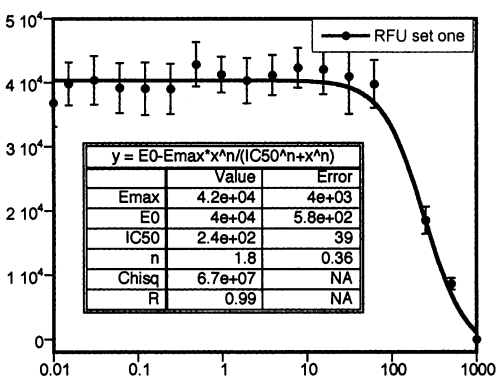
TECHSIGHTING
SOFTWARE

True to Its Roots

Simplicity is a virtue in computer programs. But as software developers have expanded the functionality of their offerings, there has often been a price to pay: an increase in the program's size and sometimes a decrease in its speed. Synergy's KaleidaGraph (version 3.5) is one application that has resisted these tendencies. With the latest version of KaleidaGraph, a user can rapidly transform data to readily create graphs. Best of all, the program takes up little space and has minimal RAM requirements. For example, under Mac OS 9, KaleidaGraph needs about 5 MB of RAM and less than 10 MB of hard disk space. The software has kept pace with the newer, faster computer processors and has added many new functions while retaining ease of use and maintaining consistency with older versions of the program. Synergy provides KaleidaGraph on both Macintosh- and Windows-compatible platforms. Collaborators on different platforms can trade KaleidaGraph files without confusion or loss of data.

KaleidaGraph 3.5
Synergy Software
Reading, PA
$155; $49.95 (upgrade)
610-779-0522
www.synergy.com



Making graphs. Sample output from KaleidaGraph showing error bars.

The KaleidaGraph program itself and a useful tour of the software both install easily from a CD. The multilingual "quick-start" guide circumvents the bulky manual and provides even novices with almost instant access to the program. Upon opening KaleidaGraph, one is presented with a data window containing columns and rows reminiscent of the Excel spreadsheet. After entering the data into the cells, the user is only a few clicks away from making the first graph. The program has a well-designed, graphic user interface and provides numerous options for modifying graphs. For example, to change the parameters of the abscissa (y axis) of a plot, one double-clicks on the abscissa and a new window appears showing the various options. Lines can be made thicker, and text and simple objects can be added by selecting the appropriate tool in the tool palette. The figure below shows a sample graph created by the program, complete with the error bars and statistics contained within the graph boundaries. Quickly prepared presentation graphs can easily be reworked into publication-quality documents for printing. The ease of graph generation in KaleidaGraph does not come at the cost of power. KaleidaGraph can work with millions of data points quickly and effortlessly.

Veteran users of KaleidaGraph will enjoy the 100 new features in version 3.5. In earlier versions of the program, data entry from other software products into KaleidaGraph occurred mostly by copying and pasting. However, data entry has now been simplified and expanded with the program's ability to open Excel worksheets directly. In addition, four new plot types have been added. KaleidaGraph routinely calculates basic statistics on every data set to include averages, standard deviations, and standard errors. A welcome addition is that of the Student's t tests. Synergy has indicated that an expanded repertoire of statistical functions may follow in the future if the demand from users is sufficiently high. KaleidaGraph can also perform basic ($y = mx + b$) and complex curve fits from a library of 100 industry-specific algorithms. The program's designers have also increased the range of files that KaleidaGraph can import and export. These include GIF, JPEG, PNG, TIFF, and Windows Bitmap files. There is also a calculator built into the program, if a quick function check is required.

KaleidaGraph is a simple program that has remained true to its roots and has not strayed from its original design—namely allowing users to create graphs on a user-friendly software. The range of graphing solutions with KaleidaGraph is impressive in view of its low price. Demo versions and purchase, upgrade, and cross-grade information may be downloaded at the Synergy Web site.

—FRANK HOOVER

University of Bergen, Center for Research in Virology, Bergen High Technology Center, Post Office Box 7800, 5020 Bergen, Norway. E-mail: frank.hoover@vir.uib.no

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TECHSIGHTING
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From Database to Citation

Accuracy of attribution is essential for researchers in the scientific community, yet errors may occur in over 5% of the references (*1*). EndNote 4.0 gives authors seamless control over the citation process from electronic database to final citation. This reduces the likelihood of human error and increases the reliability of references.

In addition to overcoming inaccuracies inherent to typing, EndNote 4.0 acts as a remote search client, a reference formatter, and a file manager. With the dramatic growth in published material, researchers need powerful search engines capable of finding and retrieving information from large electronic databases. Information retrieval companies, such as Ovid Technologies, provide client software to conduct these searches. Transfer of electronic information into a bibliography program, however, requires complicated, customized filters. EndNote simplifies this process immensely by allowing documents to be imported directly into an EndNote library by means of a simple copy-and-paste operation. The program comes with a set of connection files for remote reference database sites that allow free access. Users at institutions with specialized databases onsite can modify the program to permit retrieval of information from these sources as well. The EndNote search engine is not as sophisticated as some Web-based or client software, but it more than makes up for this with its incredible speed. A list of 30 single citations took less than 15 minutes to retrieve and import into EndNote, compared with more than 1 hour for a Web-based search engine at the PubMed site of the National Library of Medicine (www.medportal.com/). Release 4 of EndNote makes searching more flexible, compared with version 3, by permitting users to both save search strategies and combine results from separate searches.

EndNote 4.0
ISI ResearchSoft
Berkeley, CA
$299; $99.95 (upgrade)
800-722-1227
www.endnote.com

The basics of citing references and formatting bibliographies inside word processing programs have not changed in EndNote 4. Indeed, few enhancements were necessary in the already strong integration between EndNote and Microsoft Word (or Corel WordPerfect). A reference

can be selected from an EndNote library and entered into a word processing document during composition. The reference can then be formatted to specified journal styles. EndNote supports more than 500 predesigned styles arranged according to discipline. The program also includes a list of almost 9000 journals with abbreviations sanctioned by the National Library of Medicine. Additionally, the new version of EndNote makes creation and modification of styles much easier with its new Style Manager. The Style Manager lists all available styles, previews formatted citations, and guides the user through the difficult process of editing styles with the help of clearly organized menus. Online help and printed documentation are clearly written and are helpful for novices and experts alike.

One function of EndNote addresses the challenge of organizing documents. Students, teachers, and researchers have all experienced the frustration of lost or forgotten documents. To solve this problem, EndNote relies on the fact that at its core it is a database program. Each reference type contains fields for data entry. Default fields include the usual bibliographic information, headings, abstract, and a notes field. Remaining reference fields can be remapped to topics of special interest to the user, such as where the item was previously cited, whether a copy is on file, or if other documents of similar type exist. Altogether, EndNote has 38 fields and 25 reference types—all searchable with EndNote's search engine. Furthermore, EndNote 4 extends the abilities of earlier versions of the program by allowing individual fields to be linked externally to documents on a disk or to a URL on the Web. However, the most important field for EndNote file management is the unique identifier, a specific number assigned by the database provider to each journal article. This number can be placed on the article for archiving and retrieval of desired document information. Thus, EndNote's file management features should help reduce the stacks of paper obscuring many desktops.

Researchers will find the cost of EndNote covered many times over by their increase in productivity and accuracy. EndNote libraries easily transfer between Mac and Windows operating systems. Indeed, the program runs virtually identically between the two platforms. However, previous owners of EndNote may be surprised at a new release so soon after the program was acquired by the Institute of Scientific Information. ISI ResearchSoft, which provides electronic databases like Current Contents, also owns the rights to ProCite and Reference Manager. Most of the new features in version 4 of EndNote improve the user interface without changing the functionality of the program. Some of the features still missing in EndNote are formatting options for requesting reprints, a convenient method for installing standardized program preferences, and compression algorithms for sharing personalized libraries over the Web. These will no doubt be part of future program development.

—BRUCE MCCALLUM

Department of Anesthesiology, Medical College of Wisconsin, Milwaukee, WI 53226, USA. E-mail: Mccallum@Post.its.mcw.edu

Reference

1. M. F. McLellan, L. D. Case, M. C. Barnet, *Anesthesiology* 77, 185 (1992).

TECHSIGHTING
SOFTWARE

Graphing Wizardry

The advent of online grant and manuscript submission, publishing, and presentation has created a need for tools for creating, analyzing, and presenting data electronically. SigmaPlot 2000 from SPSS Science provides a versatile environment for plotting and analyzing data. The latest version includes several enhancements targeted at electronic document creation.

SigmaPlot 2000 retains the same basic appearance and command functions as earlier versions, easing the transition from versions 5 or earlier. The program opens with a blank worksheet for data entry with numerous options for bringing data into the worksheet. These range from manual entry to importing plain text (ASCII) and formatted spreadsheet data (Microsoft Excel). This version offers greatly improved integration of object linking and embedding (OLE2) with Microsoft Windows or Office programs. In practical terms, this means one may open Excel spreadsheets and manipulate them within the program. It also permits SigmaPlot graphs to be placed and edited within Word documents and PowerPoint presentations.

SigmaPlot 2000
SPSS Science

Chicago, IL
$599; $199 (upgrade)
312-329-2400
www.spssscience.com/sigmaplot/

The program offers a large selection of two- and three-dimensional graph types for presenting the data. Several new graph types have been added to this version (bringing the total to 14), some with more than a dozen styles. The number of choices might seem overwhelming to a novice user, but online help as well as the *SigmaPlot 2000 User's Guide* provide detailed explanations of all graph and worksheet options. A "graph wizard" guides the user through data selection and formatting. One can adjust virtually any graph parameter by calling up the graph properties dialog box. Graph templates can be defined and saved from any plot, providing a simple way to save frequently used settings and layouts.

SigmaPlot also offers features for data analysis. These include data transforms, regression, and curve fitting. A substantial enhancement to this version is the inclusion of simplified command windows and "wizards" that assist in performing basic analyses and transformations without requiring the user to learn SigmaPlot's programming language. Alternatively, the entire programming environment remains available for creating complex analyses and transformation functions.

Also new to this version of SigmaPlot 2000 is an export filter that permits graphs to be saved as CMYK TIFF 24-bit files, the standard required by many journals for electronic submission of figures. One can specify the graph resolution in dots-per-inch (dpi) in a range from 72 to 1200 dpi. The online help file provides a useful introduction to these parameters and their use in electronic publishing. Additional export formats include Encapsulated PostScript (EPS) and JPEG.

Several macros are provided to assist with presentation tasks, including a PowerPoint Slide macro and an HTML Export macro. Both macros leave something to be desired, however. The HTML Export macro only works with Microsoft Word 97 and fails with Word 2000. The PowerPoint Slide macro allows the user to place a selected graph in a new or existing PowerPoint presentation, but the novice will need to be familiar with PowerPoint slide layouts and required font sizes for clear presentations. Expert users may also find the choices of background and graph color schemes limiting. However, with the improvements in the OLE2 function, directly copying and pasting graphs from SigmaPlot 2000 to PowerPoint provide suitable work-arounds for some of the macros's limitations.

SigmaPlot 2000 runs with Windows 95 (version B), 98, 2000, or NT. The minimum system requirements are a Pentium processor, a CD-ROM drive, 20-MB hard disk space, and 32-MB RAM.

—CAROL A. BERTRAND

Department of Cell Biology and Physiology, University of Pittsburgh School of Medicine, S309 BST 3500 Terrace Street, Pittsburgh, PA 15261, USA. E-mail: cbertra+@pitt.edu