

## Spreadsheets: Bigger And Better

Manufacturers keep adding features to software that many users take for granted

By Beth Frances Cox

In the beginning, there was VisiCalc. It computed in ways that no spreadsheet ever had, and flinty-eyed accountants everywhere fell in love. In fact, it was a revolution--the sort of thing that's known today as a "killer app."

VisiCalc, the first computer spreadsheet program, was created and marketed in 1979 by Harvard students Dan Bricklin and Bob Frankston. These days, spreadsheet software is so packed with features that it might appear almost magical to an early VisiCalc user.



As financial spreadsheets evolved, they began to do more things--and do them faster. Spreadsheet software has become known for formulaic calculations, graphic visualization (charts and graphs), what-if analysis, and long-term planning and forecasting in a financial environment. Now it's possible to talk to your spreadsheet, making data entry even easier.

The spreadsheet software market is dominated by three products: Microsoft Excel, Lotus 1-2-3, and Corel's Quattro Pro. Although the application service provider model is being discussed by Microsoft and may someday become significant in the distribution of desktop applications such as spreadsheets, most companies purchase spreadsheet products.

With a market share estimated at anywhere from 60% to more than 90%, Excel is the clear leader in the spreadsheet market. Microsoft wouldn't comment on market share, but a spokeswoman says Microsoft Office, which includes a version of Excel, has more than 120 million licensed users worldwide. The spreadsheet is also sold separately as Excel 2000.

Originally developed for the Macintosh, Excel for Windows was introduced in October 1987; there have been seven major versions since.

At one time, Lotus 1-2-3 was considered the industry-standard spreadsheet; Excel now holds that distinction, almost always coming out on top in side-by-side spreadsheet comparisons. Excel 2000 can use HTML as a native file format and has self-repair capability, an enhanced clipboard, pivot charts, and easily accessible user forms.

Excel works with a variety of speech-recognition software packages, such as those sold by Lernout & Hauspie Speech Products N.V. and Dragon Systems Inc.

Microsoft's spokeswoman says Excel stands out because of its easy connectivity to data, which lets users more readily analyze the information needed to make decisions. Excel also provides unprecedented tools that let users share, analyze, and collaborate on information over the Web, according to the spokeswoman.

Excel 2000 can save to--and read from--HTML files. HTML is elevated to the same level as .xls, Excel's proprietary file format. It also supports dragging and dropping of table data from the browser directly into Excel.

Charting improvements in Excel 2000 include better formatting (data labels, multilevel category axis and time-scale labeling, and user-definable value-axis units) and the ability to create PivotChart dynamic views. Excel 2000 also supports the euro--both the symbol and the three-letter International Standards Organization code (EUR). The product gives users the ability to receive, analyze, and report on data stored in IS-managed enterprise databases.

The List AutoFill function automatically extends the list's formatting and formulas, saving the user steps and helping to ensure accuracy. As data is added to a list, AutoFill looks at the preceding cells to determine which formatting and formulas should be extended.

The pivot table component provides a dynamic way to view and analyze database information. It lets users browse report data, dynamically sort and filter it, group it by rows or columns, create totals, and focus on the details behind the totals. It also lets users work efficiently with large or small amounts of data.

Another useful feature of Excel 2000: Instead of the inverse video selection that hides formatting and sometimes text, the See-Through Selection lightly shades selected cells so users can make changes and see the results without deselecting the cells.

Database queries in Excel 2000 have been improved, allowing columns to be inserted within a data table, formatting to be retained, and formulas in adjacent columns to be filled whenever a query is refreshed.

Ask users about Excel 2000 and generally speaking, you'll hear nothing but praise. "The majority of serious spreadsheet users are Excel users," says Daniel Power, editor of DSSResources.com and professor of information systems and management at the college of business administration at the University of Northern Iowa. "I've used Excel for 15 years, first on the Macintosh and now with Windows. Why? Because it works."

**LONG-TERM USER:**  
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Add-ons and downloads for Excel are free at [officeupdate.microsoft.com](http://officeupdate.microsoft.com).

Microsoft also has a version of Excel for Pocket PCs. Customers can create, modify, send, and receive Excel spreadsheets on the Pocket PC, letting them manage expenses, budgets, and other spreadsheet data.

Pocket Excel supports all the categories and respective functions of the desktop version, including financial, date and time, math and trigonometry, database, and statistical functions.

Pricing for the Office 2000 Standard edition, which includes Excel, is \$499; packages with additional features are as much as \$1,000. A standalone version of Excel is priced at \$339. Upgrades run from \$209 to \$609, depending on the package; the standalone version can be upgraded for \$109.

Lotus 1-2-3 from IBM's Lotus Development Corp. claims to be second in the marketplace to Excel; if so, it's certainly a distant runner-up. But users who like this desktop application are enthused about it.

One of the old soldiers of the spreadsheet wars, Lotus 1-2-3 hit the market in 1984 and is in version 9.5. It's sold individually and as part of Lotus SmartSuite, a desktop productivity package that includes a word processor, a database, presentation graphics, and time-management and multimedia software.

Lotus 1-2-3 offers seamless compatibility with competitive file formats, including .xls files from Excel, and integrates naturally with Lotus Notes and Domino. It integrates with popular databases, including Approach, IBM's DB2, Oracle, Sybase, and enterprise resource planning applications from vendors such as J.D. Edwards, PeopleSoft, and SAP.

Ken Bisconti, VP of product marketing for Lotus, says Lotus 1-2-3 offers built-in integrated speech recognition, using IBM ViaVoice, that "makes tedious tasks such as creating an expense report fun and easy." Voice-activated Lotus 1-2-3 SmartMaster templates let users move quickly through common tasks such as expense reporting or loan amortization. And talking QuickDemos provide voice-activated help by offering step-by-step demonstrations in either silent or spoken modes.

Bisconti says powerful Web features let users perform analysis on live data and draw on two decades of Lotus expertise and innovations. The latest version offers nearly 60 new functions and more than 64,000 rows per spreadsheet.

As for compatibility, the current version of Lotus 1-2-3 reads and writes Excel text, numbers, formulas, formatting, drawings, and charts. The Microsoft Excel Menu Finder makes it easy for Excel users to work in Lotus 1-2-3: They simply choose an Excel command to display the name of the equivalent in Lotus 1-2-3.

Lotus 1-2-3 includes HTML 3.2 support for opening and converting spreadsheet selections to HTML documents. The product's Web tables let users bring live online information into the spreadsheet to perform analysis functions.

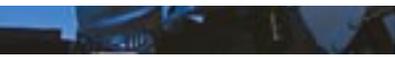
Spreadsheet-specific extensions let Lotus 1-2-3 users share files using HTML as a common file format while preserving important spreadsheet information such as cell colors, formats, actual numbers (e.g., pi would equal 3.14159265, not 3.14), named ranges, and number formatting.

Web tables enable users to send and pull useful data from any table on any HTML page on the Internet or company intranet and deliver it directly into a workbook. And Lotus 1-2-3 also supports the euro.



**LEGACY SUPPORT:**  
Even though Excel is the standard at Tacoma Power and Light, Land says Lotus 1-2-3 is used for its legacy worksheet support for rates and regulatory work.

Some Lotus 1-2-3 users are so happy with the product that they won't use anything else. Stephen Land, a utilities economist at Tacoma Power and Light in Washington, says that even though Excel is the standard at his company, his management-services group uses Lotus 1-2-3 because of its "support for legacy worksheets for our rates and regulatory work."



regulatory work,  
minimal training  
requirement, and  
graphics compatibility

Land says that Lotus 1-2-3 requires minimal training; the forward slash key still works and is more efficient for some actions than using a mouse; it has the ability to use circular formula references for iterative solutions in

financial models; and it has good compatibility with Freelance Graphics, which has a richer set of design tools for graphics manipulation than Microsoft's PowerPoint.

"Developing rather complex spreadsheets from scratch is relatively easy" with Lotus 1-2-3, Land says. Its drawbacks? "Except for ViaVoice, the feature set of Lotus 1-2-3 has been relatively frozen over the last five years.

Pricing for Lotus 1-2-3 is \$315 and an upgrade is \$129, including upgrades from any competitive product. Business licensing deals could reduce the price, depending on number of users.

The last of the big three spreadsheets, Corel's Quattro Pro, is available only as part of the WordPerfect Office 2000 Standard, Voice-Powered, Professional, Small Business, and WordPerfect Law Office 2000 editions. Corel estimates that its market share in the United States is 11.2% and worldwide is 5.9%.

A Corel spokeswoman says Quattro Pro competes with a variety of spreadsheets, but since it has the capability of 1 million rows of data with more than 18,000 columns on more than 18,000 sheets, "we find that desktop databases are our strongest competitor."

Some of Quattro Pro's features, such as Quick Filter and Cross Tab Reports, let users keep their data in Quattro Pro without having to convert to the tools found in a desktop database. Quattro Pro's Corel Real Time preview lets the user see formatting changes immediately within the spreadsheet, without being forced to apply the changes. Users can scroll through and preview several formatting options, such as fonts, lines, tables, borders, and shading. The user can see how the changes would appear and then apply the best one.

The spreadsheet imports data from common databases and can open other spreadsheet files, including Excel and Lotus 1-2-3. And Quattro Pro marks cells that contain formulas with a small blue triangle in the lower left-hand corner of the cell. This makes it easier for users to view at a glance which cells contain formulas and is especially helpful when trying to understand someone else's spreadsheet.

Quattro Pro allows for two easy ways to create formulas. The Quick Function in the tool bar provides one-click composition to the most common formulas. The relatively easy-to-use Quattro Pro Formula Composer is the preferred method to create advanced formulas. It lets users create, edit, and debug formulas. The Formula Composer can be used to build a formula from scratch or edit an existing formula. Users can even customize their work environments. Menu settings include both Excel and Lotus 1-2-3.

Quattro Pro's application bar gives users easy access to important information. A function called calc-as-you-go is located in the application bar and provides quick mathematical calculations. Document switching is done with the click of the button and organized within the application bar.

Dragon Systems voice-activated NaturallySpeaking application is included with Quattro Pro in WordPerfect Office 2000, Voice Powered, Professional, and Law Office 2000 editions.



**CLASSY DOCUMENTS:** Corel first distributed Quattro Pro in 1996. Corel and United Cerebral



Palsy likes Quattro Pro's graphics capabilities and analysis tools, says CIO Smith. "It does everything I need."

Borland International Inc. (now Inprise Corp.) together have released nine versions of Quattro Pro. The most current version is Quattro Pro 9.

Though its market share isn't nearly as large as Excel's, Quattro Pro has more than its share of loyal users.

Loyalists tend to like the product's graphics capabilities and the analysis tools.

Thad Smith, CIO at United Cerebral Palsy of Tampa Bay in Tampa, Fla., says he selected Quattro Pro because of those very reasons. "I love the graph

templates, and so do the people who review our reports," Smith says. He also likes the QuickFill and SpeedFormat features. The SpeedFormat feature "adds a significant amount of class to our documents," Smith says. "Quattro Pro does everything I need in a spreadsheet and more."

The WordPerfect Office 2000 Standard edition, which includes the Quattro Pro spreadsheet, is priced at \$109; the WordPerfect Office 2000 Voice-Powered Edition is priced at \$159; and the WordPerfect Office 2000 Professional Edition is priced at \$209.

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Approaching analysis within big data proactively is the best way to set yourself up for success. With a disciplined approach and understanding your plan and strategy apart from simply collecting data will greatly increase your likelihood of success. Without connecting and correlating relationships or hierarchies, your data can become unmanageable quickly. For many companies, that responsibility falls on a relatively new position: the data officer. These spreadsheets may seem daunting. Rows upon rows and columns upon columns but this is all valuable. Unfortunately, while big data has grown, the human capacity for processing this raw information in a timely manner has not. With big data, a great way to address the challenges you might face due to scale are your tools. Excel is the best spreadsheet software package available, and has been the gold standard since the early Nineties when its combination of Windows compatibility, much faster recalculation and VBA programmability made it the best. Excel is so good, that they drove the former market leader (Lotus 123) into the arms of IBM at distress sale prices, and eventually out of business. Some competing spreadsheet software competes on price and offers a reduced set of features (Quattro Pro, Apple Numbers, Open Office Calc, Google Sheets). The big ones for me are co-authoring for files saved on OneDrive or SharePoint Online, new functions like TEXTJOIN, real time stock pricing, more powerful Get and Transform features for importing data, and improved speed and reliability.

16. 2. Create a new spreadsheet and edit it with others at the same time from your computer, phone or tablet. Free with a Google account. Choose from a wide variety of budgets, schedules, and other pre-made spreadsheets all designed to make your work that much better, and your life that much easier. View all templates. Get to your spreadsheets anywhere, anytime. Access, create, and edit your spreadsheets wherever you go from your phone, tablet, or computer even when there's no connection. Download the app. Download the Android app. Get Sheets for iPhone and iPad. Download Google Sheets. Share.