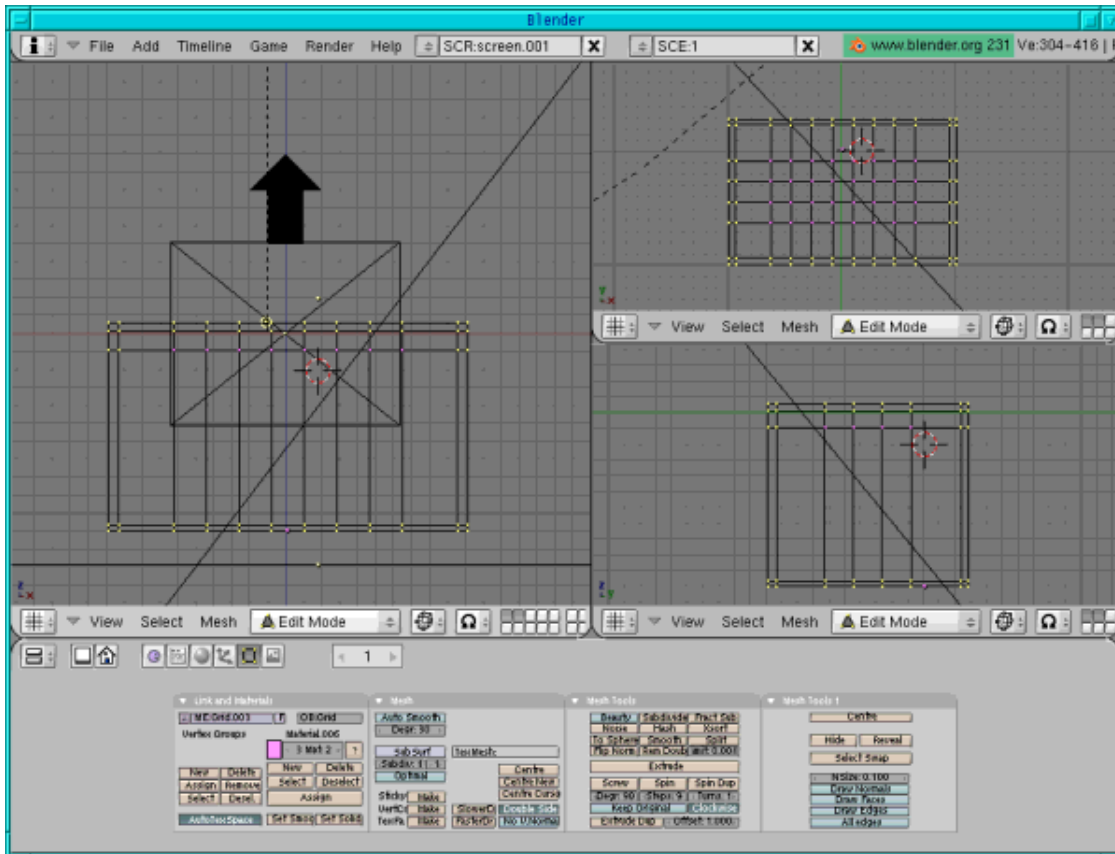
A simple model of the box is ready.

Select the top line in front view (if it isn't selected anymore) and extrude a bit (a bit more than the distance between the two lines on the bottom), then press e again and extrude again a bit (as much as the distance at the bottom).



Assign the whole box a pink colour (go to the material buttons, press "add new" and move the colour sliders to R=1,G=0,B=1), then select the inside of the box (that's everything except the four lines on the corners in top view and the bottom line in front view) and assign a light pink colour (in the edit buttons press "New", "Select", then go to the material buttons, press "add new" and move the colour sliders to R=1,G=0.6,B=1, go back to the edit buttons and press "Assign").

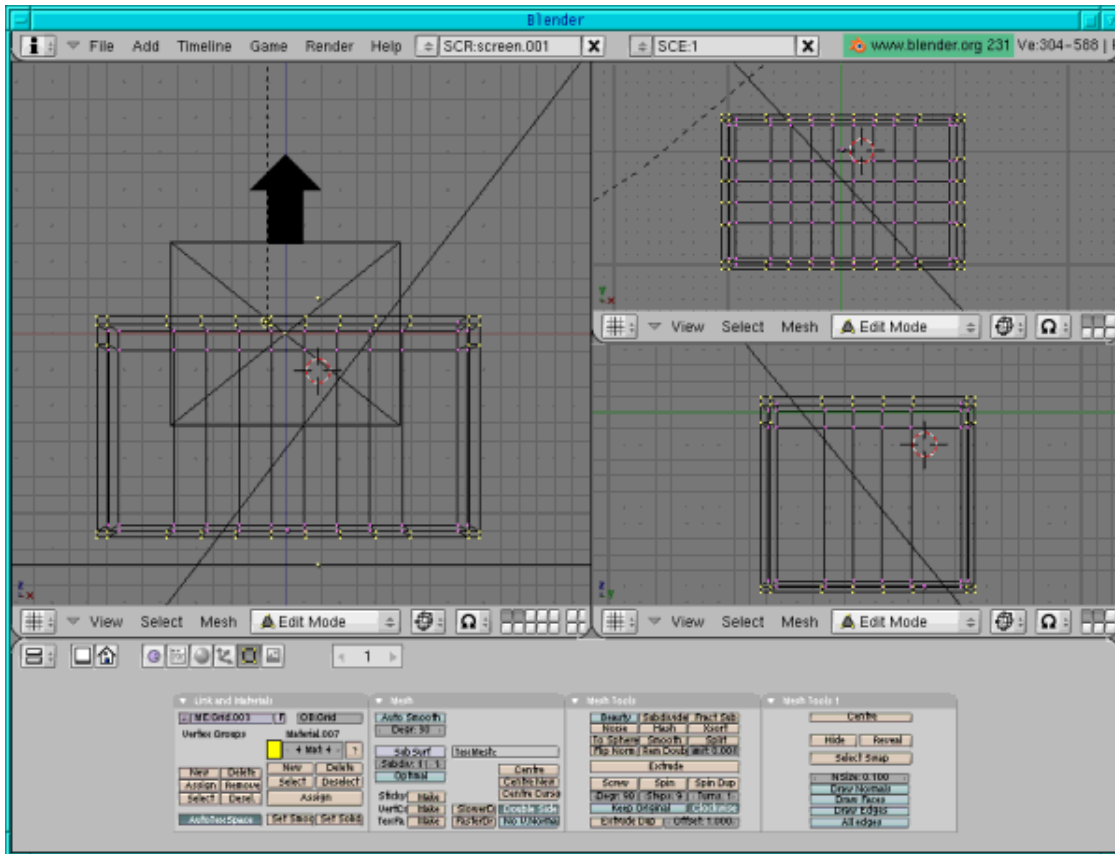
Now select all points (press a twice), then deselect (press b and the right mouse button) the inner points in top, side and front view each (see figure below).



Assign a yellow colour (in the edit buttons press "New", "Select", then go to the material buttons, press "add new" and move the colour sliders to R=1,G=0.1,B=0, go back to the edit buttons and press "Assign").

In top view extrude and scale up (press e, enter, s, arrow key, enter).

Assign the yellow colour again (simply press "Assign" again).



The box is ready.

The handles

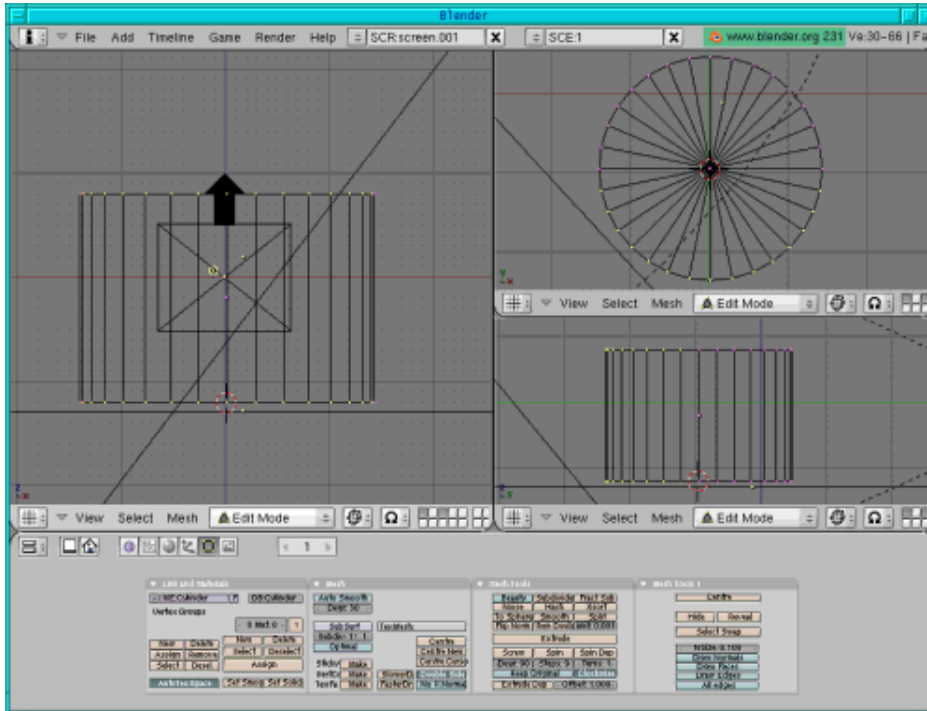
On the two smaller sides we will add some handles: In front view hit Space, Add-->Mesh-->UV Sphere with the Segments and Rings at 32 (which usually is the default value), scale it down (press s) and flatten the sphere a bit (press s and by holding the middle mouse button down restrain the scaling down to the thickness). Move it so that it is on the corner of the side in front view and in the middle of the box in side view. Go to the edit buttons and press smooth, give it a light pink colour (R=1,G=0.6, B=1). Copy it (shift + d) and move (press g) it to the other side.

For the ring add a mesh circle (hit Space, Add-->Mesh-->Circle (Vertices=32)) in side view, then scale it down, then in side view (in edit mode) press e and then s and scale it up for the right thickness. Select all points (press a twice) and now extrude (press e) and scale (press e) in front view. Give it a colour. In the edit buttons menu press "Set Smooth". Then copy it (shift + d) and move (press g) it to the other side.

In side view copy (shift +d) the squeezed sphere, scale it down (press s). Then in front view move it out of the big sphere to make it visible. Copy it (shift +d) and move (press g) it to the other side.

The lid

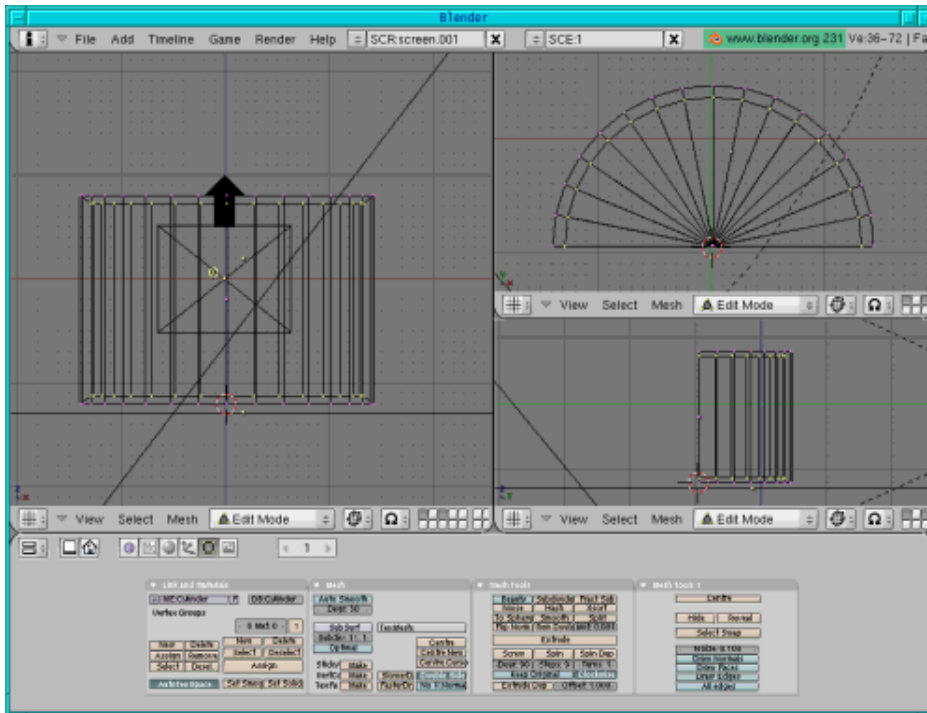
For the lid add a cylinder (hit Space, -->Add-->Mesh-->Cylinder, let the vertices have a value of 32) in top view (in the third layer). Press a to deselect all points, then press b and mark the bottom half.



Next press x and delete the vertices.

Press a to select all points, then still in top view press e (to extrude), enter and s to scale everything a bit down.

Now press g and move the inner half-cylinder a bit down so that its bottom line is exactly on the bottom line of the outer half-cylinder.



Leave the inner half-cylinder still selected. Give the "two" half-cylinders a pink colour (go to the material/shading buttons, press "add new" and move the colour sliders to R=1, G=0, B=1). Now go to the edit buttons and assign a new colour to the inside of the lid as it should be of a lighter pink colour: Press "New", "Select", then go to the material buttons and assign the new light pink colour with "Add new", then colour sliders to R=1, G=0.6, B=1, then back to the edit buttons and press "Assign". Now make a render (F12) to see if everything is correct.

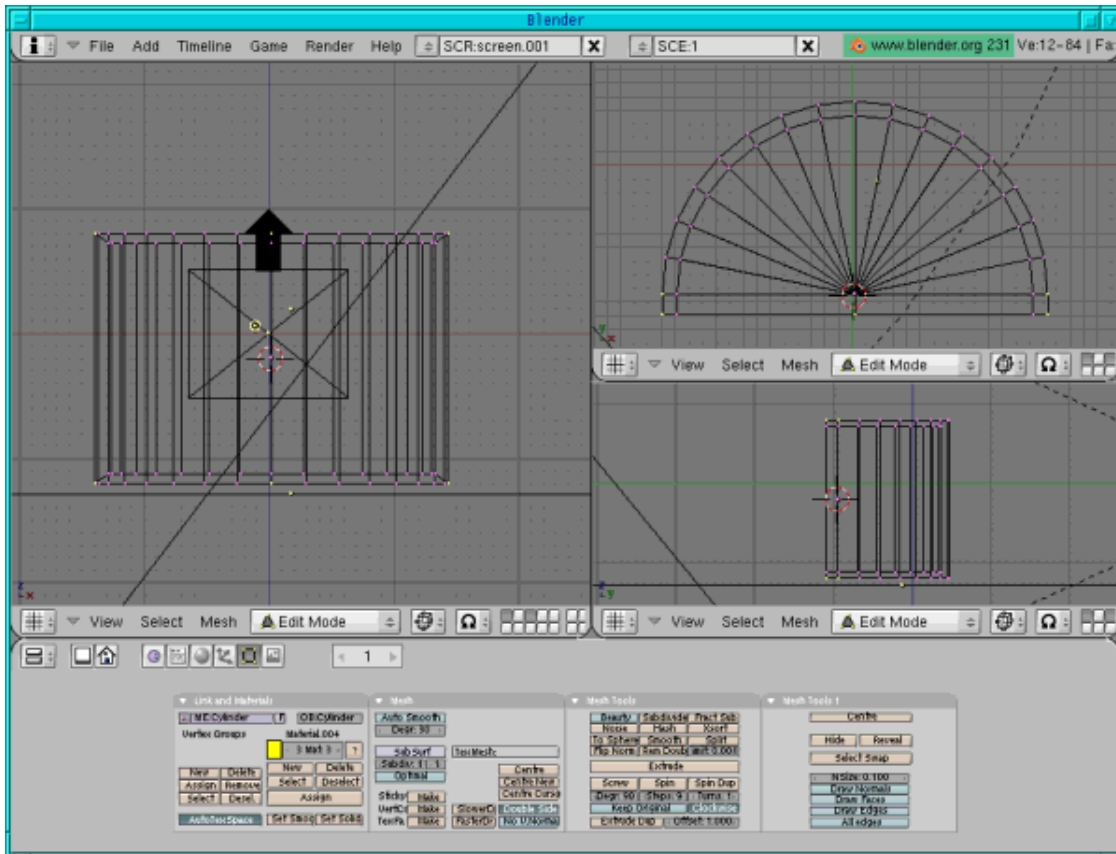
A simple model of our lid is ready now.

The upper edge of the lid should be yellow. So in top view select the bottom line (press a to deselect all points, then b and mark the line) and assign a yellow colour: like before go to the editing buttons, press "New", "select", go to the material buttons, press "Add new" and move the colour sliders to R=1, G=1, B=0, then go back to the editing buttons and press "assign".

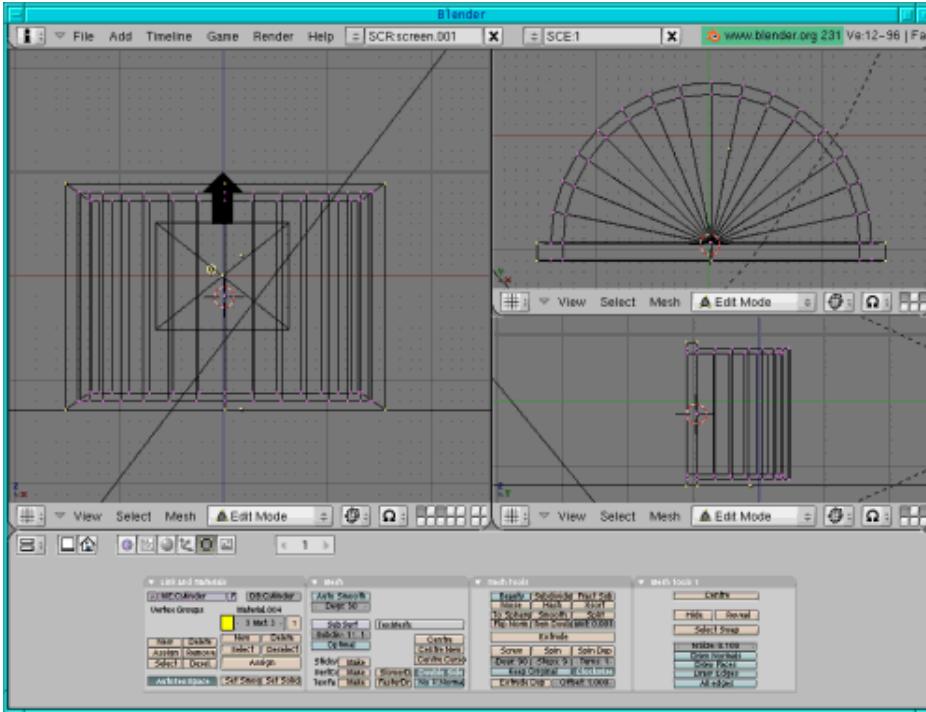
Now for the thickness of the rectangle of the lid:

Select the bottom line in top view (press b and mark the line) if it isn't still selected.

In top view press e, enter, arrow key to move the points a bit down, enter. Still in top view select the two outer points on the two sides plus all inner points in the middle of the rectangle, then in front view deselect the two inner points in the middle (see figure below).

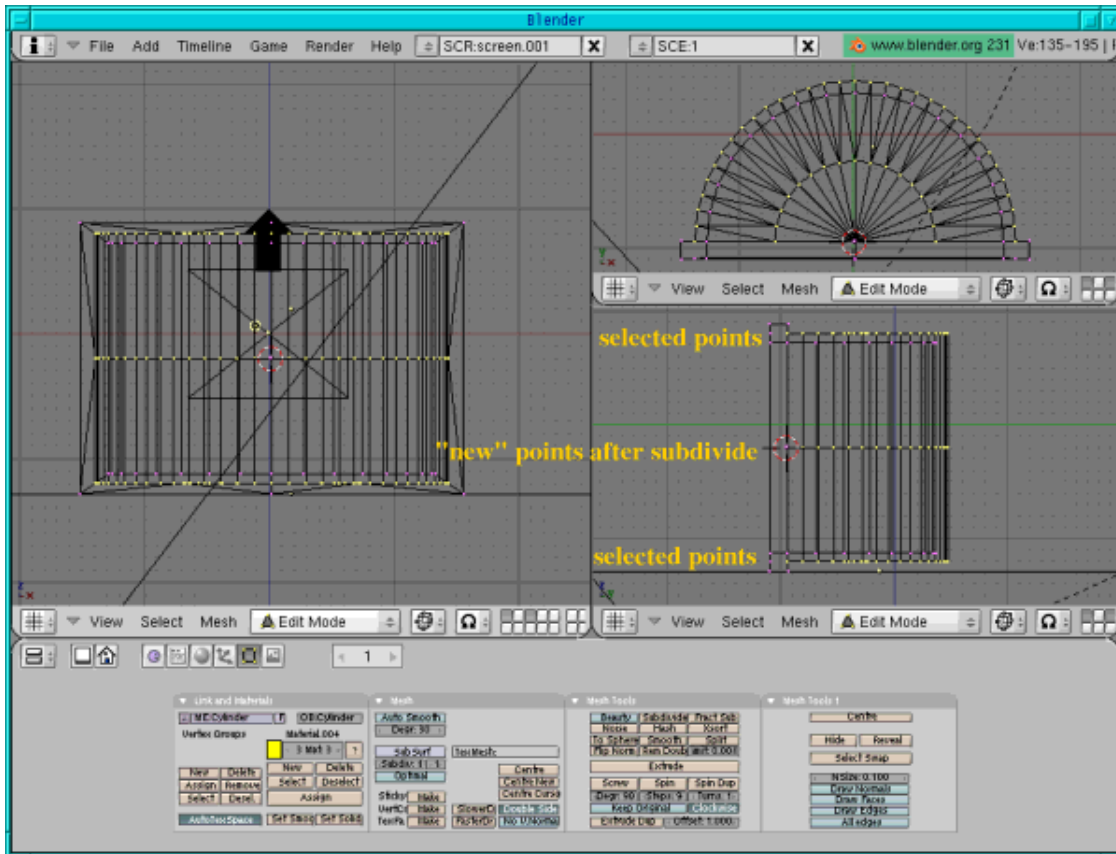


In top view press e ,enter, s, arrow key, enter (to scale up to the sides) and the thickness of the rectangle is ready.



Now for the thickness of the arcs:

In side view select the outer arc on bottom and top, then press "subdivide" (you find the button in the edit buttons under "Mesh tools", next to "Beauty" and "Fractal Subdivide").

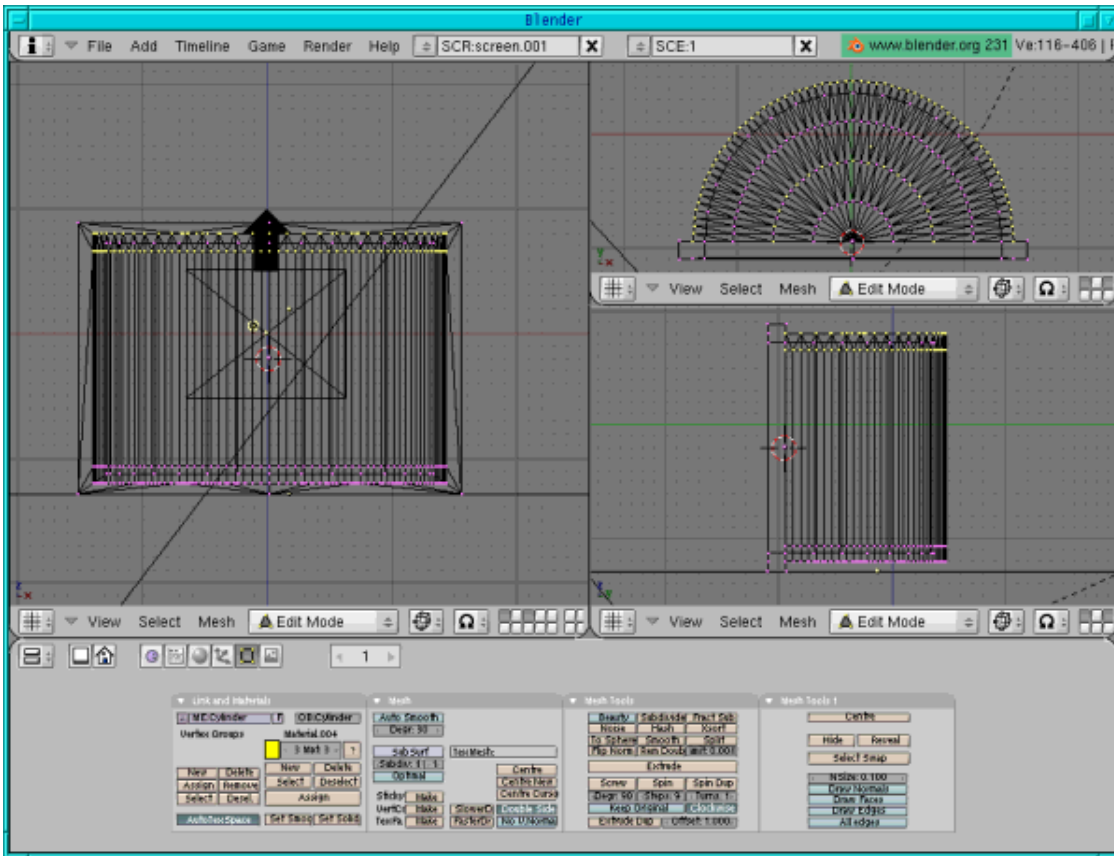


As we need the thickness on both sides we need to subdivide again: in side view deselect (press b and mark with the mouse, then right mouse click) the top line of the arc and press subdivide again.

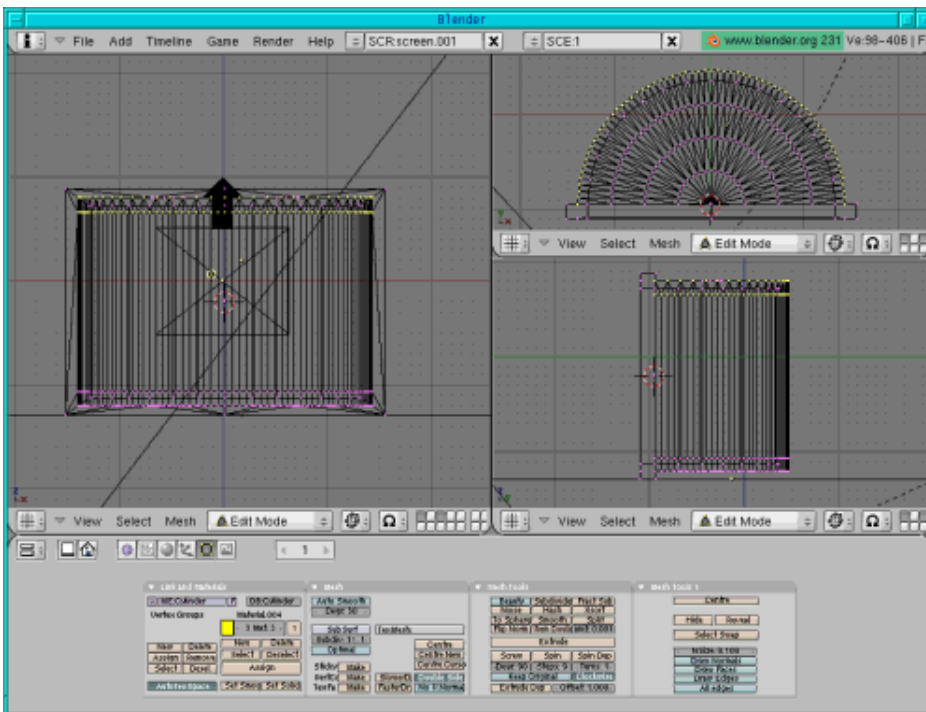
In side view deselect the top and bottom lines that are selected, press g and arrow key to move the arc line downwards, then press enter to finish the operation.

Now select the arc points that we obtained through our first subdivision, press g and arrow key to move this arc line upwards, then enter.

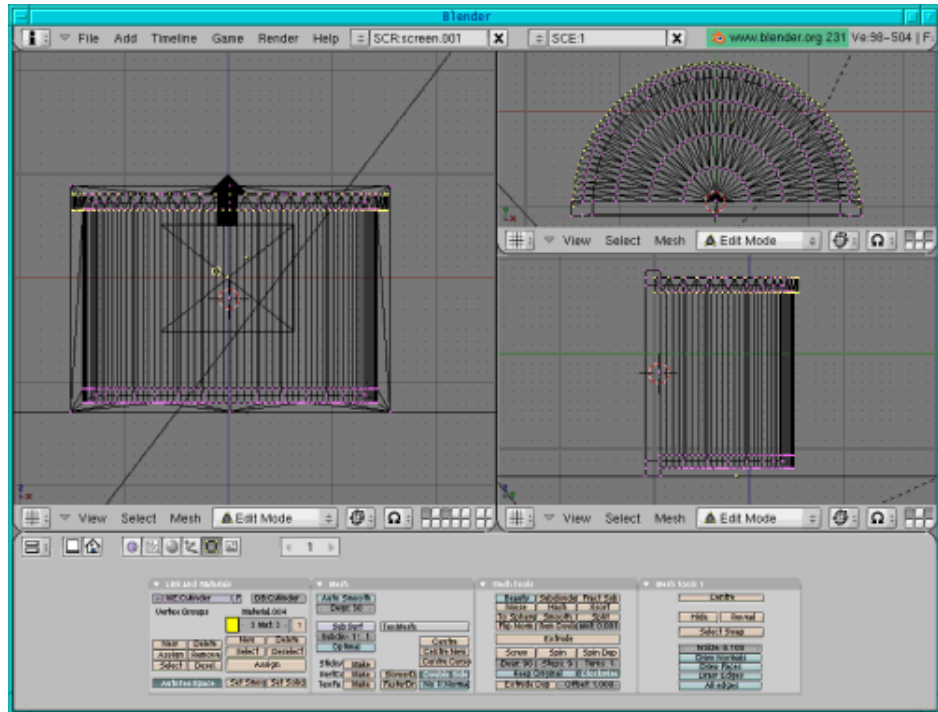
In side view on top select the first and third line (see figure below, don't select the point that belongs to the rectangle).



In top view deselect the inner circle and inner points.



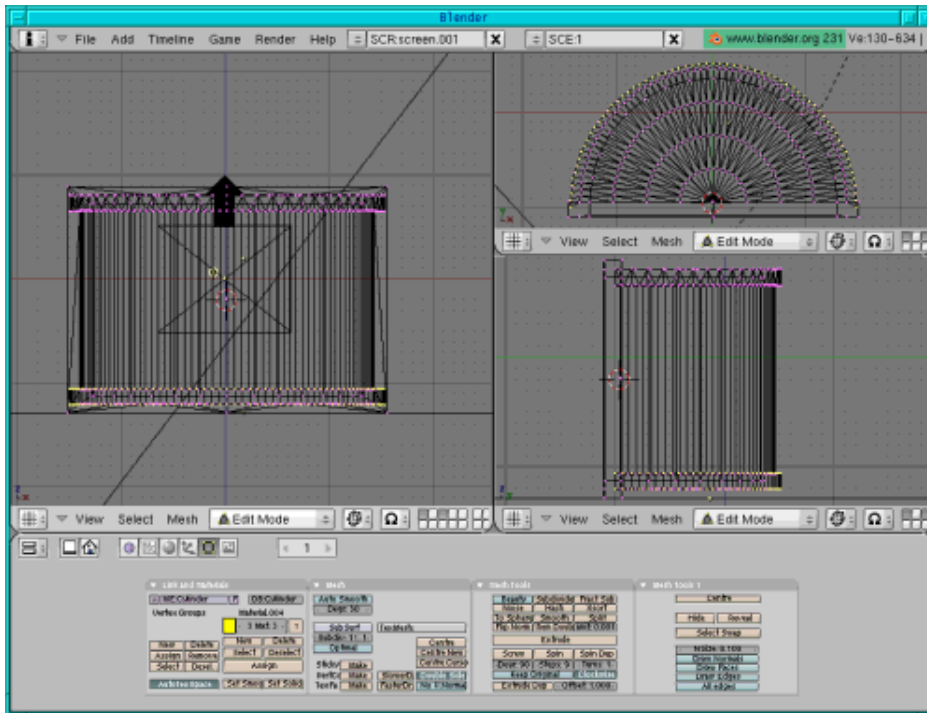
In top view press e,enter, s, arrow key (to scale the arc up), enter. In the edit buttons press "Assign" to



assign the yellow colour.

Now the other side:

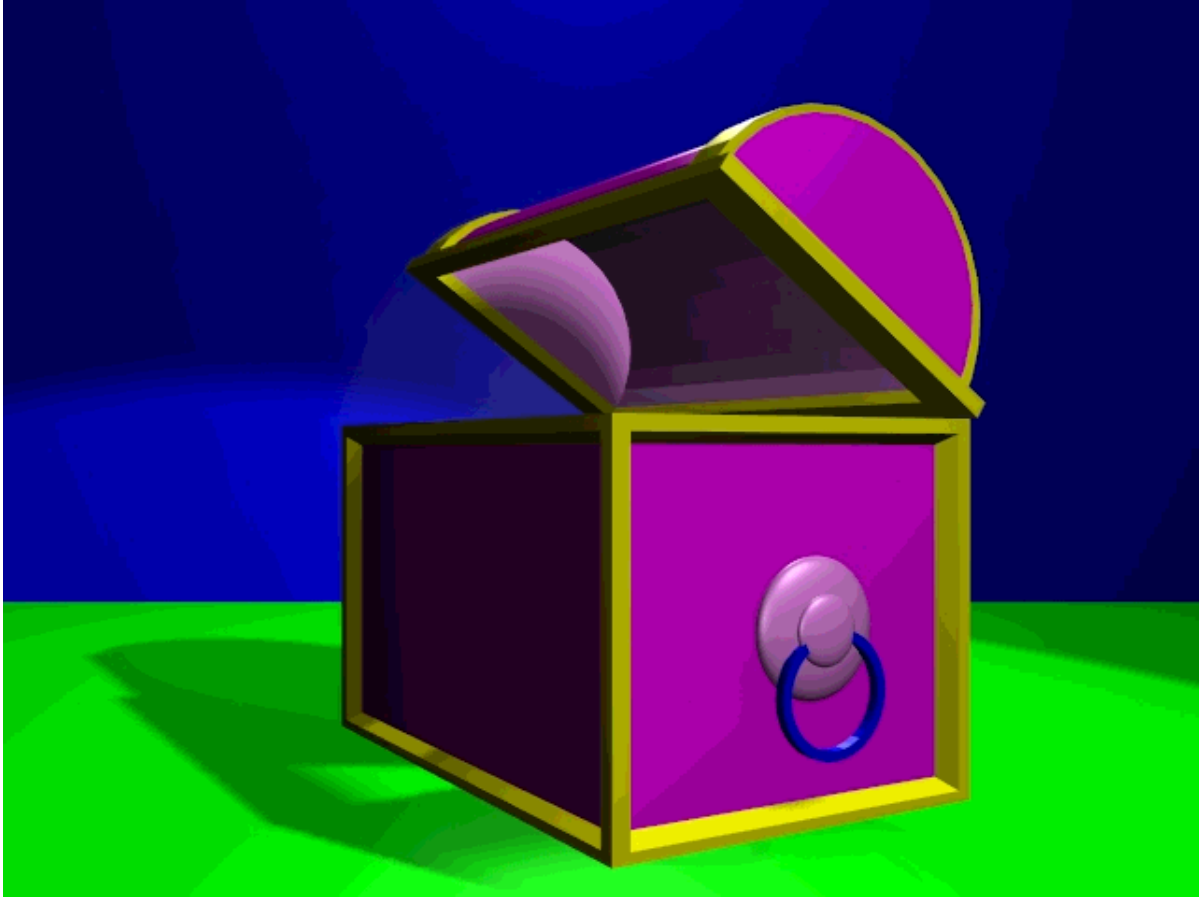
In side view select the first and third line on the bottom. In top view deselect the inner circles and inner points. Still in top view press e, enter, s, arrow key (to scale the arc up) and enter when you have exactly reached the other arc points. In the edit buttons press "Assign" to assign the yellow colour.

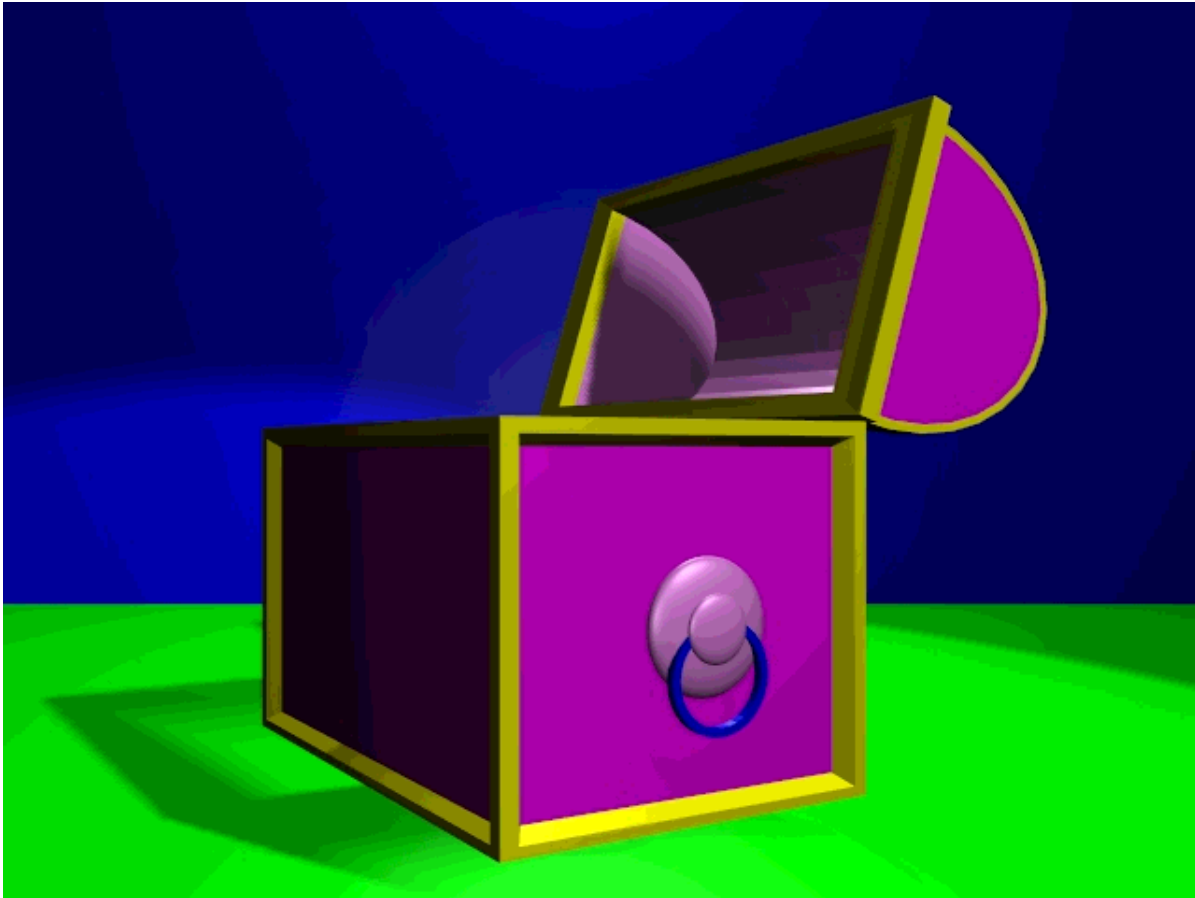


The lid is ready!

Putting box and lid together

The lid is in layer 3 and the box in layer 2. Make both layers visible, turn the lid 90 degrees, then move the two over each other and scale them. That's it.





Have fun and happy blending! :)

References

- The Official Blender site (here you get the latest information about the further development of Blender, you can download it, there are tutorials ..): <http://www.blender.org>
 - Blender cafe (in English and French):
<http://www.linuxgraphic.org/section3d/blender/pages/index-ang.php>
 - Elysiun site: a Blender community site:<http://www.elysiun.com>
 - General articles about 3D graphics and animation: <http://webreference.com/3d/>
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