Release Notes for Curve Maker, Taper Maker and Stock Maker

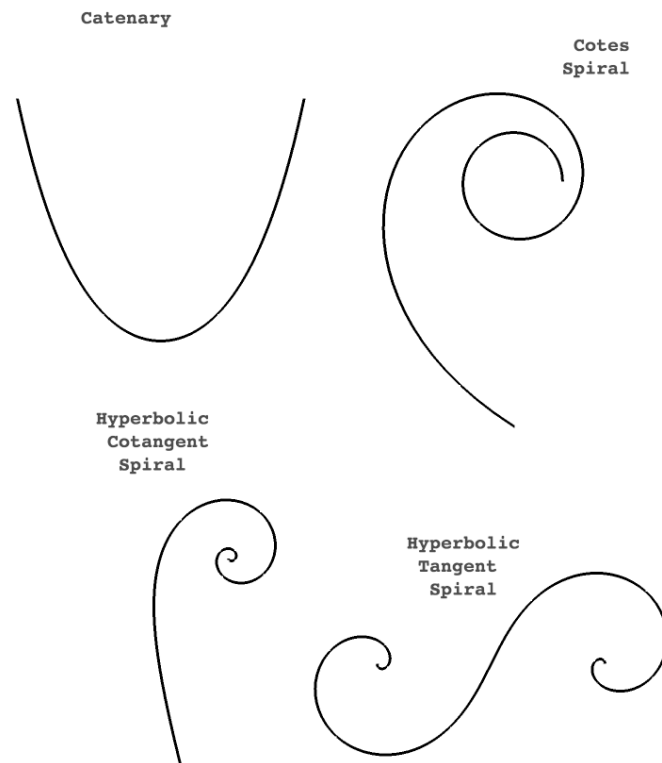Version 1.2.1 released on 2011-01-11

1. Bug fixes:
    a. Deleting an endpoint in a Cornu spline did not work correctly.

    b. Display Curve Data did not work correctly for all translations.

2. Changes:
    a. Sine and Cosine curves drawn to dimension may depict any number of cycles.

3. Additions:
    a. Simplified Chinese translation is included.

Version 1.2 released on 2010-12-14

1. Bug fixes:
    a. When drawing a Cornu spline, one too many points could be captured.

    b. In Taper Maker, path position was incorrectly determined in some situations.

    c. Height per turn was incorrectly applied on 3D spirals.

2. Changes:
    a. Stock groups are assigned a default name of "<stock type>".

    b. Some changes for compatibility with SketchUp 8.

3. Additions:
    a. Spanish and French translations are now included.

    b. In Taper Maker, for cross-sections other than Round, the path position may now be "lower left", "lower right", "upper left" or "upper right".

c. For more precision in specifying curves, the option to enter parameter values for mathematical equations was added to Curve Maker.

d. Curve Maker's equation options include all of the previously available curves plus four new ones: 1) catenary, 2) Cotes spiral, 3) hyperbolic cotangent spiral, and 4) hyperbolic tangent spiral. See figure below for examples.

Catenary

Cotes
Spiral

Hyperbolic
Cotangent
Spiral

Hyperbolic
Tangent
Spiral

e. The equation options for Archimedean, Bernoulli, Sine and Cosine include exponentiation parameters to enable generalizations of these curves to be drawn.

f. With the equation options, values for Rotate, Flip and Scale parameters can be entered. The Rotate value specifies a rotation angle in degrees. The Flip value can be one of x, y, z, xy, xz, yz, xyz to specify the curve group's axis (or combination of axes) to flip along. The Scale parameter uniformly scales the curve by the specified amount.

g. The parameter values used to specify a curve via an equation option can be edited and the curve will be

redrawn. Right click on a curve group to edit the group and right click again on a curve to edit a curve.

h. Display Curve Data now displays the values of the mathematical parameters for spirals drawn interactively or by dimension.

i. The equation options can be accessed by choosing "Add equation options" as the curve Type in the Draw a Curve dialog (and clicking OK). Similarly, once displayed, the equation options can be hidden by choosing "Hide equation options" as the curve Type in the Draw a Curve dialog.

j. By default, the new equation options do not appear in the list of available curves in the Draw a Curve dialog. This default can be reversed by editing curve_menu.rb according to the instructions provided there.

Version 1.1 released on 2009-06-19

1. Bug fixes:
   a. In some situations, Taper Maker did not ascertain that points on a center line lay in a plane.

   b. Certain Archimedes spirals were not correctly computed.

   c. In some cases, the cross-sectional face of a taper was not maintained perpendicular to the center line resulting in "wonky" tapers.

2. Changes:
   a. Minor speed enhancement in drawing tapers.

   b. When partial cycle is to be drawn, first point on sine (cosine) curve is drawn at the "origin" (e.g. a selected construction point).

   c. Taper groups are assigned a default name of "[taper type]" and curve groups are assigned a default name of "(curve type)".

   d. Origin is a optional field for each curve in Curve Maker.

e. 3D versions of spirals were by an optional "height" parameter.

f. Generic Archimedean spiral replaced by special cases: Archimedes, Fermat, Hyperbolic and Littuus.

g. Reduced the false precision that in some instances would lead stock maker to say a stock had insufficient volume to create a taper.

h. Bernoulli spirals no longer draw more of the spiral than specified by the user in the To Turns parameter.

3. Additions:
   a. Draw Euler spirals (aka Cornu or Clothoid spirals).

   b. Draw Cornu splines. This is a ruby adaptation of path.py created by Raph Levien (www.levien.com) aided by insights from Cornu for Nodebox (nodebox.net/code/ index.php/Cornu).

   c. Draw spirals and Cornu splines interactively via tools added to Draw menu.

4. Other:
   a. Documentation is now officially out of date and will not be updated.

   b. For an overview of the interactive drawing tools, see this video: http://www.youtube.com/watch?v=UX1HptFLObM

   c. For more details on drawing spirals using the interactive tools see this video: http://www.youtube.com/watch?v=JW7VyVvSiwY

Version 1.03 released on 2008-08-17

1. Bug fixes:
   a. Prohibit actions on hidden tapers such as stock assignment, display, etc.

b. Do not include edges in a taper path that are hidden or on a layer that is not visible.

2. Changes:
a. Refinements to the logic for Archimedean spirals to draw the hyperbolic spiral and the Lituus spiral.

Version 1.02 released on 2008-07-07

1. Bug fixes:
a. Further refinements to handle floating-point values correctly for international locales on both input and output. This problem appeared to be Windows specific, but the fix should be a more robust solution for both Windows and Mac.

2. Changes:
a. Added "Bevel Angle" to the attributes listed for a single taper.

b. Example data input values are consistent with units settings.

Version 1.01 released on 2008-07-03

1. Bug fixes:
a. Handle floating-point values correctly for "fr", "es", "de" and "it" locales on both input and output. This problem had blocked drawing most tapers.

b. Users were prompted to save data files when no values had changed.

c. Sine and cosine curves were drawn with half the user specified sides / cycle.

Version 1.0 released on 2008-06-12

1. Bug fixes:
a. The default value for rectangular stock dimensions did not include an 'x'.

b. Rectangular section stock would not display data.

c. Data for a taper or stock embedded in a group or a component would not be displayed in some cases.

d. Stock would not be assigned to a taper in a component in some cases.

e. Taper volume was calculated incorrectly in some cases. It could have been overstated or understated. Stock requirement based on incorrect volume would have been incorrect also.

f. Numeric imprecision sometimes meant stock was judged insufficient for a taper when it was sufficient.

g. Construction point was not used as the origin for a curve in some cases.

h. List of stocks would not display.

i. Spiral of Archimedes would not be drawn in certain cases.

j. Curves would not be drawn at a construction point when data was read from a file.

2. Changes:
   a. Color coded "from" and "to" ends of the taper when asking if they are at the correct ends and on the correct side.

   b. Improved taper drawing when path is not a line or on a plane.

   c. Stocks are drawn at a construction point if one is selected.

   d. Improved the clarity and consistency of status line text.

   e. Improved stock accumulation and taper reporting by removing the assumption that tapers with the same name have the same properties.

   f. Example dimensions are consistent with model units settings.

g. Construction point added to curve groups.

h. Improved format of from and to dimensions on taper report.

i. Taper weight, stock weight and stock cost values are displayed consistent with model precision settings.