Polygen Papercraft Extension for Inkscape 1.1

Polygen used a path and center line provided by the user. The path is the "silhouette" of one side of the object that will be built. Polygen rotates this path around the center line, following a polygon. This results in a shape that can be vase-like or globe-like, or something else. These main pieces for these two examples, the vase and the apple, were formed using polygen.

CHANGES IN VERSION 3

- Provides the ability to create a four-sided “planter shape”. See below for details.
- Option to omit the score lines on the wrapper/decorative cover pieces.

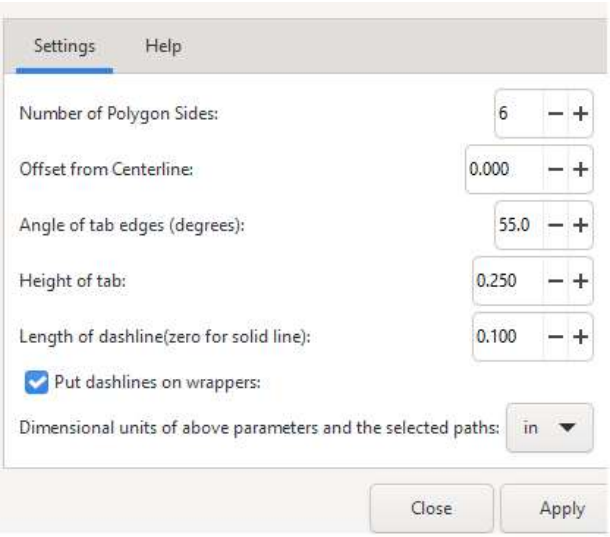
IMPORTANT

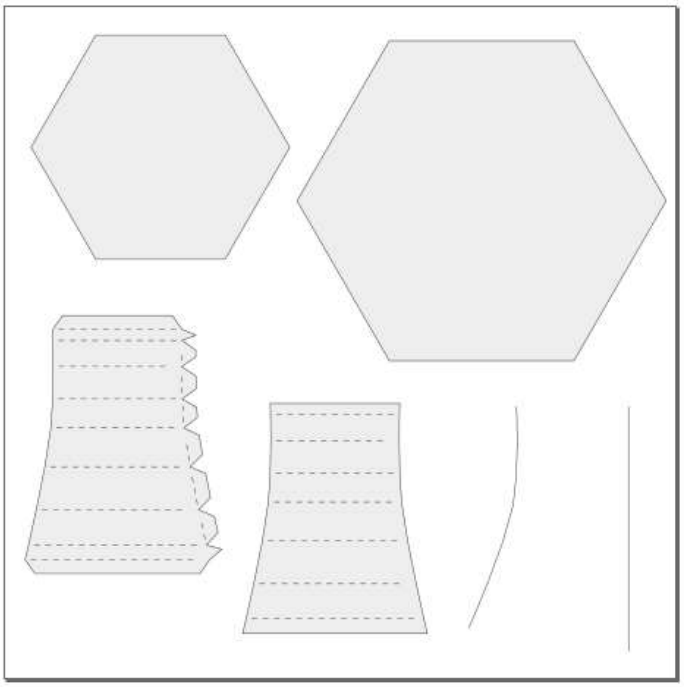
The paths must be composed of straight segments. The segments will be tabbed on one side and on the top and bottom of the object. An untabbed piece will also be created for application as decorative paper.

A good technique for making your design with Bezier curves, but providing the straight segment needed by this extension is as follows:

- Create your path with a Bezier tool and adjust with the node tool as you like.
- Use the node tool to select all the nodes int the path,
- Click the node option to add nodes. This will put nodes at the midpoint of each of the segments.
- Add nodes as above until you have the number of segments you want to work with.
- Click on the node option to make all segments lines.

Keep in mind that each segment will result in a tab and score line. Don’t overdo it.





There is only one side created, and **it is up to the user to duplicate the side as needed**. So if polygen was run with a parameter "Number of Polygon Sides" being 6, then a total of six of the tabbed and deco/wrap pieces would be needed.

The tab angle determines the angle of the edges of the tabs. Height of tab is how much they extend from the main object. Length of dashline is how long the individual cut lines composing the score lines are. Setting this number too large will result in missing score marks. Using zero will create solid score lines.

IMPORTANT: Be sure you dimensional units are consistent with the values you provide, and with your document.

USING THE EXTENSION

Please insure that the following is set:

Edit->Preferences->Behavior->Transforms **Store tranformation should be set to "Optimized"**

Draw your "silhouette" path and the center line about which you want it to revolve. If you want your finished object to be 5 inches wide at its widest point, you center line will be 2.5 inches from your widest point. The center line must be at least a short distance to the right of the path bounding box.

Double-check that your center line is a straight segment. Check that your curve path is also composed of only straight segments: Select it. Use the node tool (F2) and select all (Ctl A) to select all the nodes in the path. Add nodes as desired. Now click on the icon for "Make selected segments lines" .

With BOTH your path and center line selected, click on Extensions->Papercraft->Polygen

Set the parameters to what you want, and then click apply. Your pieces should be generated.

Installing the extension:
Download the files for this extension at
https://github.com/obzerving/Polygen

*click on the green CODE button and Download ZIP
*unzip the file you downloaded
* move the polygen.inx and polygen.py into your Inkscape extension folder
which will be the following (substitute your username for USERNAME):

C:\Users\USERNAME\AppData\Roaming\inkscape\extensions\Papercraft

***(close and) Re-start Inkscape**

VERSION 3 - the "planter" option

With version 3, the option to make a "planter" shape was provided. If an offset is provided, it will make the pieces for a four-sided shape where two opposite sides are shorter or longer than the others. To make use of this option, simply set the offset to a non-zero number that represents how much longer or shorter you want two sides to be than the default. So if you have a shape with a center line two inches from the curve shape, you will normally get the pieces for a model that is four inches in diameter. If you were to add an offset of two, you will get the pieces to make a four-sided model with two sides being six inches and two being four inches. If you have a non-zero offset, then the model will ALWAYS assume a four-sided model. Below is an example (model only, no decorative paper) of the shape made. The top has a cutout added after the extension was run. As is the case with the normal polygen usage, the user will need to duplicate the pieces to construct the full model.

Example of planter shape