JChart Software Description Document

# Purpose

This document shall serve as guidance for create and maintenance of the JChart library and application.

# Definitions

* Chart – the collection of items drawn that include axes, gridlines, the legend, titles, labels, and plots.
* Series – an array of single data points.
* Dataset – an array of series, each with the same number of data points associated with a resource.
* Plot Data – a set of data points. May or may not be created by two series.

# Requirements

1. In the main interface, the user shall be able to:
   1. drag-n-drop files of different types (that conform to a standard interface) for plotting. The control key shall signify that the file is to be added if held down during a drag-n-drop operation.
   2. navigate through the list of series within a dataset with next/previous buttons.
   3. navigate to the next/previous dataset series if at the end/beginning of a dataset.
   4. remove data by
      1. selecting with right-click drag, then delete.
      2. going to the data table, selecting the points, then delete.
   5. edit data in the tables.
   6. reorder plots.
   7. save:
      1. entire or select dataset data.
      2. an image of the chart in
         1. PNG format.
         2. SVG format.
         3. JPEG format.
      3. the chart configuration.
      4. the entire chart (configuration and data).
   8. apply a function to each point in a series.
   9. apply a filter to a series.
2. The user shall be able to modify properties for:
   1. the entire chart; which will enable the user to:
      1. set the title and all text properties and choose to show/hide.
      2. set the subtitle and all text properties and choose to show/hide.
      3. set the top/bottom text and all properties and choose to show/hide.
      4. set the top, left, bottom, and right spacing from the edge of the canvas to the first chart component.
      5. set the background color of the chart.
      6. set the exact size of the plot in either inches, centimeters, or pixels.
      7. turn on/off object anti-aliasing.
      8. turn on/off text anti-aliasing.
      9. turn on/off horizontal gridlines.
      10. turn on/off vertical gridlines.
      11. turn on/off horizontal minor ticks.
      12. turn on/off vertical minor ticks.
   2. the legend; which will enable the user to
      1. show/hide the legend.
      2. set the border:
         1. visibility.
         2. thickness.
         3. color.
      3. set the side on which the legend appears.
      4. set the background color of the legend.
   3. each axis (primary and secondary domain/range); which will enable the user to
      1. set the title and all text properties and choose to show/hide.
      2. set the subtitle and all text properties and choose to show/hide.
      3. set tick spacing to auto or define as:
         1. tick start
         2. tick end
         3. tick width
      4. set ticks to include zero if auto
3. In the data table interface, the user shall be able to:
   1. show
      1. all points.
      2. visible points only.
      3. hidden points only.
   2. remove points (See 1.d.ii).
   3. edit data (See 1.e).
   4. add/insert data?
4. The library shall:
   1. provide a view that is the chart alone.
   2. provide a view that is the chart with toolbars.
   3. provide a view that is the chart with toolbars in a dialog.

# Use Cases

# User Interface

* Navigation Pane
* Chart Tab
* Data Tab
* Properties Dialog

# Library Widgets

* JChartFrameView
* JChartView
* ChartView