New Features

This is an overview of some of **Grapher 11's** new features.

User Friendly

- New Welcome dialog allows Grapher to be opened with only the windows you want.
- Updated Group properties:
  - Right-click on multiple selected objects to add the selected objects to a Group.
  - Right-click on a *Group* object to enter or exit the group.
  - Right-click on a *Group* object to ungroup the sub-objects into separate objects.
- Right-click on an object or a group of objects and choose Zoom Selected to zoom to the selected objects.
- Right-click on an object or a group of objects and choose Free Rotate to rotate the objects with the mouse.
- Updated Property Manager with many new features, including:
  - Automatic updating with property changes.
  - Ability to select contents of a cell in the **Property Manager** with CTRL+A.
  - Better location of ⊞ and ⊟ options to easily see where sub-object properties are.
  - Use the keyboard UP and DOWN buttons to automatically increase/decrease the value and update the graph.
  - Set the color gradient directly in the **Property Manager**.
  - Use a slider [━━━━━▯━] for opacity settings.
- Updated the Options dialog for easier access to default program settings.
- Updated the Defaults dialog for easier setting of default options for all plot, graph, and axis types.
- Updated the Graph Wizard dialog for easier setting of plot options.
- Added a method to close all open documents and choose not to save any with a single click.
- Last export and save formats always used the next time the Export or Save As dialog is opened.
- Zoom to the cursor location using the mouse.
- Added X to close tabs to the tab directly.

Graph Features

- New plot type - ternary class plots display ternary diagrams with different symbols for each class.
- New plot type - doughnut plots display similar to a pie chart, but with options for multiple rings of data.
- New plot type - 3D doughnut plots display similar to a 3D pie chart, but with options for multiple rings of data.
- New plot type - polar vector plots display vectors on angle and radius graphs.
- Added new class scatter method based on text. Now, all class plot types can use text columns for class designations.
- Increased the maximum number of classes for any class plot type to 300 classes.
- Added lighting options to 3D bubble plots.
- Added lighting options to 3D pie charts.
- Set the size of pie charts and 3D pie charts in page units.
- Set the X and Y center position for pie charts and 3D pie charts.
- Set histograms and 3D histograms to display as a normal histogram or as a cumulative histogram.
- Box-whisker plots column step is now set from the first displayed column, instead of the first column with data.
- Keep the plot columns when changing the plot's worksheet for all plot types.
- Display average values for plots without displaying error bars.
- Display different positive and negative error bar values on the same plot.
- Fill between more plot types, including line/scatter plots, step plots, function plots, fit plots, or summation plots on 2D graphs.
- Export fit curve data with selected limits and spacing to a data file.
- Turn on or off the display of the arrow on a 3D vector plot.

Axis Features

- Link axes to automatically control scale, limits, location, and tick mark spacing.
- Set the default axis position with the File | Defaults command.
- Axis tick labels set to display between major tick marks display the last label after the last tick mark.
- Set the axis tick label starting and ending values separately from the axis tick mark starting and ending values.
- Keep the axis tick label *Data column* and *Label column* when changing the label *Worksheet*.
- Automatically switch an axis to use numeric or date/time tick labels when the data columns change.

Drawing and Digitizing Features

- Set the digitizing symbol to any symbol set, shape, size, and color.

Data Features

- The default save as format from the worksheet is .DAT.
- Last save formats always used the next time the Save As dialog is opened.
- Updated the date/time formats in the Cells | Format | Format Cells dialog.
- Added a new \n math text directive to create new lines.
- Use any date/time values from BCE to CE.
- Format date/time values in any language.
- Treat empty cells as blank, as the number zero, or as an empty text string when transforming data.
- Treat text strings as blank, as text, as the number zero, or convert to a number (if possible) when transforming data.
- Treat numbers as blank, as text, as the number, or as an empty text string when transforming data.
- Calculate statistics on all data values in the range or on a subset of data in the range.
- Use AutoCAD DXF files as data files.
- Import data from SP1 and SEG file formats.
- Updated the date/time import to recognize Windows locale settings.

Import and Export Improvements

- Export SVG file formats.
- Import AutoCAD DXF files as data files and create plots directly from the DXF.
- Import SP1 and SEG file formats.
- Export SP1 and SEG file formats.
- Exported GIF files are always exported at 72 DPI, to match the GIF file format definition.
- Export transparency to TIF files.
- Export transparency to GSI files.
- Export transparency to vector PDF files.
- Export vector PDF files with compressed pages, making much smaller files.
- Export vector PDF files with embedded fonts. Embedding fonts makes PDF files larger, but retains the exact text appearance in the exported file.
- Export raster PDF files with a page size.
- Import PDF files with higher resolution.
- Set the blanking flag when exporting a BLN file.
- Update the CSV file format so that semi-colon separated variables with comma as the decimal delimiter can be imported.

Automation

- Added a Transform3 command to transform worksheet data with various options for empty cells, text cells, and numeric cells.
- Added Background, Line, and Side properties to the AutoAxisTitle object.
- Added LineOpacity and FillOpacity to the 3DBubblePlot object.

- Added a ColorCol option for the BoxPlot object to set the color column for the boxes.
- Added a Draw3DArrows property for the 3D Vector Plot to control the display of vector arrows.
- Updated the AutoFloatingBarChart object to support WidthType, WidthCol, WidthUsePU, and FixedWidth options.

See Also

Introduction to Grapher

Three-Minute Tour

Grapher Tutorial Introduction

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