Blender Import SVG file

Blender Software · https://djcs.art/docs/blender-import-svg-file/

This is not an official description of Blender or Inkscape, but a description of the features of the software used in our business.

The SVG file used for Blender is created as described in the article CREATE SVG FILE FOR SAND-CARVING OR CNC OR 3D MODEL.

In the context of this article and our business model, the application of the SVG files make up a product variation. This could be customization of the product with names or dates or business titles. The customization could be different patterns. We will discuss this variation in regard to deep-etched glass as seen in our shop. Some changes could be applied to make it work for 3D printer models.

Modify SVG for 3D Model

This technique prepares a simple SVG file for Blender. The complexity of the SVG will determine how much effort should be put into this technique. You may prefer the process to import directly into Blender (here).

The SVG objects need a characteristic that makes them appear as etched glass. So definitely we want to combine all of the objects into a single object before we start assigning a glass material and moving them around in the Blender scene.

As shown in the previous technique, all of this could be done with repetitive steps. Instead, we'll use a simple script to do the majority of the work preparing the SVG objects into a single object.

Open the Layer panel to make this process a bit easier (Shift+CNTR+L).

This example has three paths for each object. For this file to be compatible with Blender we need to combine all of the paths into a single path.

[3D Modeling SVG File]

3D Modeling SVG File

Each path needs to be moved to the same layer. Notice through the slide show on how the drag-and-drop is performed to move all paths to a single layer.

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All of the objects must be selected. This can be done in the Layer panel by selecting each path in the layer or using the cursor to select all objects by drawing a box around them.

The color of the objects will change to the same color as the object at the bottom of the list. You can change the color in the Fill and Stoke settings to black to be consistent.

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Now you are ready to import the SVG file into Blender. The following section includes the steps for importing into Blender (see here) as they are the same for both techniques.

Import SVG Directly for 3D Model

The SVG file can contain a large number of paths that would make it difficult to combine them into a single path to be imported into Blender. This technique will allow the SVG file to stay intact without modifications for use in Blender.

Fewer steps in Inkscape for Blender preparation, but more steps in Blender.

Blender will create objects for each path that make up the SVG file. These objects need to be modified and combined into a single path for our application in the Blender project.

the first modification requires the path to be extruded to have depth. Paths do not have depth and for the deeply etched glass effect we are wanting to project, we need depth.

First, you need 3 regions visible in Blender, the 3D viewport, Outliner, and the Properties region.

[import SVG to Blender project]

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To start this step, first select the SCRIPTING tab at the top of the Blender screen. This will arrange the regions to include the Text Editor region.

We are going to load a simple script or you can simply type in the following;

```
import bpy
selection_names = []
for obj in bpy.context.selected_objects:
    obj.data.extrude = (0.125 / 39.37)
bpy.ops.object.join
```

I have already selected the objects that were imported, but you will need to select them in the outliner region as I have done. This will be the objects affected by the script.

While your cursor is in the Text Editor region, press ALT P to run the script.

[import SVG to Blender project]

import SVG to Blender project

You will notice the change in the outliner region. There is only one object with a name starting with 'path'. The simple script extruded each object to 0.125" and combined them into a single object. I adjusted the properties region so you can see the Geometry section has a setting of 0.125 in the

Extrude field.

[import SVG to Blender project]

import SVG to Blender project

Next, we will convert this object into a mesh. This will allow several operations and add-ons to be applied to the object.

Make certain you have selected the path. you can see the object highlighted in the 3D viewport area also. From here we go to the command at the top of the screen Object -> Convert -> Mesh

[import SVG to Blender project]

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We now have a 3D model of the 2D SVG file.

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