GraphRight 1.1 Overview

Thank you for taking a look at GraphRight!   You will find that GraphRight is the most advanced, easy to use application for creating charts and graphs.   We are very interested in your comments, so feel free to give us a call or send us email any time.

(For best results, this document is best viewed on a color machine)

Features

The GraphRight Notebook: Simple Table Based Data Editor

If you have ever used a spreadsheet, you will feel right at home with GraphRight's Notebook.   If you have not, the concept is quite simple: the data is grouped in data sets as columns, and into data points as rows.   In the table below, the data point for **East** is correlated to the **Q4** data set, thus the number **45** is highlighted.

611877_paste.tiff ¬

Wide Variety of Graph Types

Here we   can see a few of the graph types GraphRight offers.

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Axis and Labels can be turned on and off individually on all four sides of a graph. Graphs can also be annotated with a full range of drawing tools.   Also included is a full featured Rich Text Editor.   You can change fonts, set super or subscript, underline, drag and drop color on to a range of text, and of course spell check your text in any language that you have installed.   In addition special effects usually found in high end drawing packages, such as background gradient fills, allow you to create graphs that are not only accurate and concise but visually stunning as

well.

Here is a sample file:**Simple Data.gr** ¬
(For convenience, you can copy these files from this document to a samples folder.   Just drag and drop them onto the folder in the workspace.   To launch right form this document double click on the file icons to open the examples in GraphRight, please note that GraphRight must be installed first, to install GraphRight double click on the GraphRight.pkg file)

GraphRight even supports specialized financial graphs such as High Low Open Close:

804276_paste.eps ¬

Double click here to see this graph in GraphRight:Stock Prices.gr ¬

Linear Regression
Any data set can have a first order linear regression fit applied to it.

paste.eps ¬

Double click here to see this graph in GraphRight:Line Noise with Regression Line.gr ¬

Error Bars
Any data set in a graph can have statistically relevant error bars applied to it.
GraphRight can calculate error bars for:
> Standard Error
> Standard Deviation
> Percent Value
> Fixed Value
> Specific Value Per Data Point

636181_paste.eps ¬

Double click here to see this graph in GraphRight:TimeTest.gr ¬

In addition we support some uncommon graph types such as density plots:
509053_paste.eps ¬

The above graph is looking down on a sine cosine wave and expressing the value of the function at each point as a color.

Multiple Graphs per Graph Page

All graphs live on a graph page.   A graph page is a virtual sheet of paper; it can have any orientation and any size.   Just like a sheet of paper, it can have many things written on it including any number of graphs and graphics.   Graph pages allow you to consolidate different graphical views of your data in one place.

Full Rich Text editing including Spell-checking

GraphRight includes a full Rich Text word processor capable of any combinations of fonts, superscript, subscript, underline, and even text color (select some text and drag a color onto it).   Of course it also supports spell-checking in any language that you have installed. (HSD, Inc. offers language modules for 13 languages besides english)

Object Linking

GraphRight supports data linking into a data table.   For example you can use GraphRight's rich charting capabilities from within Mesa (Athena Design's spreadsheet).   Just select the range of data to graph and copy and paste-link (Command-Shift-V) it into a GraphRight data Notebook.   Now when you change the data in Mesa it will change all the graphs derived form that data in GraphRight.

It also supports object linking out of a graph page for example you can copy graph and hot-link it into your word processor or presentation package.   Now as your data changes the graphs inside the word processor will update without redoing the copy and paste.   This saves you time!

Drag and Drop Images

Just drag and drop any tiff or eps file right from the workspace onto a graph page. All images can be scaled to any size.   In addition GraphRight properly adheres to

the NeXT file filter functionality, so if you have a filter for say gif files, you could also drag and drop them directly onto a graph page.

<p style="text-align:center">990848_paste.eps ¬</p>

Double click here to see this graph in GraphRight:Drag and Drop Image.gr ¬

Incredible Annotation Flexibility
GraphRight offers unsurpassed flexibility when annotating a graph.   Labels can be rotated to any angle for easier viewing.

Above is an example of the Y axis labels rotated slightly and text inserted before the label's numerical value ($), and after the label's value (M).   Likewise the X axis labels are rotated 90 downward for easier viewing of a large number of data sets.

Open Application Programming Interface (API)

Imagine adding the power of a graphics package to any custom application.   Any application that takes advantage of GraphRight's API   can have access to it's rich charting and graphing package.   GraphRight's API has already been used in several report building applications, an executive   database summary tool, and as a front end to numerical simulations for both financial and scientific applications.

The GraphRight API is based on NeXT Distributed Objects.   Distributed Objects (DO) give a great amount of flexibility while requiring only a minimal learning curve. If you have worked with Objective-C, learning DO takes almost no time.   Your custom application can message and use GraphRight's functionality even over the network.

Unpack the GraphRight_API.pkg file package for complete documentation and a tutorial on using GraphRight's Open API.

Philosophy

One area where GraphRight differs greatly from other charting and graphing applications is in how GraphRight treats the relationship between data and graphs.

In GraphRight a single simple data table (what we call a Notebook) contains all your data, and this data table in-turn owns graphs.   This was a chart or graph is a view glass into the data, and since GraphRight supports discontinuous selection, a graph can be a view into a sub-set of your data (hold down the Alt key,the right Alt key on Intel keyboards, to extend a selection, hold down the Shift key to get discontinuous selection).

In other applications graphs are treated as stand alone entities separate from the data, in GraphRight graphs are are views into your data, this leads to a more coherent management of data and graphs.   Thus when your data changes all graphs that contain that data will change.

  Some graphing applications have each graph have it's own data, thus if you want to look at the same data in different ways you have to copy the data for each graph. What happens when you want to change a value and have all the graphs reflect the change?   This is totally backwards.   This also prevents you from graphing only some sub-set of   your data.   Other applications have graphs that rely on external files for data points, this can be disastrous if your data files get moved.   The most important asset you have is your *data*, it is the focus of all your actions.

Interoperability

GraphRight reads in SYLK files (created by Excel, 123, Mesa, and WingZ) and ASCII data.   In addition file filters for Improv, Lotus 123, Excel, and Harvard Graphics are in testing, please contact Watershed Technologies for additional

information.

GraphRight works seamlessly with other NeXTSTEP applications.   Mathematical equations can be typeset in Equation Builder and can they be copied and pasted onto a graph page.   They can also be dragged and dropped directly from the workspace right onto the graph page!   No need to first open them up in Equation Builder.   Highlight an equation that is in a graph page and, if you have Equation Builder installed, select *Edit Equation* under the services menu, this will launch Equation Builder and hand it the selected equation for editing.
Drag and Drop this file onto a GraphRight graph page:Ex05.eqn ¬

GraphRight also works together with Mathematica from Wolfram Research. Wolfram Research has written a Mathematica addin that allows Mathematica to send data to GraphRight to be plotted.   The full source code and an example are available directly from Watershed Technologies directly.

Through GraphRight's API many other applications can be made to work together with it's charting and graphing capabilities.

Further Information

Watershed Technologies is continually expanding and improving GraphRight and we welcome customer comments.   We are also working on other data visualization and data manipulation software.   If this would be of interest to your organization please contact us.

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