

SR3D Tutorial (II)

Groups, animations, Bezier generator

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Groups

Groups are not very difficult and complicated, but can be very useful. If you're building a model, you can use the groups function to organize all the parts of your model in groups. For example, if you're building a house, you can create the following structure:

- Model
 - House
 - Walls
 - Interior
 - Room 1
 - Room 2
 - Etc.
 - Other stuff
 - Garden
 - Plants
 - Pavement

As you can see in the example, everything is organized by its type or position. But of course, you can organize everything the way you like it. And, using the groups function isn't a must.

You can find the groups function in the Groups tab in the toolbox. As you'll see, there is always 1 group, the root group called "Model". That one can't be changed in any way. Adding subgroups is very simple: right click on the group in which you want to create a subgroup and choose "New Child".

To build in a certain group, just select the group you want to build in and start building.

If you have already built something and you want to organize it, first create all the groups in the groups tab. After that, select all the pieces that belong to the first group (select multiple pieces by holding CTRL) and then press the button "Set to Selection" somewhere at the bottom of the Groups window. To check if it worked, you can hover over the name of the group and it will outline all the pieces that belong to that group.

Using the groups function is not only useful for organizing your model, it also has other benefits. You can select a whole group at once, if you need to replace or recolor it, instead of selecting every part. You can copy groups, for quick building. You can make the unselected groups invisible to show only the selected group. And you can (only in the paid version) export a group to a separate file.

Animations

This is a very special feature of SR3D Builder. It is a one of a kind feature compared to other LEGO® CAD software. It enables you to control your model by pressing buttons or

using sliders. This is especially useful for Technic models. This function is partially free, but it has more advanced techniques in the paid version.

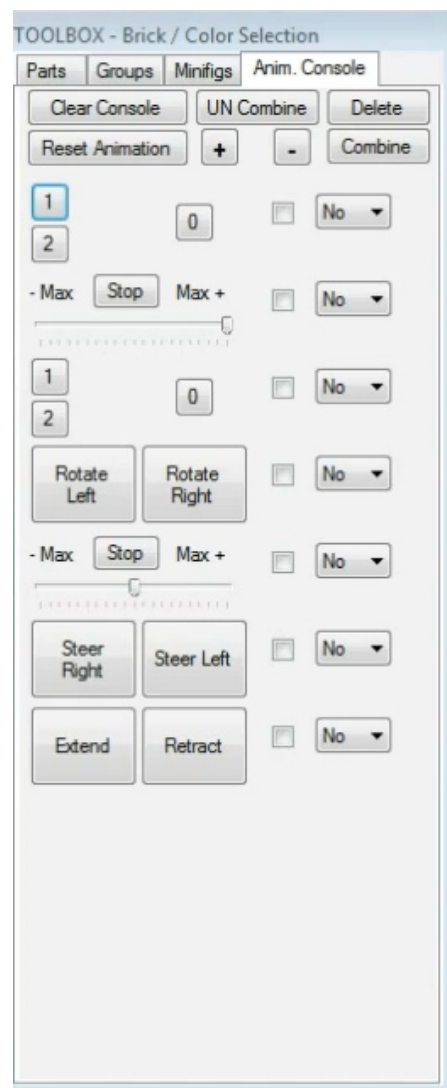
First, you need to know there are 2 "types" of animation in SR3D Builder:

1- The Animation Mode This is the button with gears at the top of the main screen. This is a simple mode to view and test you functions while building your model.



2- The Animation Console

This is a control center where you can add all your functions and control them using buttons and sliders. This is only in the paid version.



The animation mode is very simple to use. Just click the button to enter the animation mode and click an axle or gear you want to animate. Then drag the mouse left or right while holding the left mouse button.

The animation console is a bit more complex, but very cool to use when you've added all the functions in your model. To add a new function, enter the animation mode and click the gear or axle you want to add. Now, press the right mouse and choose "Add to animator console". A window will appear in which you can configure the controller.

There are 3 main types:

1- Slider

This is a sliding control: the further to the left or the right, the faster it will turn to the left or the right.

2- Double Button (state)

This has 2 buttons, press the left one and it will keep going to the left, press the right one and it will keep going to the right

3- Double Button (pulse)

This is the same as the previous one, except that it won't turn forever, it will stop when you release the button.

You can also add a driving ring to the animation console. Do this by placing your driving ring and your lever in neutral positions. Then start the animation on the lever and then add it to the animation console. This will add numbered buttons (the amount depends on the amount of rings). Now, you can switch which function must be used by clicking those buttons. Notice that (if you've done it right) that the lever will also move to the right position.

At the moment, the animation in SR3D Builder already supports complex gear combinations, fake piston engines, pneumatic, actuators and more (some are paid-only and some are still beta). However, do note that there will be things that won't work (perfectly), because the software is still under development.

To get a good view of what the animation console is capable of, take a look at this video: <http://youtu.be/ln4xoQq6JQg>

TIP: when looking at an animation (either by hand or in the console) press T on your keyboard to make all non-functioning parts transparent. It looks very nice!

Bezier generator

The Bezier generator allows you to add flexible parts such as hoses and flex-axles. Personally I don't like it too much, because it can only create (as the name suggests) Bezier shapes (well, there are exceptions of course). But it does the job very well nevertheless.

To add a flexible part, right click at the point where the part should start. For example, this can be a hole in a beam, or in a pin. Then select "Bezier generator", choose your flexible part type and then choose the length of the part. Then start dragging the mouse while holding the left mouse button to position your part. It will automatically snap into place like with normal parts. You can also raise and lower the end the normal way. When you're done, just press enter.

SR3D Builder also has a belt generator. The belts generated using this feature can also be used to animate the model, just like belts are used in real models to connect two axles. Adding a belt is very simple. Just right-click and choose "Belt Generator" on the first part to start the belt (for example a thin bush) and right click (and choose belt generator) again on the part to end the belt.

Although this is far easier than the well-known LSynth, it isn't very useful for making building instructions, since LPub doesn't support this type of flexible parts. And when you need to render the file in LDview, POV-Ray or any other software, it's better to export the file as a .DAT file to make sure your flexible parts will show up (this doesn't work in LPub). Go to File>Basic .DAT file export.

Next time I will cover the instruction miner and I will detail some of the smaller functions of SR3D Builder. For more information about SR3D Builder, visit <http://sr3dbuilder.altervista.org/>
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