

3D widgets for vtk Status Report 08

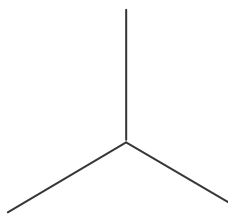
Sunday 3rd December 2006

Mouse over operations

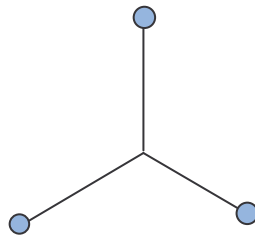
This week I have been looking at how 3D widgets themselves may use internal mouse overs – such as the vtkLineWidget2 as suggested by Will.

For this task, it was also suggested that I develop this idea using the vtkBoxWidget. This has proved very interesting so far. I have had mild headaches with trying to get a response to a mouse over; using mouse move events, the position must be checked, pick the correct part of the widget (line, handle, face etc) and call the relevant highlight method. Looking at the box widget, I have found that the pick order makes things difficult as an action, and thus a highlight operation, depend on the mouse button used.

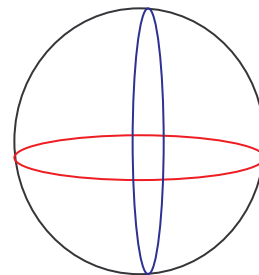
In order to overcome this, and to make using the box widget more user-friendly, I thought of creating a new representation and possibly 3 simpler widgets as found in Maya and 3DS Max. These would be widgets to Scale, Translate and Rotate separately.



Translate



Scale



Rotate

Possible implementations of these three would be left click in a scene calls a Picker and the widget can be applied to a Prop or Actor, then a right mouse action could activate the operation, or, the widget could be applied to a Prop or Actor as the box widget is and then a left mouse action used to control the operation.

For a new representation for the box widget I was thinking of a compass style similar to that in CATIA. Central axis lines to perform translations, handles on the end of these axis lines to perform scales (not in CATIA) and curved lines between handles to perform rotations – similar to a combination of the above.

