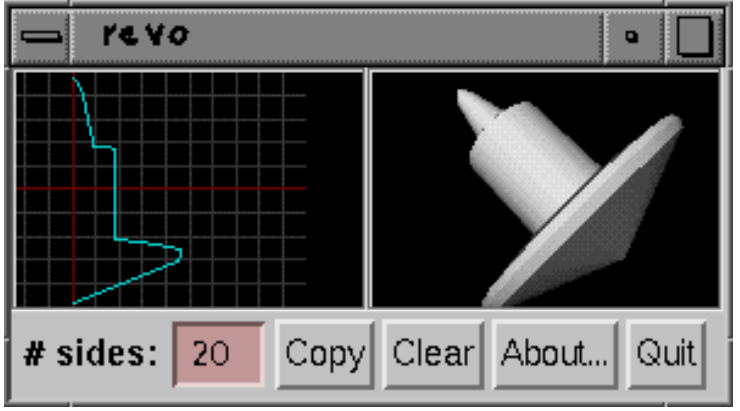
Revo



This program was written by Gavin Bell to demonstrate the capabilities of *Open Inventor*. Revo allows you to sketch out a line which is then rotated around an axis to form a *surface of revolution*. The left-hand window allows you to edit the line, and the right-hand window lets you view the resulting surface.

Initially, a very simple surface of revolution is shown; a single line segment is rotated about the vertical axis to form a cylinder. To add points onto the end (bottom) of this cylinder, just click the left mouse button where you want the new point to appear. To move an existing point, just position the mouse near the point (a small cross will appear), then press the left mouse button and drag the point to its new position. When you are satisfied with its location, release the left mouse button. You can also insert points in the middle of a line segment by placing the mouse near the segment, pressing the left mouse and dragging the new point to the desired location.

The Clear button below the main windows is an easy way of deleting all the points. You can also use the Backspace or Delete keys on the keyboard to delete points. The Copy button will copy the shape you have created to the Xt clipboard. You can then paste the shape into an *Inventor* application that supports paste, like the *SceneViewer* (revo does not support paste). You can change the number of sides used in the surface of revolution by typing into the #sides Motif text widget.

Normals are calculated automatically whenever the line changes. If the angle between two segments is small enough, a "smooth" normal will be generated. If the angle is too great, a "crease" will be automatically generated. Putting two consecutive profile points at the same location is another way of generating sharp creases.

To save your objects you must first copy them to an application (such as the *SceneViewer*) that supports save.

The 3d view is a standard *Inventor* Examiner Viewer. Press the right mouse button for a menu that will allow you to turn on the Examiner Viewer decorations, change drawing styles, and get help.

This program is a lot like the *revolve* demo program, which was written using only the *Iris GL*. This program is approximately half the number of lines of code as the GL version, and has more features (e.g. number of sides, copy, draw styles supported by Examiner Viewer). No GL calls are made in the source code to this program, only Inventor calls (which uses *Open GL*)♥

NOTE: Revo's SOURCE CODE is included in the Inventor Toolkit!