ShapeMaker Quick Start Guide

An introduction to the ShapeMaker plugin by
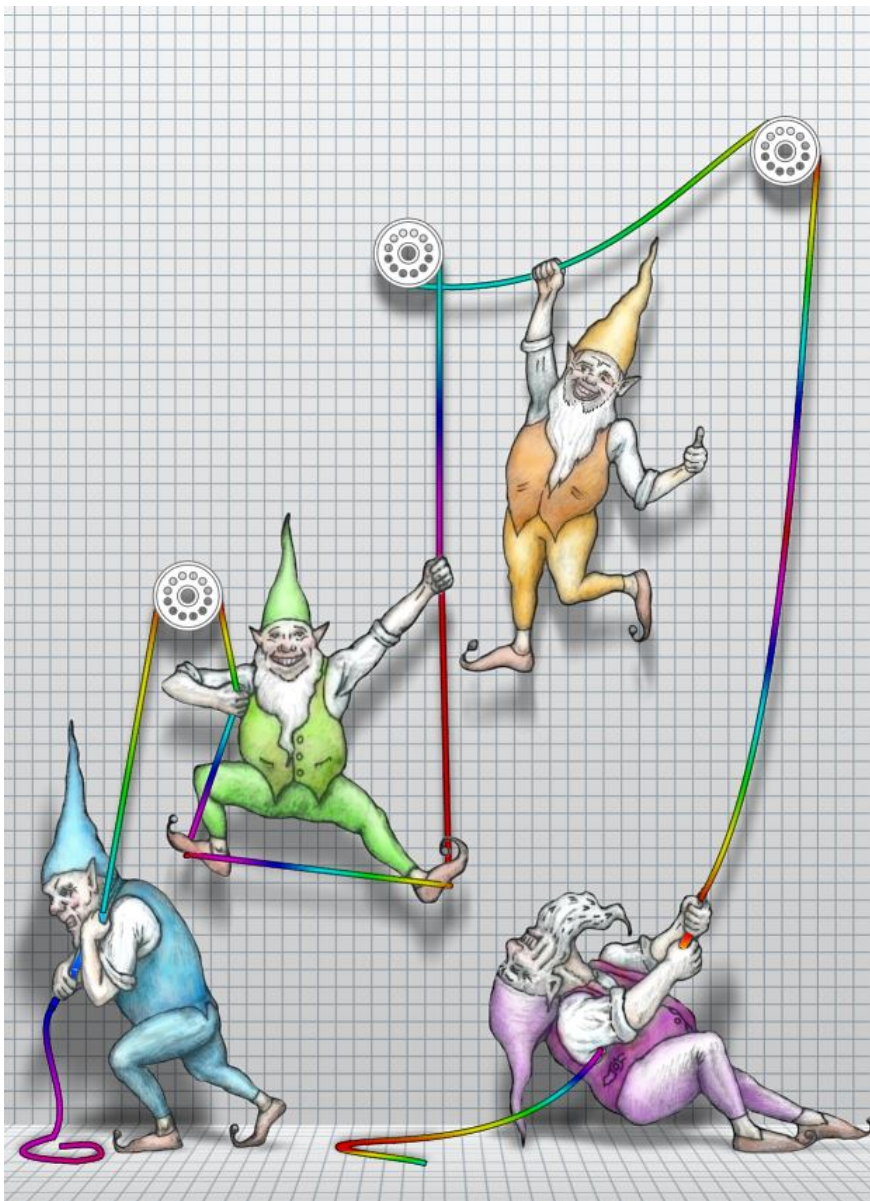
The Dwarf Horde

Rob Tauler (TechnoRobbo) - Code Lead, Design

John Robbins (Red Ochre) - Graphics Lead, Design

Scott Stringer (Ego Eram Reputo) - Documentation Lead, Design

David Issel (BoltBait) - Beta Testing, Design

Definitions used in this guide

Circle - a compound type consisting of two semi-circular Ellipses.

Compound Types - One of two shapes (Rectangle and Circle) which are composed of individual elements to create the Shape. A Rectangle is composed of four Straight Lines and a Circle is two semi-circular Ellipses. These two compound types are included to ease drawing these common shapes. A kind of macro or shortcut.

Control nub - a little graphic representing a dragable control point.

Curve - any one of a number of Curve types which extend between two points (Start and End). In ShapeMaker Curves have one or more control nubs which are used to alter them.

Drawing Grid - the square space where Lines, Curves and Paths are created and edited.

Ellipse - a special type of Curve. Ellipses create their own individual Path and cannot be joined in a series like the other types.

End point - the place where a Line or Curve terminates.

Line - a straight line between two points: Start point and End point.

Mid point - any point occurring in a Path that is not a Start or End point.

Path - a series of continuous connected Lines or Curves <u>of the same type</u>. Ellipses and Circles cannot be joined in series to create a Path.

Path List - Paths that have been created and added to the current Shape are listed in the Path List. The Path List operates like paint.net's Layers window.

Primitive Types - one of the Line/Curve types: Straight Line, Cubic Bézier, Quadratic Bézier or Ellipse.

Rectangle - a compound type consisting of four parallel straight lines.

Shape - the object created from all the Paths in the Path List.

Smooth Types - a subset of Curves which interact with neighboring Curves in the same Path to make the overall Curve continuously smooth. There are two Smooth types: Smooth Cubic Bézier and Smooth Quadratic Bézier.

Start point - the place where a Line or Curve begins.

## *Quick Start Guide - Coffee Mug*

Introduction

In this guide we'll be teaching you how to make a simple Shape. We've chosen this coffee mug as our example.

The order that the edges of the Shape are created is important when the Shape is rendered using a fill. The edges must be created sequentially. In our example we'll be creating the outer shape in this clockwise order from the top left point.
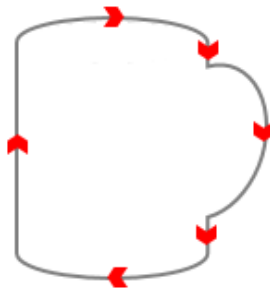
The inner details (inner rim and inside handle) will be created following completion of the outer shape.
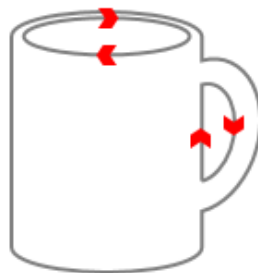
Installing the Plugin

1. Download the plugin from the paint.net forum. This is important! Downloading the plugin from any other source not only opens you up to virus attacks - it's also ILLEGAL to redistribute this plugin in any way, shape or form. Get it from the source.

2. Install the plugin by unzipping it and copying the *.dll and two *.pdf files into your paint.net/Effects/ folder.

3. Restart paint.net.

Opening ShapeMaker

4. Open the plugin from **Effects > Advanced** menu
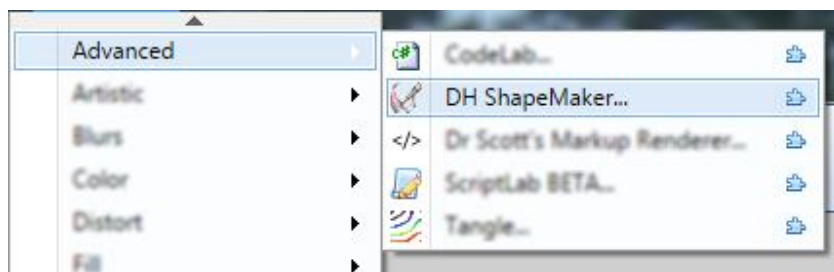
Set up

5. By default the **Snap-to-Grid** option in the Tool Bar is enabled . Check this button is "on" (showing the nub located on the crosshairs & the bezel is lit). **Ctrl + S** is the keyboard shortcut to toggle this button. The Snap-to-Grid feature will be used for this whole guide.

6. Ensure the **Linked Lines** option in the Tool Bar is enabled . Keyboard shortcut for this option is **Ctrl + 3**.

7. Ensure the **Closed Path** option is disabled (and not). Keyboard shortcut for this option is **Ctrl + 2**.

The Mug's Outer Edge

8. Select the Ellipse Type by clicking the Ellipse button ⬤ or using the keyboard shortcut **Ctrl + E**.

9. **Right click** on the Drawing Grid to create a Start point.

10. **Drag** the Start point to location X=50, Y=60 using the **Left mouse button**. TIP: The current nub location is shown just under the Rotate Knob on the right hand side of the ShapeMaker UI.

11. **Right click** somewhere else on the Drawing Grid to create an End point. The Ellipse will be drawn from Start to End.

12. With the **Left mouse button**, drag the End point to location X=360, Y=60.
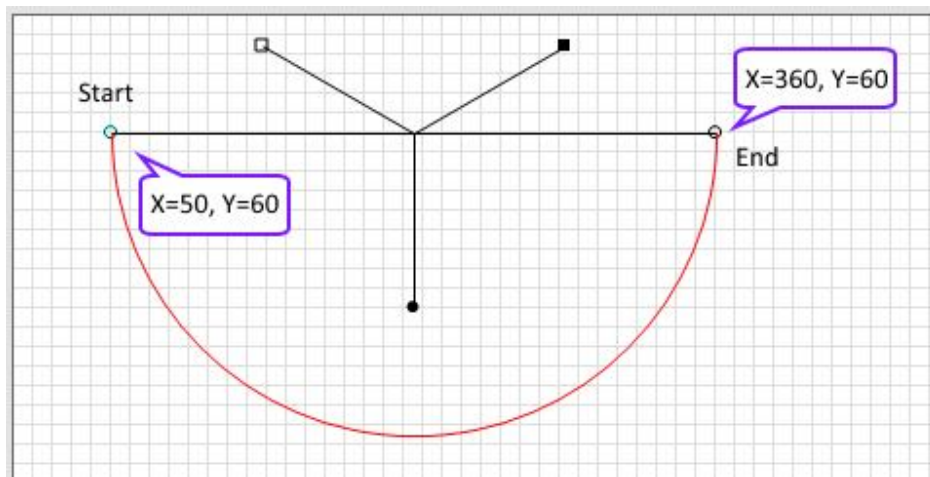
13. Drag the square black control nub to location X=290, Y=20. Drag the white square nub to location X=190, Y=40. Leave the round black control nub (rotation) unchanged.
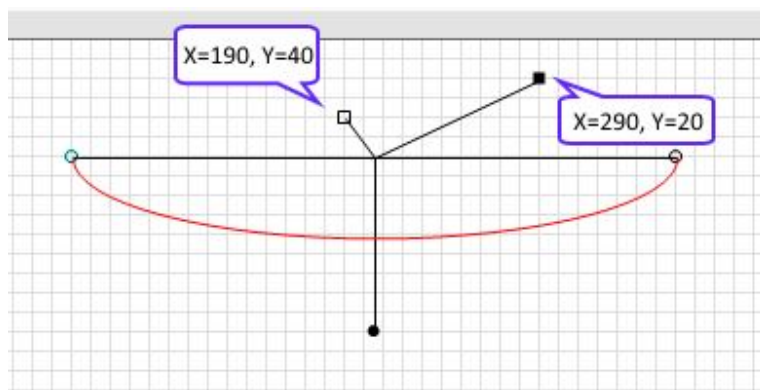

14. Flip the Ellipse over by toggling the **Sweep Direction** button ↻↺. This will invert the Ellipse.

15. Commit this single element to the Path List by clicking **Apply Edit** (**Enter** key). The End point of the Ellipse will retain the editing focus (this behavior is why the Linked Lines function was enabled in Step 6).

16. Select the Straight Line tool with **Ctrl + L** or the button .

17. **Right click** on the Drawing Grid just below the End point of the Ellipse. A Straight Line will be drawn between this new point and the End point of the Ellipse.

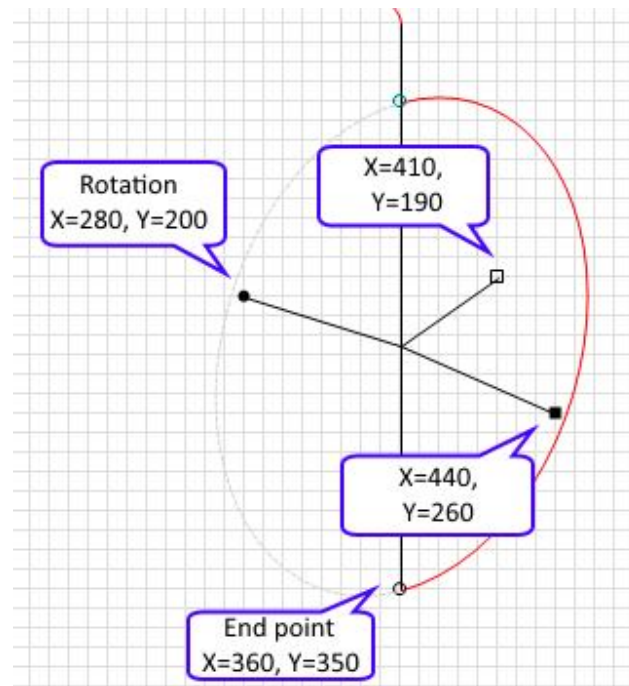18. **Left click** and drag the point to X=360, Y=100.
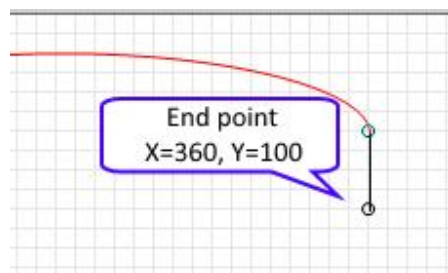
19. Commit this Line to the Path List by clicking **Apply Edit** (**Enter** key). The Path List should have two entries: Ellipse at the top and Straight Lines underneath.

20. Select the Ellipse Type (**Ctrl + E**) or .

21. **Right click** somewhere below the previously created Line to create another Ellipse.

22. Drag the End point to X=360, Y=350.

23. Drag the Black Square control nub to X=440, Y=260.

24. Drag the White Square control nub to X=410, Y=190.

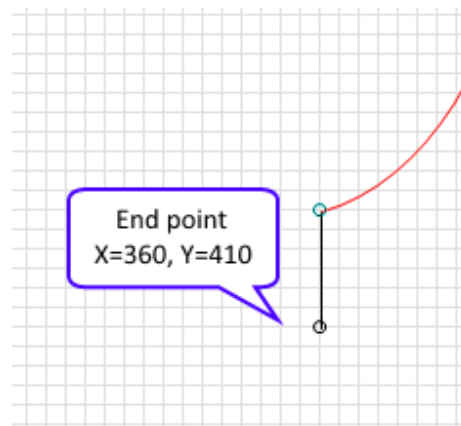25. Drag the Rotation nub (round & black) to X=280, Y=200.

26. Press **Apply Edit** (**Enter** key) to commit the second Ellipse to the Path List.

27. Select the Straight Line tool (**Ctrl + L**) or .

28. **Right click** on the Drawing Grid just below the End point of the last Ellipse.

29. **Left click** and drag the point to X=360, Y=410.

30. Press **Apply Edit** (**Enter** key) to commit the second Line to the Path List. The Path List should have two Ellipses and two Lines.

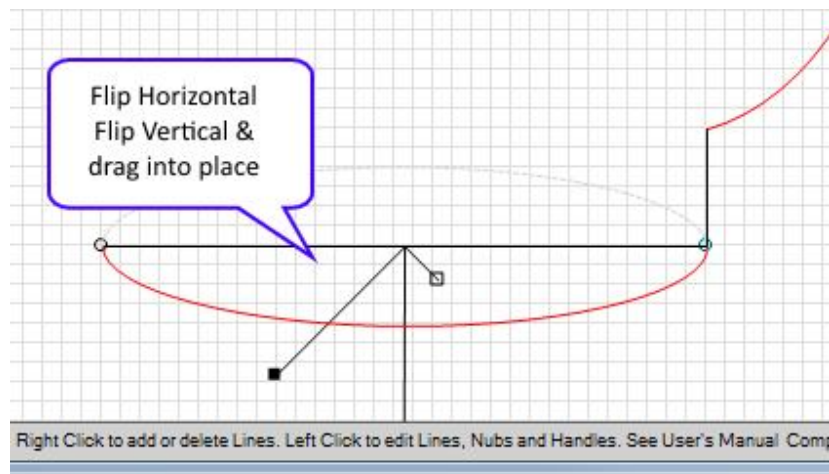31. In the Path List, click on first Ellipse to select it.

32. Use **Edit > Clone Path** to create a duplicate of the first Ellipse.

33. Use **Shift + Left mouse** on any nub to drag this new Ellipse until it's somewhere near the bottom of the Drawing Grid.

Ellipse Cloned & Dragged down the Grid
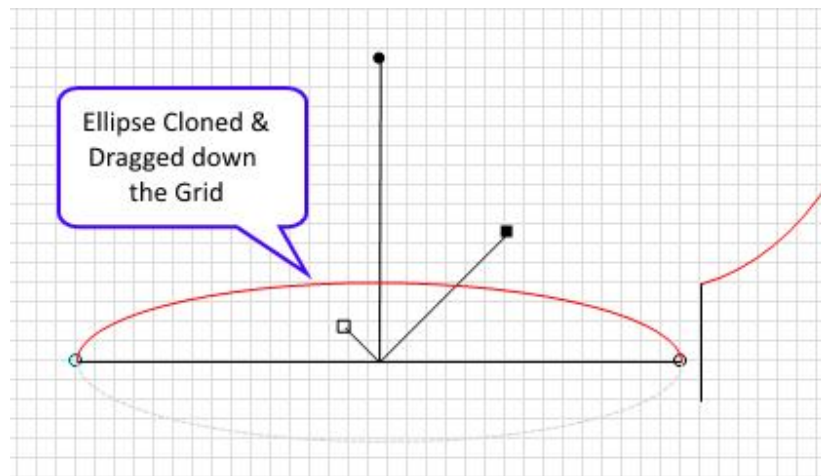
34. Flip the Ellipse horizontally with **Edit > Flip Horizontal**.

35. Also flip the Ellipse vertically with **Edit > Flip Vertical**.

36. **Shift + Drag** any nub to join the Ellipse to the last line.

Flip Horizontal Flip Vertical & drag into place

Right Click to add or delete Lines. Left Click to edit Lines, Nubs and Handles. See User's Manual Comp

37. Press **Apply Edit** (**Enter** key) to commit the third Ellipse to the Path List.

38. Select the Straight Line tool (**Ctrl + L**) or .

39. **Right click** on the Drawing Grid near the left hand side of the first Ellipse.

40. **Left click** and drag the point to X=50, Y=60 (the same as the first Start point). This closes the mug's outer shape.

41. Press **Apply Edit** (**Enter** key) to commit the Line to the Path List.

42. Click **Deselect** (**Esc** key) to deselect the Line.
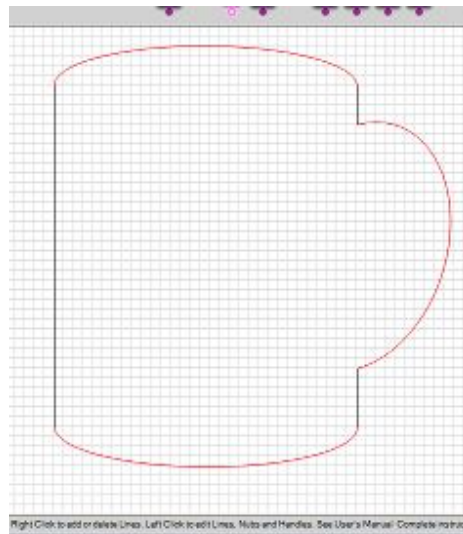
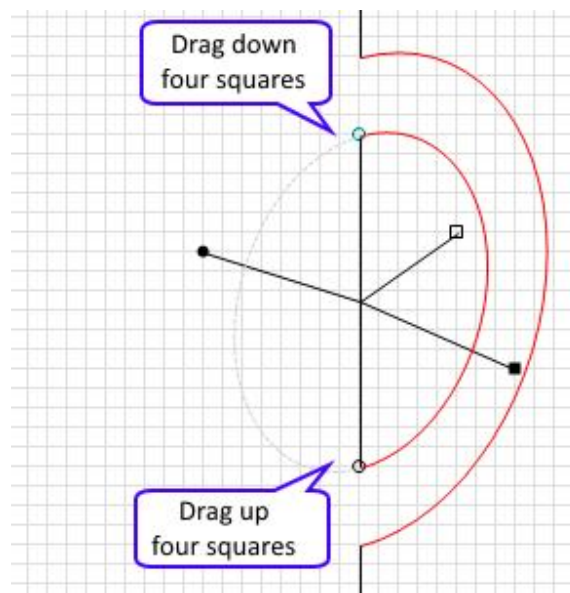43. The Path List should have three Ellipses and three Line entries.
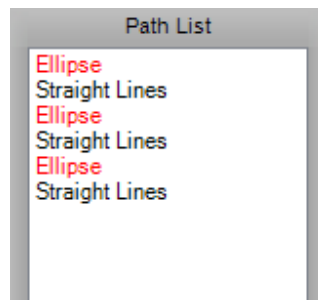
44. Click on the second Ellipse entry in the Path List to select the second Ellipse.

45. Clone the selected Ellipse with **Edit > Clone Path**.

46. Drag the top point of the new Ellipse down four grid squares.

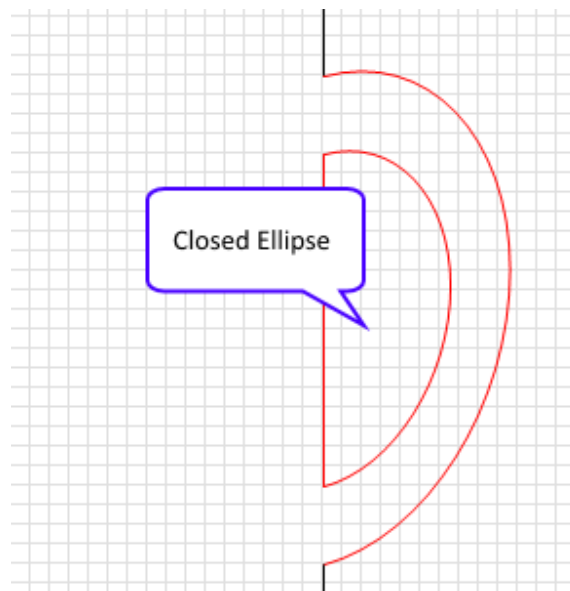47. Drag the bottom point up four grid squares.

48. Close this Ellipse by clicking the Closed Path button [icon] or **Ctrl + 2**. A red line will be drawn between the ends of the Ellipse indicating it has been closed.

49. Press **Apply Edit** (**Enter** key) to commit the Closed Ellipse to the Path List.

50. Click **Deselect** (**Esc** key) to deselect it.
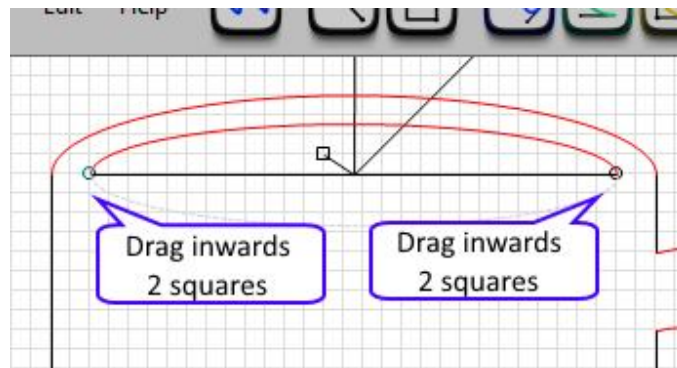

Closed Ellipse

51. Toggle the Closed Path button back to it's "off" state [icon] or **Ctrl + 2**.

52. Click the very first Ellipse entry in the Path List to select it.

53. Use **Edit > Clone Path** to duplicate the Ellipse.

54. Drag the Start and End point inwards by two grid squares.

55. Drag the White square nub to X=190, Y=50.

56. Press **Apply Edit** (**Enter** key) to commit the Ellipse to the Path List.

57. Click on the last Ellipse in the Path List to select it.

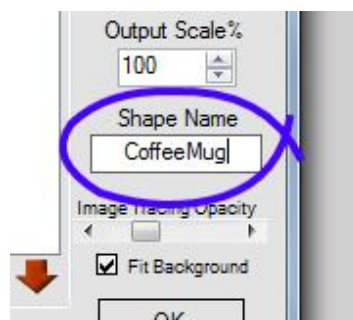58. Use **Edit > Clone Path** Line to duplicate the Ellipse.

59. Drag both Start and End points around to swap their locations.

60. Press **Apply Edit** (**Enter** key) to commit the Ellipse to the Path List.

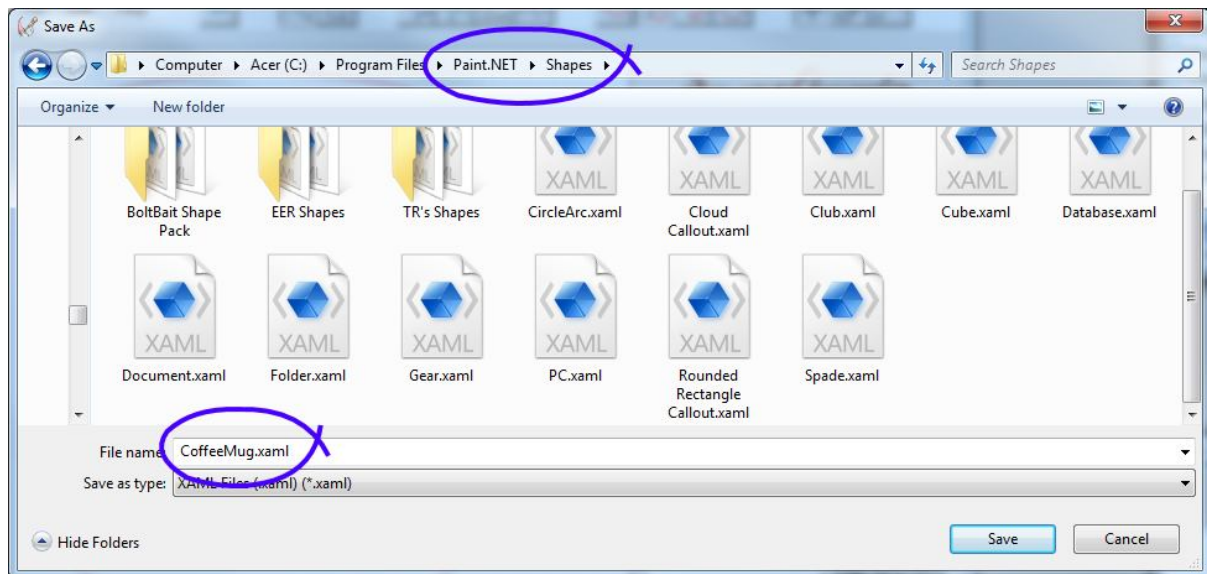61. The mug Shape is finished!

Saving the Mug

62. To save the mug as a paint.net Shape, first type in the name **CoffeeMug** in the Shape Name text box.

63. Next use **File > Save PDN Shape** to save the file into the paint.net/Shapes/ directory. The Shape name is used to pre-populate the filename.

64. Once the Shape has been saved. Close the ShapeMaker dialog and exit paint.net.

65. Restart paint.net (to reload all the Shapes - including your new one)

66. Activate the Shapes tool. In the Custom section of the Drop down list in the Tool Bar, click on the entry "CoffeeMug".

67. Drag out the Shape to create a new instance of your mug. The mug will be rendered in the Primary color and with the currently selected Brush Width.
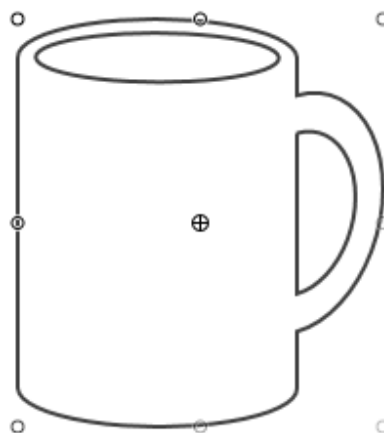
68. If you choose one of the Filled options in paint.net's Tool Bar - the mug will be filled with the Secondary color.

Mouse & Keyboard Shortcuts

Mouse

Right Click on Work Area to add a nub.

Right Click on a nub to delete that nub (note: you cannot delete the first nub in a Path).

Left Click + Hold a nub or handle to drag it to a new location.

Left Click (no Path active) on the end or corner of any Line or Curve to select it.

Left Click + Shift Key click and drag a nub to move the Line/Curve or entire Path.

Left Click + Shift Key (no Path active) click and drag on clear space to move entire Shape.

Left Click + Alt Key (when Zoom is active) pans the entire work area.

Left Click + Alt Key (on a Quadratic Bézier nub) restricts the nub location to the control lines.

Left Click + Ctrl hides the control nubs and points to better view a Line or Curve.

Keyboard

Ctrl + L   Line

Ctrl + R   Rectangle

Ctrl + I   Circle

Ctrl + B   Cubic Bézier

Ctrl + P   Cubic Spline

Ctrl + Shift + B   Smooth Cubic Bézier

Ctrl + Q   Quadratic Bézier

Ctrl + Shift + Q   Smooth Quadratic Bézier

Ctrl + E   Ellipse

Ctrl + S   Snap to Grid

Ctrl + 1   Loop Path

Ctrl + 2   Close Individual Path

Ctrl + Shift + 2   Close Contiguous Paths

Ctrl + 3   Link Lines

Enter Apply Edit

Esc Deselect

Shift + Knob Toggle knob function from rotation to scaling

Shift + Zoom Toggles zoom amount from 2x (default) to 4x.

Ctrl + Zoom Toggles zoom amount from 2x (default) to 8x.

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