**ParaView Improvements for the Mantid Project**

MultiSlice View

* If the axis label overrides (AxisForTitleX etc.) are provided, those labels should show up on the correct axis in the view.
* If the axis scaling overrides are provided (LabelRangeForX etc.), the appropriate axis in the view should reflect this range.
* This view should also have the ability to add Text objects on it. This is currently not allowed.
* If the axis basis overrides (AxisBaseForX etc.) are provided, the planes shown in the view should be oriented along those directions.
* API needs change to slice update signal. A way needs to be provided to determine which slice is actually changing.

Cube Axes

* If the axis label overrides are provided, those values should be present in the Title section of the Edit Cube Axes Properties dialog for the given axis.
* If axis label overrides are used, it is currently not possible for a user to replace those labels with their own.
* The axis label text should have the capability to be rendered using LaTex commands within the label text as Text objects already do.
* More control over fonts and tick marks are desired by our clients

QuadView

* This view should also have the ability to add Text objects on it. This is currently not allowed.
* If the axis basis overrides are provided, the planes shown in the view should be oriented along those directions.
* Add API similar to MultiSlice view to retrieve the slice information from the 3 views to pass onto other programs.

Comparative View

* This view would benefit from a mechanism similar to the Annotate Time filter in providing a way to transfer information from the spreadsheet onto the associated plot.
* The spreadsheet associated with the view should have cut and paste capability from another spreadsheet.

Multiple TimeStep Modifying Filters

ParaView has issues with one of our standard operating modes: a rebinning filter applied to a MD source. If the rebinning filter is deleted from the pipeline leaving the MD source, all information about the MD source is removed and nothing is shown in the interface. This issue has already been presented to the developers list (December 9, 2013) with no current solution.

Multiple Instances of ParaView

Our users have requested the ability to bring up more than one Vates Simple Interface (VSI) window from within a MantidPlot session. This has not been possible due to the VSI’s reliance on the pqPVApplicationCore object. During the early development of the VSI, the multiple windows feature was investigated, but there was no way to cleanly separate them since the pqPVApplicationCore only allowed one instance of it within the MantidPlot session. Is there a way to fire up another instance of pqPVApplicationCore or are there alternative methods?

Python Interaction with ParaView

ParaView currently has a Python interface which is available from outside ParaView itself through pvpython. However, the interface looks geared towards non-interactive scripting of ParaView. Our users wish to have an interactive interface but from outside the ParaView application. Is this possible with the current interface?

Training

Our scientists and developers will benefit from a better understanding of what ParaView has to offer via training. We would like to have a general ParaView training session geared toward scientists and an advanced training session geared towards developers. The developer session would focus more on and understanding of the Paraview and VTK code base.

Help Hours

Our development roadmap has us moving into some key areas (MPI utilization) where targeted help would decrease the development time. We would request a standard block of 25 hours.